Graduates' Tracking with Administrative Data
How it is Done in Poland

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Agenda

- Higher education in Poland

- Polish Graduate Tracking System

- Graduate tracking and the quality of education

- Analysis examples: factors affecting graduates' labour market performance

Higher education in Poland

Educational expansion

- Massification of higher education:
  - 0.4 mln in 1990; 1.93 mln in 2006; 1.35 mln in 2016
  - Net enrolment rate grew from 10% to 40%.
- Labour market issues in public debate
  - Rising number of unemployed higher education graduates
  - Skills mismatch
  - Rising inequality of graduates' labour market outcomes
  - Limited labour market opportunities
- Graduate tracking
  - 2010-2014 – University of Warsaw and Educational Research Institute design the methodology and tools for graduate tracking with administrative data
  - 2014 - Establishment of Polish Graduate Tracking System (ELA)

Polish higher education system

- Types of HEIs: public (132) and private (283)[1]
- Types of programmes: full-time and part-time.
- Full-time studies at public institutions are tuition-free

Number of HEIs

public   private
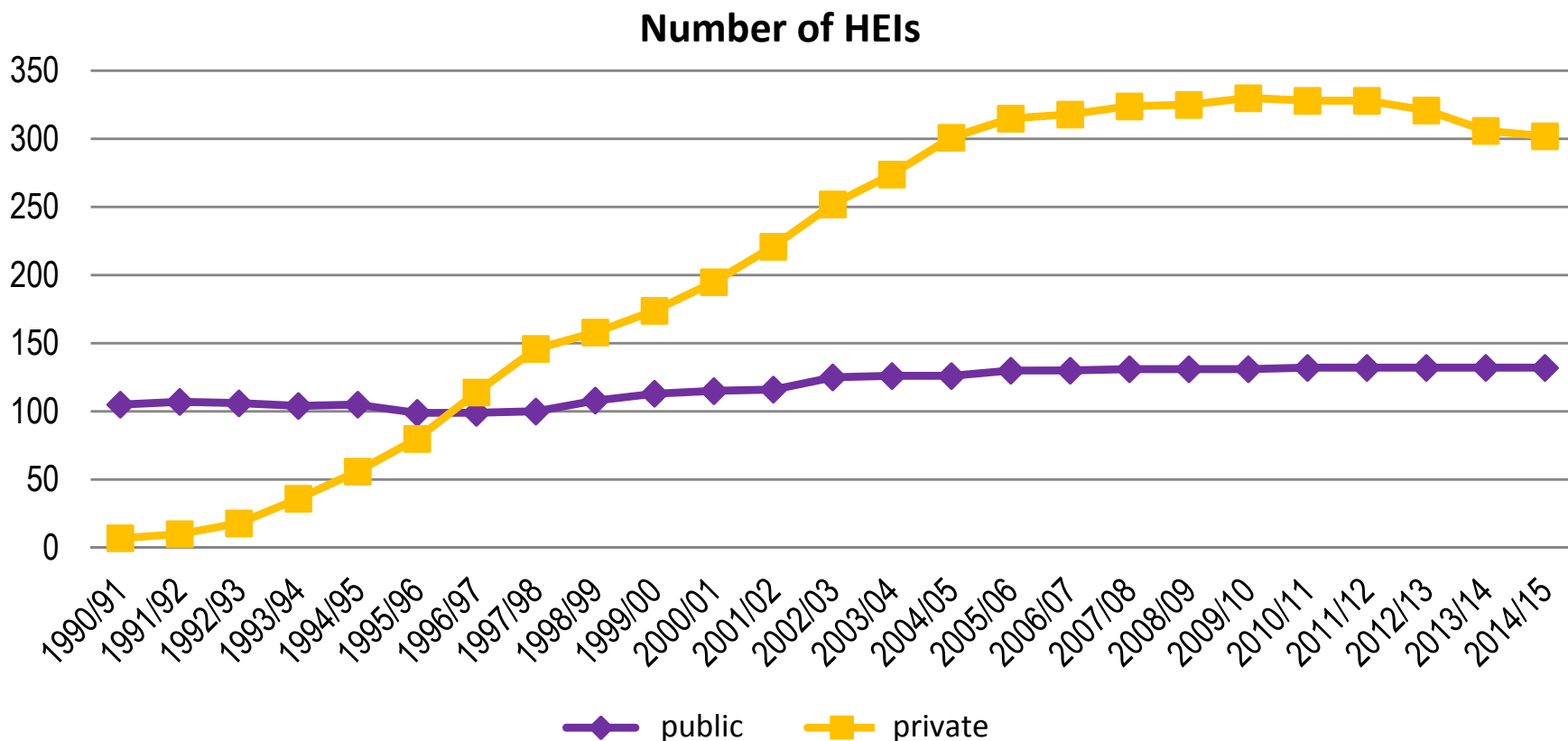
ELA
Polish Graduate Tracking System

Polish Graduate Tracking System − data sources

POL-on The national register of students and graduates	Social Insurance Institution (ZUS)	Central Statistics Office (GUS)

• Personal ID (PESEL)
• Graduation date
• Characteristics of studies:
  • HEI, institutional control, department
  • Programme
  • Level
  • Mode of studies
• Information on further academic education.
	• Personal ID (PESEL)
	• Monthly social insurance contributions.
	• Status in the labour market (i.e. salaried worker, self-employed, unemployed, on maternity or parental leave).
	• Contribution calculations basis (*Pol. podstawa wymiaru składki*)
	• Information on the employer.
		Data describing local labour markets:
		• Average gross salary in each *powiat* (equivalent to county, district or prefecture)
		• Unemployment rate in each *powiat* (equivalent to county, district or prefecture)

ELA - research organisation
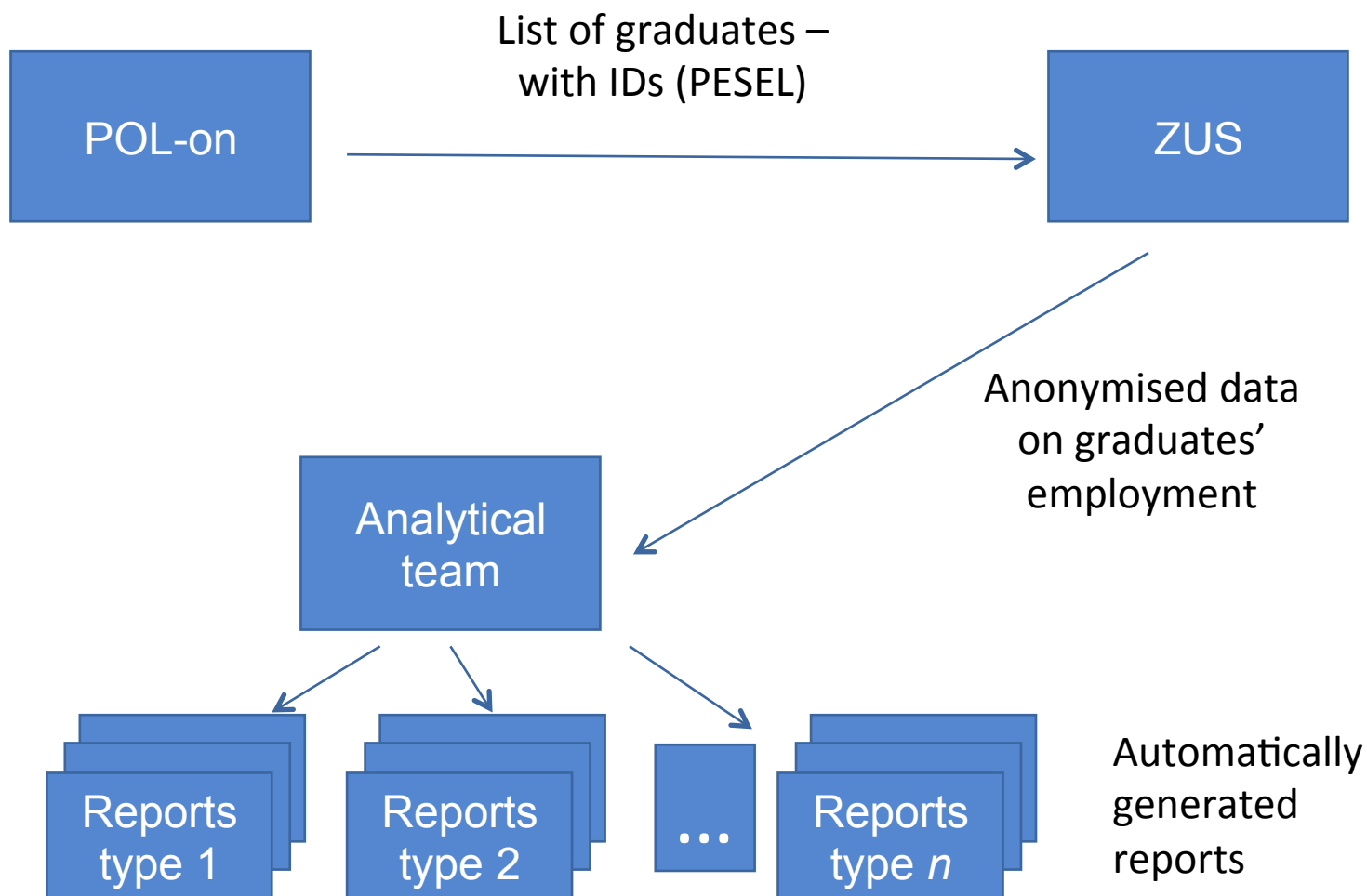
Labour market performance indicators

- Dimensions of labour market performance:
  - time spent looking for a job;
  - job stability (periods of unemployment, types of contracts, time with specific types of contracts, number of employers);
  - wages

- Classes of indicators:
  - Absolute (e.g. wage in PLN, number of months spent looking for a job)
  - Relative – graduates' wages and risk of unemployment are divided by the average wage and the unemployment rate in their place of residence respectively (based on monthly records).

$$\text{Relative Indicator of Wages} = \frac{\text{Individual wage}}{\text{Average local wage}}$$

Comparability in time and space : Relative Indicator of Wages

Average wage (USD)

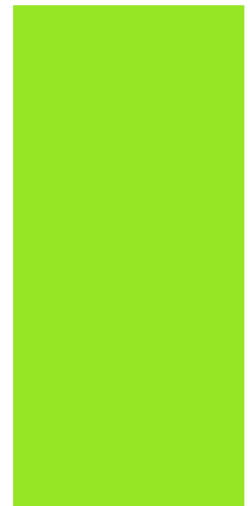1 044 — AlmaMer HEI in Warsaw

860 — Higher School of Commerce in Tarnobrzeg

Relative Indicator of Wages

0.81 — AlmaMer HEI in Warsaw

0.90 — Higher School of Commerce in Tarnobrzeg

Comparability in time and space :
Relative Indicator of Unemployment

Risk of unemployment

13.5%

5.0%

University of Technology and
Humanities in Radom
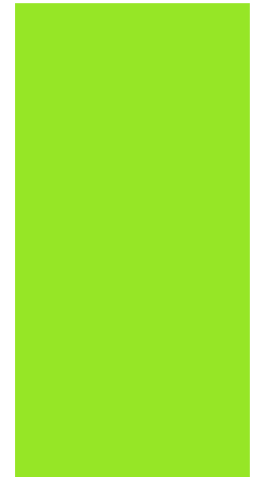
Poznań University of Life
Sciences

Relative Indicator of Unemployment

1.16

0.71

University of Technology and
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Sciences

Polish Graduate Tracking System
http://ela.nauka.gov.pl/en/

Future system development

- Further development of the ELA system:
  - New data: complete study history & and complete pre-graduation employment records.
  - Tracking of doctoral students

- New Polish Integrated Analytic Platform:
  - Population registers
  - Educational databases
  - Health records
  - Tax registers
  - Social security registers

Graduate tracking and the quality of education

ELA's results at the national level

- Information instead of rankings - the main goals:
  - support for candidates, students, HEIs and employers,
  - creation of the common knowledge,
  - transparency in higher education,
  - improving the quality of administrative registries in higher education.

Selected „side effecs" of ELA in Poland

- The stereotypes of the labour market are weakening.
- **Improving the quality of administrative registers in higher education.**

for example

number of graduates of master degree programmes in Poland in 2014

2016: 138 012

2017: 152 457

ELA's results at the HEI level

- Reports are automatic but decisions should not.

- The task for HEIs:
  - supplementing the statistical results with "soft", qualitative results,
  - creating stable mechanisms for turning research results into recommendations and decisions at:
    - the HEI level and,
    - the departmental level.

Research results and the quality system at the University of Warsaw

For the results to impact the quality of education, it is necessary that the HEI establishes a stable system which:
- enables formulating recommendations based on research results,
- turns the recommendations into actions of leadership (on the university and departmental levels).
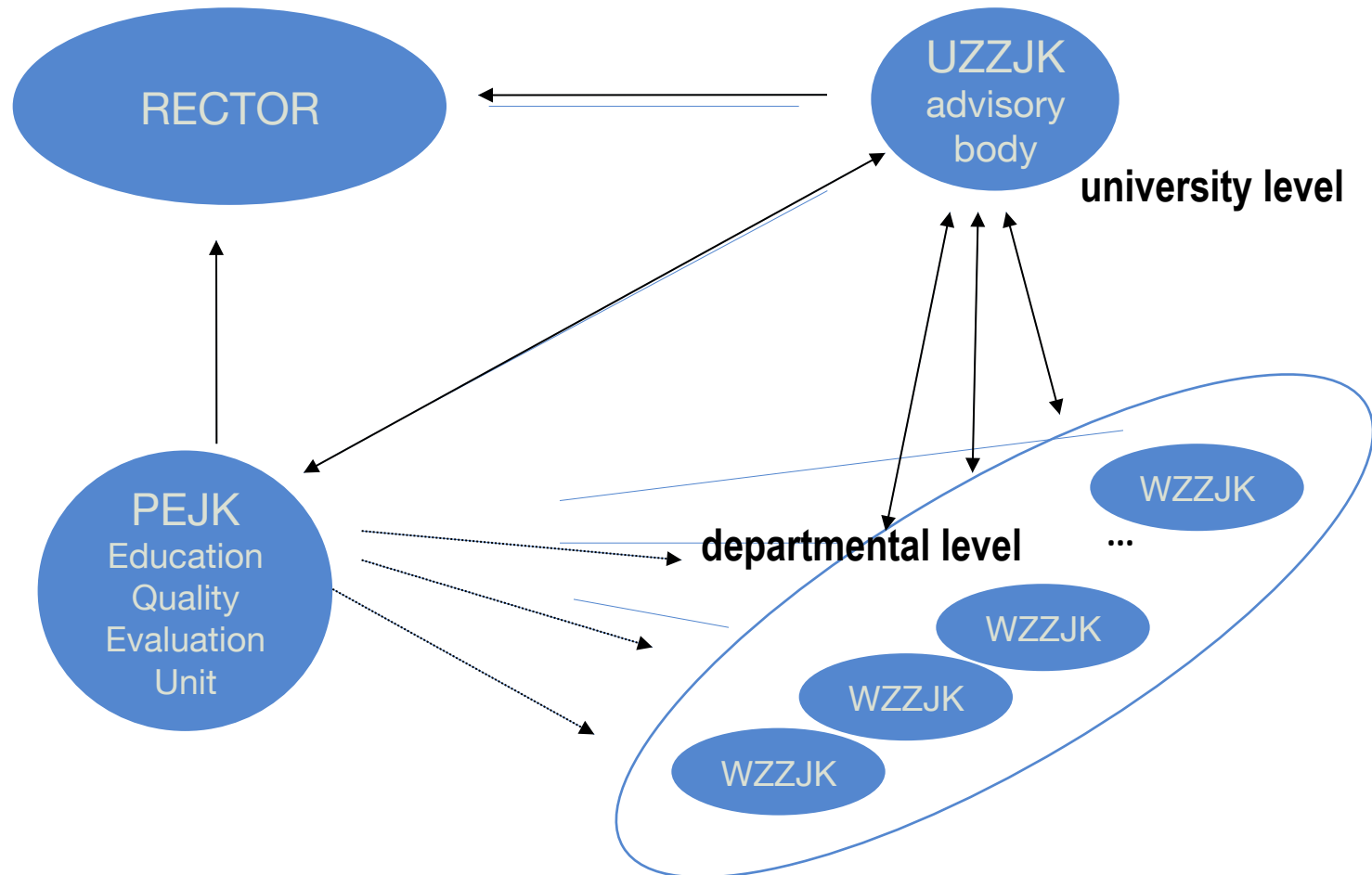
Example

What affects employability of Polish graduates?

Employability – probit models

- Population – Master level 2014 graduates, n=150k (covered population)
- 8 models – one model every 3 months after graduation
- Dependent variable: dummy variable indicating whether a graduate has a steady job, i.e. an employment contract or self-employment
- Independent variables:
  - Sex
  - Age category – informs on age category in the year of graduation; categories are 25 or less and 26 or more
  - Place of residence (over 500 000 citizens (big city); smaller than 500 000 but the city is a separate county (medium city); small town or village; unknown place of residence)
  - Form of studies (part-time vs full-time)
  - Type of HEI
  - Field of study (humanities; medical and health sciences; natural sciences; agricultural sciences; social sciences; exact sciences; technical sciences; arts)
  - Studying after graduation
  - Pre-graduation job experience – a dummy variable; informs if the graduate had any employment contract or was self-employed during a few months before graduation.
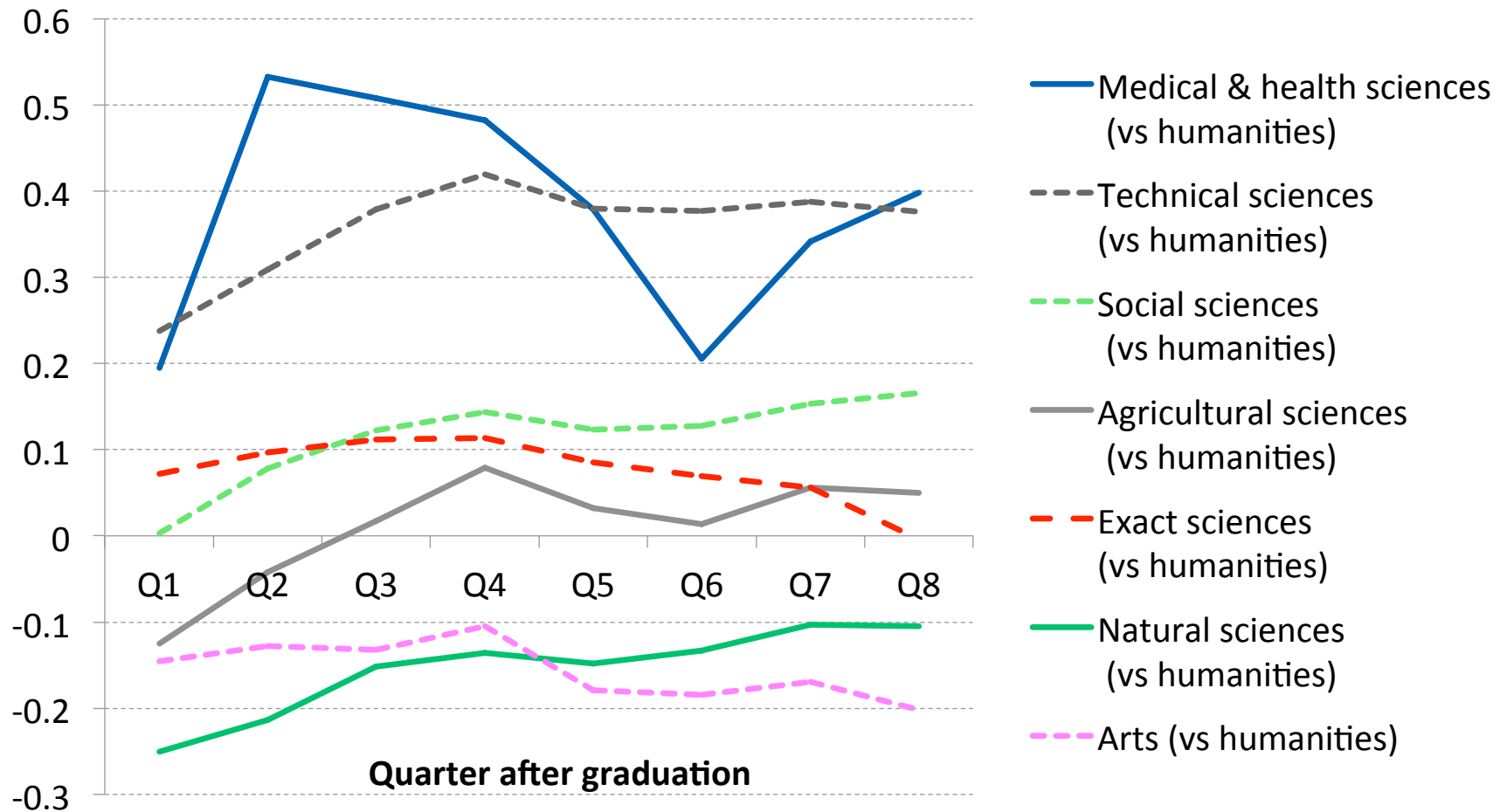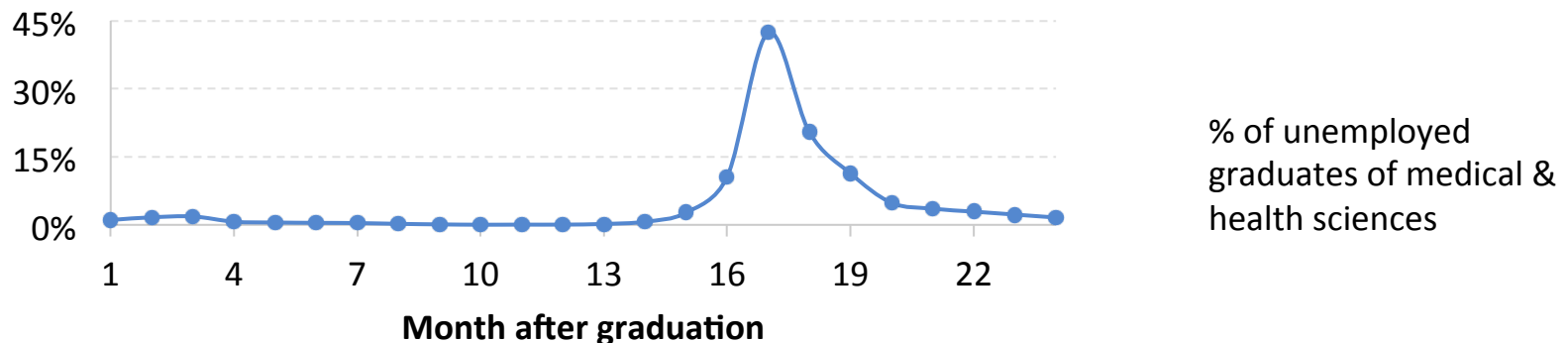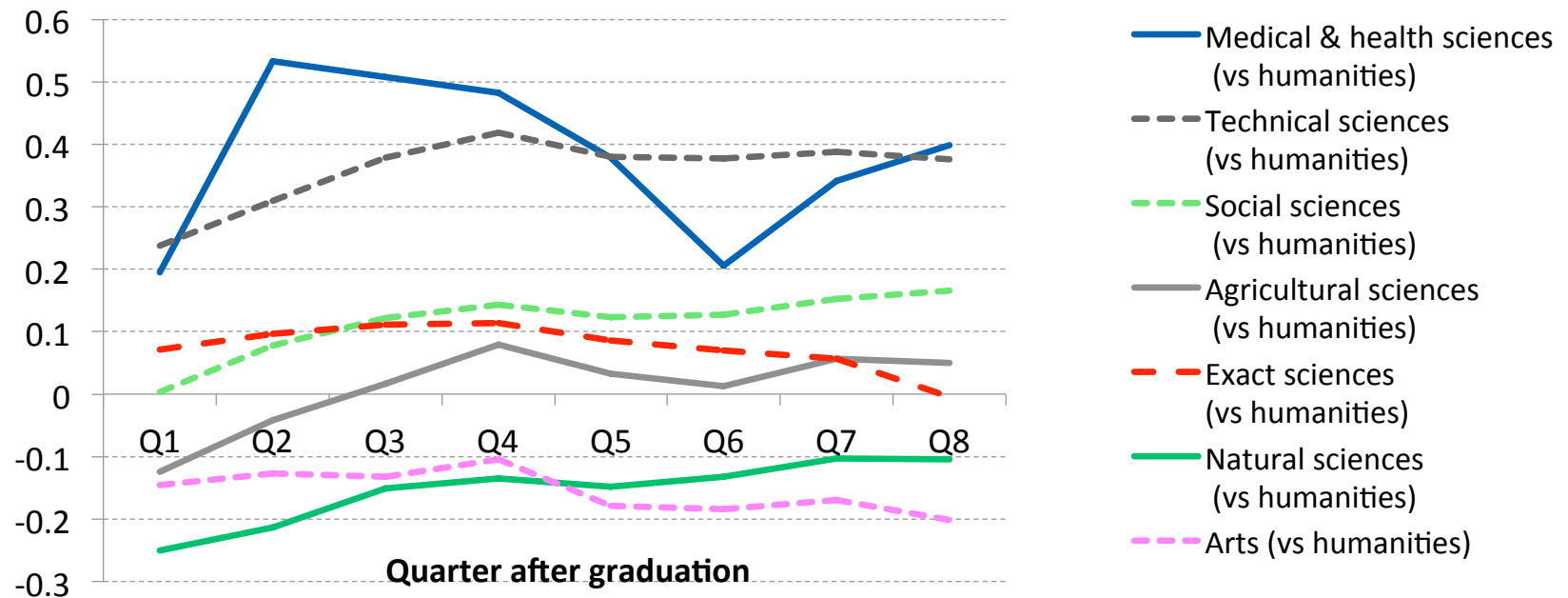
Model Fit Index
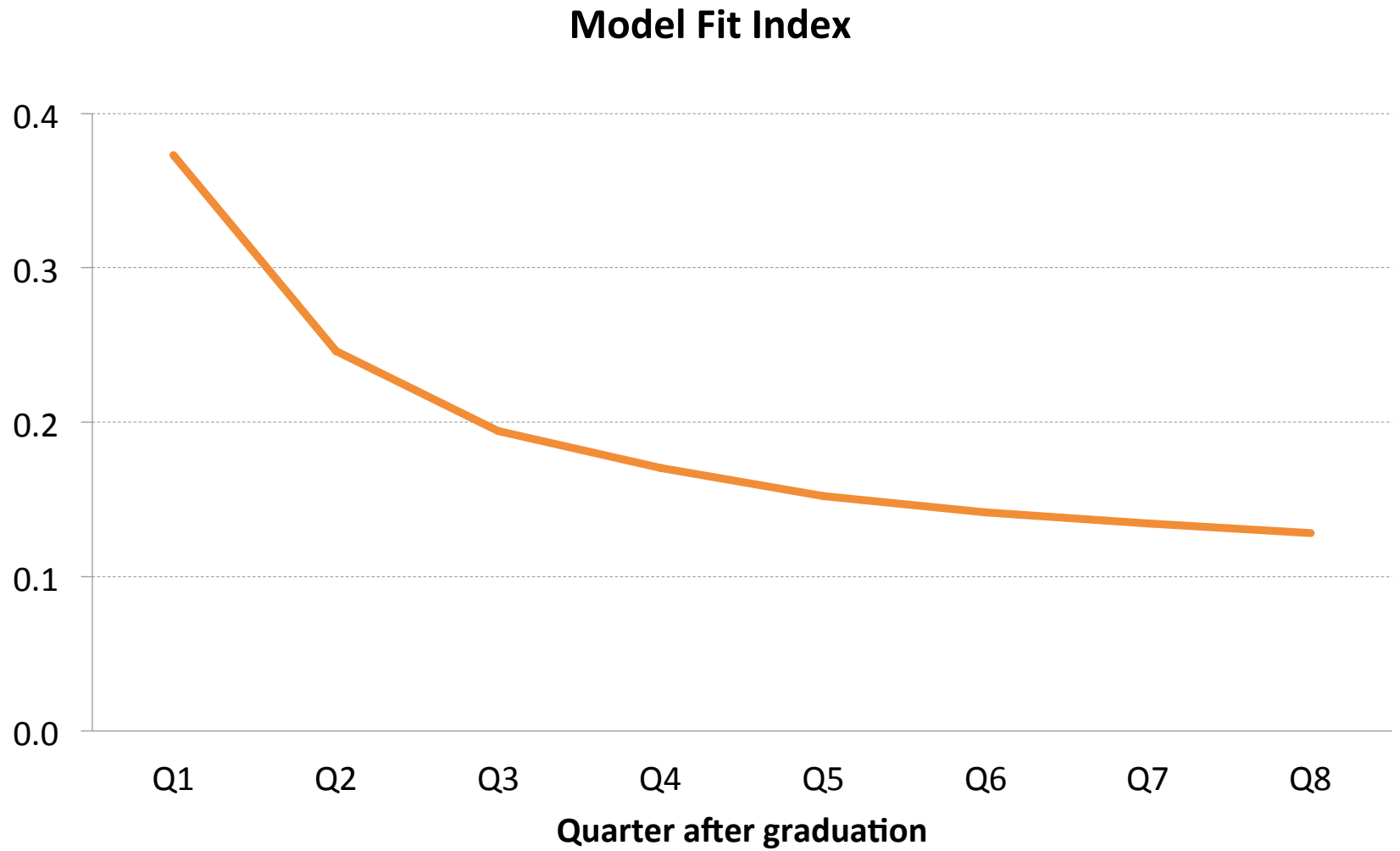
Model parameters
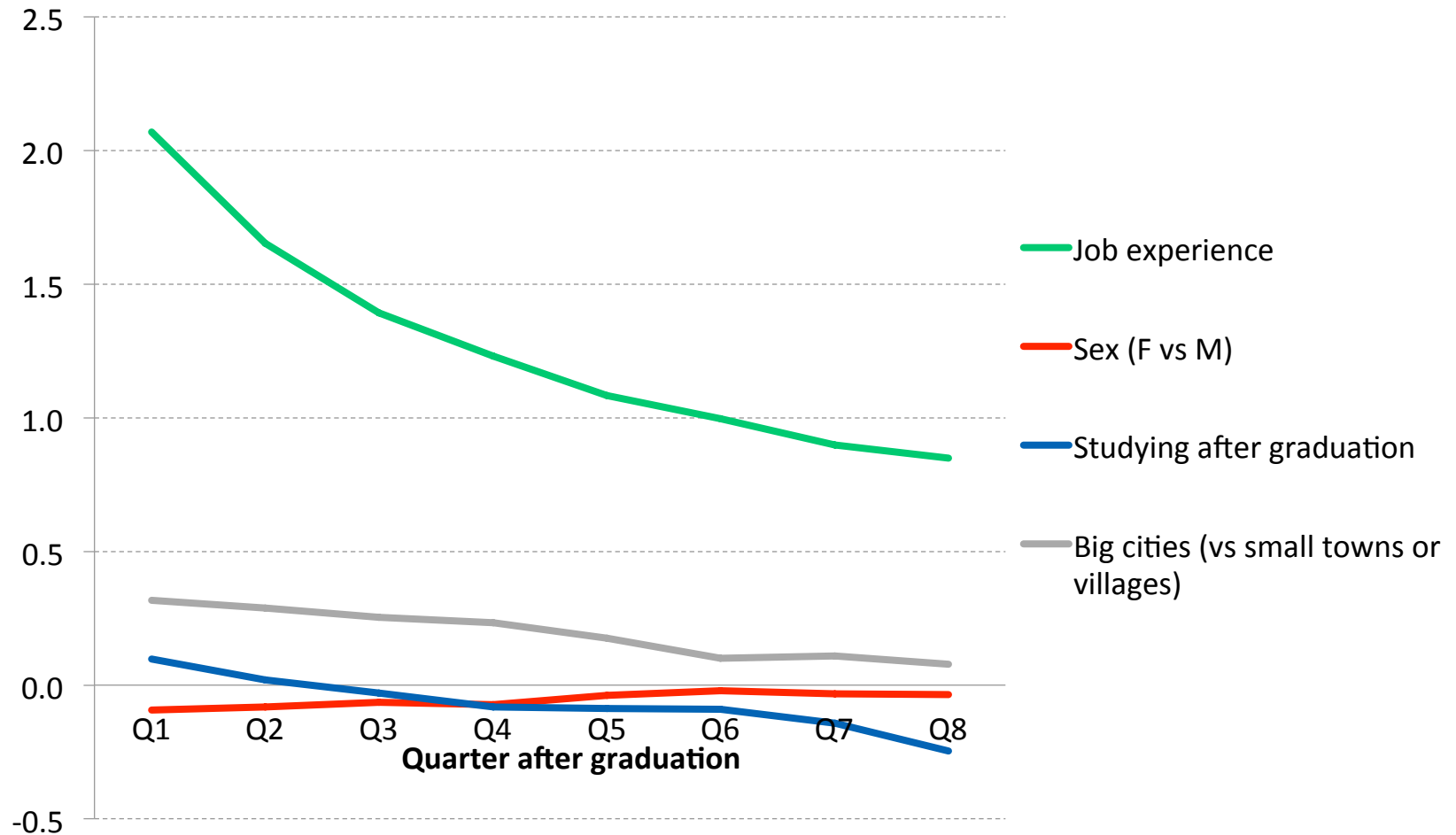
Model parameters – field of study

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Thank you

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