Big Data for labour market interventions

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Opportunities and risks of machine learning
Today's business needs information that is:

1. Real-time
2. Location-precise
3. Individual-specific
4. Robust
What is Big Data?
How is it being used?

• Combine different data sources:
  • Official data, open source, social media and proprietary data

• Multi-dimensional analysis of data:
  • Combine individual characteristics with aggregate information (regional, national)
  • Analyse multi-faceted social outcomes (e.g. social network dynamics, mobility patterns)

• Use sophisticated statistical tools to detect relationships:
  • “Machine learning”: detect statistical relations automatically
  • Clustering to detect similarities between groups (consumers, employees, firms, etc.)
Example: Social unrest
Example: Communication

People connect through language

Most (social media) information only available as text

Text analysis for predictions

People’s communication contains information about expected future(s)
What can policy makers learn from it?

More precise targeting of policies

What can policy makers learn from it?

Forecasting and manpower planning tools
What are the risks for labour?

Business risks shifted to crowd workers and contingent workforce

What are the risks for labour?

Business risks are increasingly shifted to labour. Temporary contracts and “zero-hour” contracts. HR analytics to optimize production stream. Burden of adjustment falls entirely on labour.

What needs to be done?

- Enforcement of labour standards, including for contingent workforce
  - Avoid zones of “non-droit”, especially for temporary workers
  - Business risk must remain with businesses

- Use Big Data more intensively for policy purposes
  - Detect labour market shifts and talent shortages early on
  - Use it also for labour inspection: Where is enforcement particularly needed?
  - Target policies (geographically) for more efficient implementation of labour market policies
In conclusion

• Big data allows to combine and exploit a wealth of information from different sources; but data ownership remains an issue

• Currently, private users have advantage in making use of this data for HR and business planning strategies; generate significant revenues

• Some of these efforts have created benefits for both employees and companies, others have shifted risks to more vulnerable groups

• Potential benefits in policy making and implementation remain underexploited

• Policy makers need to monitor Big Data HR-strategies to avoid undercutting of labour standards