



2014-2020 Operational Programme for the European Union Funds Investments in Lithuania

7th biannual international evaluation conference

EVALUATION OF INNOVATIONS AND INNOVATIONS IN EVALUATION



MINISTRY OF FINANCE



18-19th of May 2017

Sapiegos Vilnius Tech Park | Antakalnio str. 17 | Vilnius, Lithuania

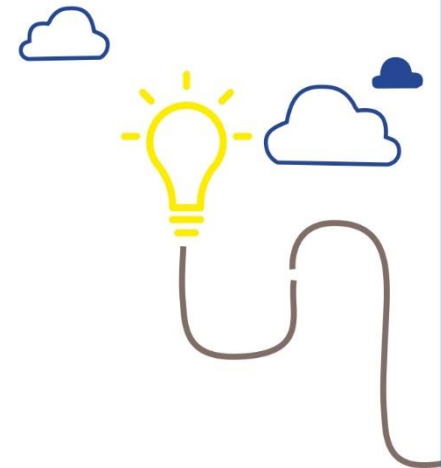
Dr Žilvinas Martinaitis, Visionary Analytics

Biggish data analysis – prospects for evaluations

Big data: the promise of revolution (1)

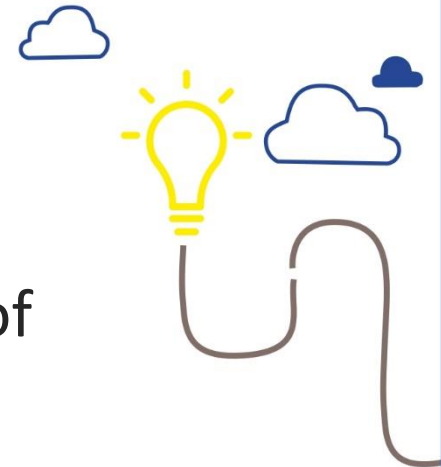
- Exponential growth of data: approx. 90 % of all data has been created during the past decade;
- Valuable asset for companies that use it for marketing and sales;
- Governments sit on loads of admin. data, but it is rarely linked, used and accessible for outsiders.

→ Big data is the future of M&E...but everyday is today;



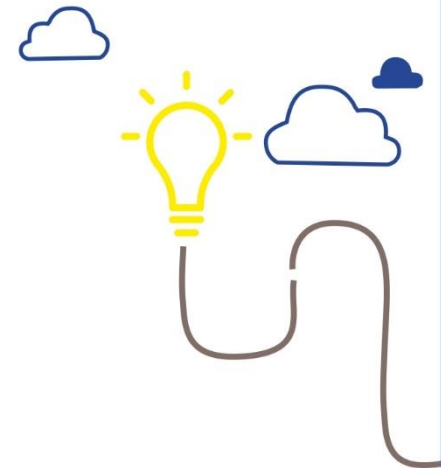
Big data: the promise of revolution (2)

- Volume and variety: samples \rightarrow $n =$ (almost) all, individual level, time series;
- Financial constraints on the scope of data collection \rightarrow insignificant marginal costs of additional data collection.
- Veracity: clean, structured and comprehensive data \rightarrow messy, black box;
- Causation \rightarrow correlation, likelihood;
- Theory driven \rightarrow data driven;
- Time- and group-bound insights (e.g. before & after comparison of target & control group) \rightarrow continuously evolving insights;



Sources of big data

- Administrative data (on recipients of services, taxes, etc.).
- Geo-location of mobile devices, mobile data records
- Social media;
- Search and query analysis;
- Crowdsourcing;
- Freely available scrapable data;
- Combination of all of the above.



Prospects for M&E: changes in sources of data

“Traditional” sources of data	Big data
Surveys of target group to understand perceptions	Sentiment analysis on social media; Search and query data;
Monitoring reports, surveys of beneficiaries	Admin. data reflecting the outcomes of interventions (e.g. on employment, income, social benefits, etc.)
Surveys of non-beneficiaries to establish counterfactual	Admin or other data to select the control group
On site checks	Use of social media.

Prospects for M&E: changes in design of M&E

Ex ante:

- Predictive analytics: what is likely to happen?

In medium res:

- Early warning systems;
- Detection of "anomalies" (e.g. likely drop-outs).

Ex post evaluation as a continuous exercise:

- Counterfactual evaluation (before and after; treatment and control groups) → continuous assessment of Bayesian likelihoods / survival analysis, etc.



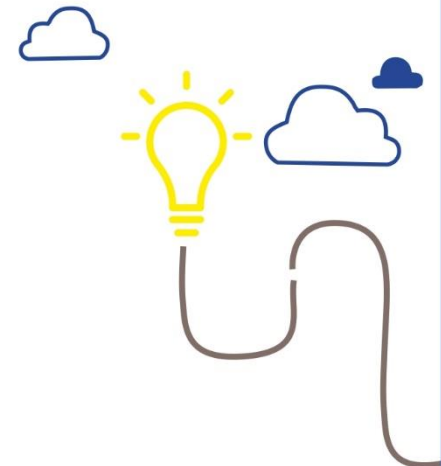
Biggish labour market data: Vacancy Analytics

Data:

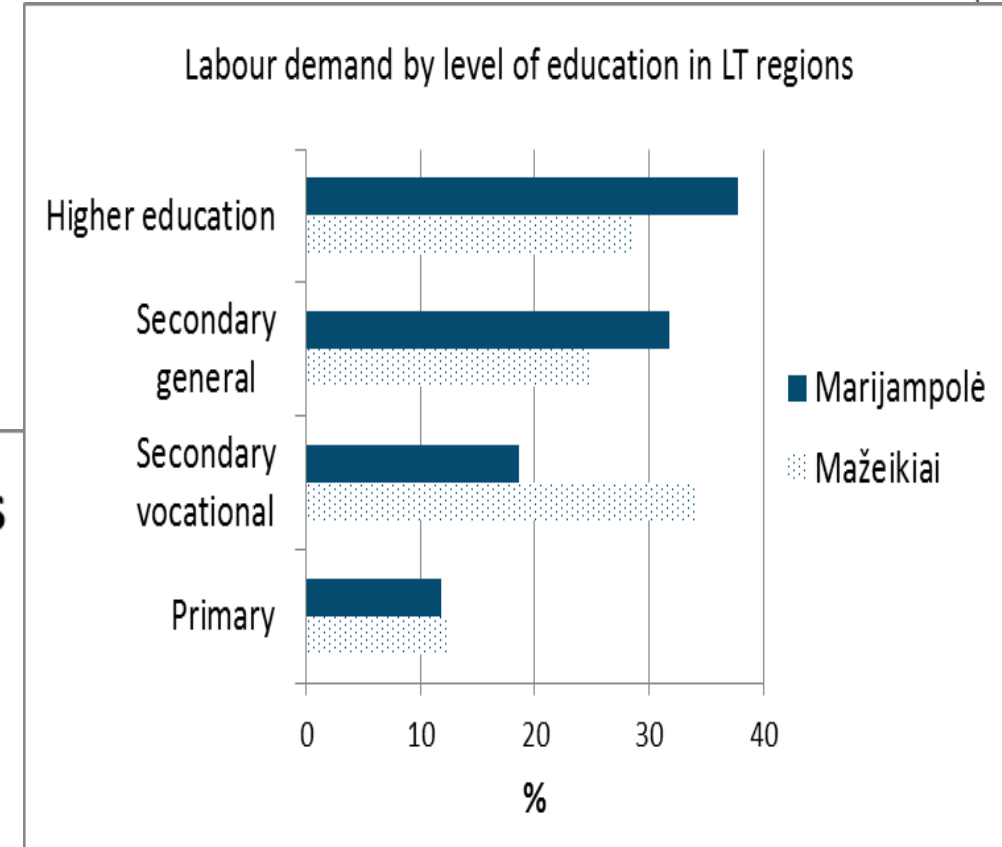
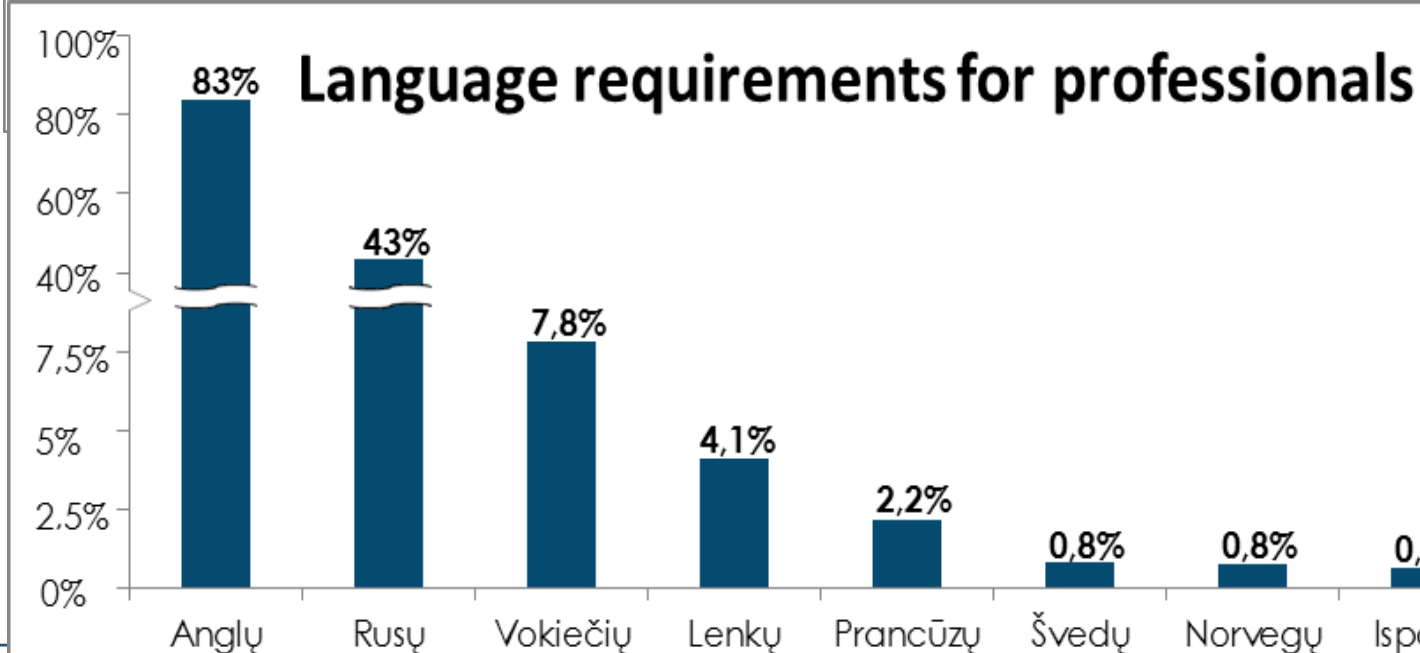
- Weekly scraping of 7 largest vacancies websites (from May 2016);
- Classification by occupations (ISCO 4 digit), economic sector (NACE 4 digit), municipality and individual companies;

Indicators:

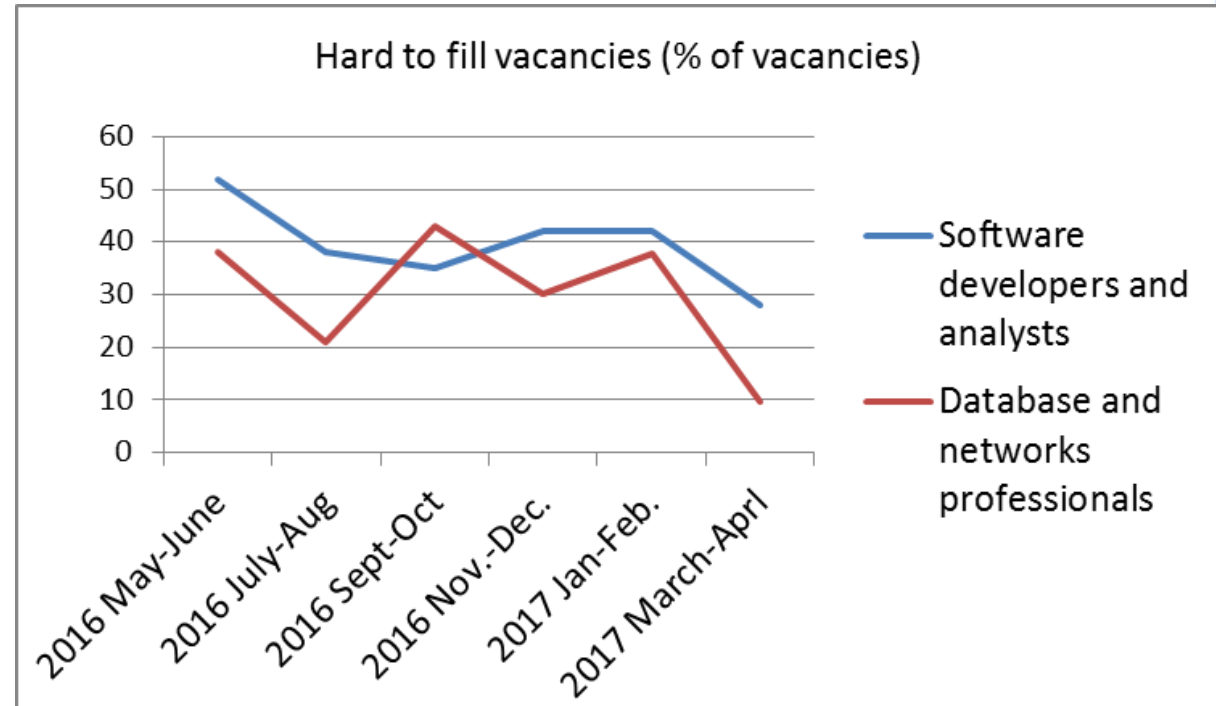
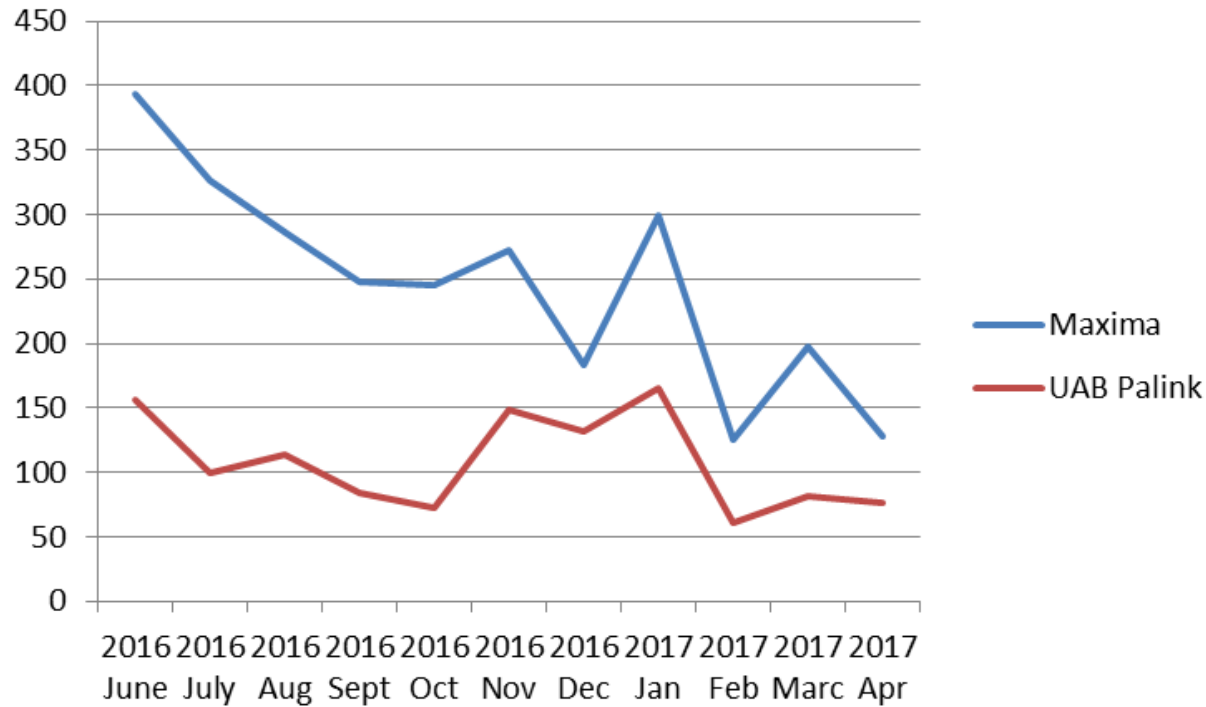
- Aggregate and detailed demand;
- Hard to fill vacancies;
- Demand for specific competences and bottlenecks



Biggish labour market data: relevance of interventions



Biggish labour market data: impacts of interventions

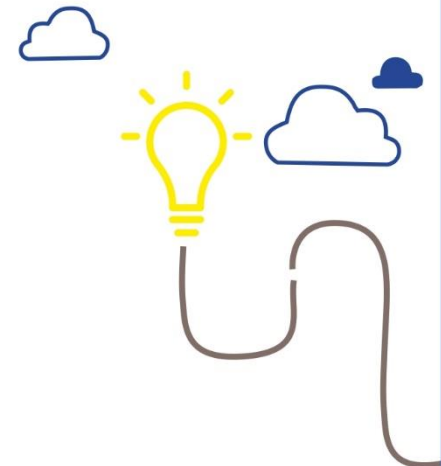


Reflections

- New horizons of feasible questions and answers;
- Scope and detail;
- Rapidly declining marginal costs: evaluation as a tea-time exercise?
- Impact on interventions: if we act upon available evidence, how does expansion of evidence-base will affect our actions?

But:

- Messy (unreliable?);
- Requires prior data infrastructure;
- Evolution rather than revolution in M&E.



Thank you for your attention!

Let's discuss



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