Wageindicator -> web data for labor market analysis

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What this presentation is…and is not

• NOT about Big Data

• YES
  – Web data
  – Labor market Data
  – Challenges
  – Advantages
    • Example studies
Wageindicator aims at...

Provide more knowledge about and understanding of the labor market in order to enable informed decision for a happier working life

...which means...

More labour market transparency for the benefit of all employers, employees and workers worldwide

...by virtue of

Sharing and comparing information on wages, Labour Law and career.
Wageindicator
80 + Countries
25.5 Millions visitors (2014)
WAGEINDICATOR

- INDICATES WAGES to users according to
  - Country
  - Skills
  - Occupations
  - Industries
  - ...
WAGEINDICATOR

Offers

- Salary check
- Reference salaries
- Information on labor law (minimum wages, collective agreements, working hours ...)

Salary Checker in 63 Countries for your Job or Occupation
Salary Survey in 85 Countries
Collective Agreements in 24 Countries
Minimum Wage Database in 74 Countries
Labour Law Database in 76 Countries
WageIndicator Projects
Wages in Context for 80 Countries
WageIndicator Publications
WageIndicator Researchlab
Cost of Living Survey in 85 Countries Living Wage Calculations for 49 Countries

Elizabeth II
Queen of the United Kingdom, Canada, Australia, New Zealand, and the other Commonwealth realms
Born: 1926 United Kingdom
Married
Children: 4
Annual: GBP 39,900,000.00
Monthly: GBP 3,325,000.00
THE SURVEY

Salary Checks

Unique - Salary Checks by Occupation in India, China, Egypt, South Africa, USA, the Netherlands and many more countries.

Global Wage Comparison

Compare the salaries of domestic workers, nurses, managers and other white collar workers all over the world. What is their pay in the Netherlands, Belarus, Kazakhstan, China, India or other countries?

Wages in Context

WageIndicator shows for many countries around the world wages in Context. With this range it is easy to understand what is the real distance between the National Poverty Line, the Statutory Minimum Wage, the Living Wage and the Wages of low and high skilled Workers. Check the real innovation.

Minimum Wages

Minimum Wages in Netherlands, Russia, Mexico, India, China, USA, Pakistan and many many more Countries.

Compare Salaries

Compare salaries within a country with local salary checks - know what a occupation is worth in a country.

VIP Income

Check the income of World Leaders, Athletes, Bankers, Musicians in all currencies of the world.

Salary Surveys

Complete the Salary Survey for your Country and win a National Minimum Wage Prize
THE SURVEY

• International standardized & continuously posted volunteer web survey currently operating 85 national websites (started in 2001, NL)

• Collects information on a wide range of subjects, including basic socio-demographics, wages and other work-related topics

=> Provides information similar to most Labour Force Surveys (e.g. EU-LFS, CPS, EWCS)
THE SURVEY

2006-2015 result: 2.7m online surveys!

>125 million visits

2.7 million surveys!

* Overall measured online surveys 2006-2015/ including mini surveys since 2012 - WI data 2006-2015
THE SURVEY

ADAVANTAGES
• Time & Cost saving
• Wide international spectrum
• High Industry and Occupation detail
• Flexibility (omnibus survey)
• Screening and follow-up questions (task, night-shifts), target marketing (niches)
• ...and, of course, WAGES

CHALLENGES
• Representativeness? are results of web survey representative of the general public/population of interest?
CHALLENGES

• Representativeness? No random sampling here

• Coverage: number of people having internet access + differences between persons with & without internet.

• Sampling/Self-selection: no comprehensive list of Internet users to draw probability-based sample + people with specific characteristics participate in a (volunteer) web survey.
CHALLENGES

• Representativeness? (Steinmetz et al., 2013)
CHALLENGES

• Representativeness?
  • Coverage: number of people having internet access + differences between persons with & without internet.
  • Sampling/Self-selection: no comprehensive list of Internet users to draw probability-based sample + people with specific characteristics participate in a (volunteer) web survey.

BUT...

• Coverage is growing
  • Statistical techniques can deal with the problem, Post-survey adjustments /weighting
Correcting representativeness

Propensity Score Weighting
Achieve representativeness: Corrects for differences due to varying inclination to participate in web surveys
PS=likelihood that a respondent participates in web rather than reference survey

Steinmetz et al (2014a)
- PSA can help to reduce biases
- However Very strong requirements (reference survey, ...)

Pedraza et al. (2010)
- Weighting methods reduce the differences between WI and general population (wages)
- However not so much
Researchers should avoid non-probability online panels when one of the research objectives is to accurately estimate population values.

However...

There are times when a non-probability online panel is an appropriate choice. [...] there may be survey purposes and topics where the generally lower cost and unique properties of web data collection is an acceptable alternative to traditional [...] methods."
ADVANTAGES

Wide international spectrum

(30 countries with 1000+ responses in 2014)
ADVANTAGES

Wide international spectrum
Allows for cross-country analysis

Visintin et al. (2015) unravels the migrants’ incidence of skill mismatch taking into consideration different migration flows
Visintin et al. (2015) unravels the migrants’ incidence of **skill mismatch** taking into consideration different migration flows.

*Figure 3 - Incidence of overeducation per continent and continent of birth*
ADVANTAGES

Wide international spectrum
Allows for specific country analysis
In the *WageIndex Analytical Report – India*, Fabo et al. 2014
ADVANTAGES

High Industry and Occupation detail

(NACE rev2 3-4 digits; ISCO08-4 digits)

Distribution of ICT workers across industries (NACE) and occupations (ISCO)
Distribution of ICT workers across industries (NACE) and occupations (ISCO)
Differences in gross salaries in ICT occupations; Netherlands and India, euros
ADVANTAGES

High Industry and Occupation detail

Should I stay or should I go? Steinmetz et al. (2014b)

Factors discouraging intentions to quit in the Health sector

When following a policy of wage increases, attention to the issue of working time – including overtime hours, working part-time- and wage satisfaction are suitable strategies in managing health workforce.
ADVANTAGES

High Industry and Occupation detail

Health sector. Tijdens et al. (2013a)

Comparing 16 occupations in the Health Sector in 20 countries
Health sector. Tijdens et al. (2013a)
Comparing 16 occupations in the Health Sector in 20 countries

Assumption of similarity in cross-country wage rankings holds; wage levels and dispersion are not similar.
ADVANTAGES

Provides specific information

Guzi and de Pedraza (2015) explore the role of work conditions and job characteristics with respect to subjective well-being: life satisfaction, job satisfaction and satisfaction with work-life balance.
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<table>
<thead>
<tr>
<th></th>
<th>ESS (1)</th>
<th>WI with PSA (2)</th>
<th>WI (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.076</td>
<td>0.049</td>
<td>0.042*</td>
</tr>
<tr>
<td></td>
<td>(0.060)</td>
<td>(0.054)</td>
<td>(0.025)</td>
</tr>
<tr>
<td>Educ secondary</td>
<td>-0.137*</td>
<td>-0.042</td>
<td>0.059*</td>
</tr>
<tr>
<td></td>
<td>(0.079)</td>
<td>(0.061)</td>
<td>(0.035)</td>
</tr>
<tr>
<td>Educ tertiary</td>
<td>-0.047</td>
<td>0.045</td>
<td>0.139***</td>
</tr>
<tr>
<td></td>
<td>(0.080)</td>
<td>(0.065)</td>
<td>(0.033)</td>
</tr>
<tr>
<td>Married</td>
<td>0.527***</td>
<td>0.473***</td>
<td>0.474***</td>
</tr>
<tr>
<td></td>
<td>(0.079)</td>
<td>(0.056)</td>
<td>(0.028)</td>
</tr>
<tr>
<td>Divorced</td>
<td>-0.275**</td>
<td>0.182</td>
<td>0.11*</td>
</tr>
<tr>
<td></td>
<td>(0.139)</td>
<td>(0.119)</td>
<td>(0.063)</td>
</tr>
<tr>
<td>Widowed</td>
<td>-0.363</td>
<td>0.141</td>
<td>-0.07</td>
</tr>
<tr>
<td></td>
<td>(0.234)</td>
<td>(0.345)</td>
<td>(0.204)</td>
</tr>
<tr>
<td>Age 15-24</td>
<td>Ref.</td>
<td>Ref.</td>
<td>Ref.</td>
</tr>
<tr>
<td>Age 25-34</td>
<td>-0.248**</td>
<td>-0.228***</td>
<td>-0.168***</td>
</tr>
<tr>
<td></td>
<td>(0.115)</td>
<td>(0.080)</td>
<td>(0.047)</td>
</tr>
<tr>
<td>Age 35-44</td>
<td>-0.455***</td>
<td>-0.433***</td>
<td>-0.457***</td>
</tr>
<tr>
<td></td>
<td>(0.125)</td>
<td>(0.092)</td>
<td>(0.033)</td>
</tr>
<tr>
<td>Age 45-54</td>
<td>-0.571***</td>
<td>-0.462****</td>
<td>-0.42***</td>
</tr>
<tr>
<td></td>
<td>(0.133)</td>
<td>(0.110)</td>
<td>(0.033)</td>
</tr>
<tr>
<td>Age 55-64</td>
<td>-0.359**</td>
<td>-0.198</td>
<td>-0.196*</td>
</tr>
<tr>
<td></td>
<td>(0.144)</td>
<td>(0.162)</td>
<td>(0.102)</td>
</tr>
<tr>
<td>Health excellent</td>
<td>Ref.</td>
<td>Ref.</td>
<td>Ref.</td>
</tr>
<tr>
<td>Health good</td>
<td>-0.343***</td>
<td>-0.488***</td>
<td>-0.509***</td>
</tr>
<tr>
<td></td>
<td>(0.077)</td>
<td>(0.056)</td>
<td>(0.039)</td>
</tr>
<tr>
<td>Health poor</td>
<td>-0.731***</td>
<td>-1.124***</td>
<td>-1.169***</td>
</tr>
<tr>
<td></td>
<td>(0.091)</td>
<td>(0.065)</td>
<td>(0.033)</td>
</tr>
<tr>
<td>Health very poor</td>
<td>-1.711***</td>
<td>-1.769***</td>
<td>-1.785***</td>
</tr>
<tr>
<td></td>
<td>(0.143)</td>
<td>(0.089)</td>
<td>(0.038)</td>
</tr>
<tr>
<td>Foreign-born</td>
<td>-0.029</td>
<td>0.08</td>
<td>0.062</td>
</tr>
<tr>
<td></td>
<td>(0.116)</td>
<td>(0.063)</td>
<td>(0.046)</td>
</tr>
<tr>
<td>Self-employed</td>
<td>0.207**</td>
<td>-0.064</td>
<td>0.127</td>
</tr>
<tr>
<td></td>
<td>(0.095)</td>
<td>(0.318)</td>
<td>(0.170)</td>
</tr>
<tr>
<td>Log income</td>
<td>0.347***</td>
<td>0.275***</td>
<td>0.316***</td>
</tr>
<tr>
<td></td>
<td>(0.056)</td>
<td>(0.056)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>Permanent contract</td>
<td>0.053***</td>
<td>0.045</td>
<td>0.048***</td>
</tr>
<tr>
<td></td>
<td>(0.079)</td>
<td>(0.057)</td>
<td>(0.030)</td>
</tr>
<tr>
<td>Works &gt; 40hrs</td>
<td>-0.031</td>
<td>-0.296***</td>
<td>-0.265***</td>
</tr>
<tr>
<td></td>
<td>(0.061)</td>
<td>(0.074)</td>
<td>(0.035)</td>
</tr>
<tr>
<td>Constant</td>
<td>4.997***</td>
<td>5.261***</td>
<td>4.962***</td>
</tr>
<tr>
<td></td>
<td>(0.441)</td>
<td>(0.397)</td>
<td>(0.172)</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.101</td>
<td>0.14</td>
<td>0.152</td>
</tr>
<tr>
<td>$n$</td>
<td>3,445</td>
<td>20,995</td>
<td>20,065</td>
</tr>
</tbody>
</table>

Notes: The dependent variable is life satisfaction. OLS estimates are presented with standard errors in parenthesis. See also notes to Table A1. All models include regional and year fixed effects. ***, ***Significant at the 10, 5, and 1 percent levels, respectively.

Table AII- Life satisfaction equations: a comparison of the European Social Survey and the Wageindicator survey
ADVANTAGES

Provides specific information

Tijdens et al. (2013b) look at task data in order to understand if similar job titles refer to the same work activities, within and across countries.
Half of the occupations reveal no agreement across ratings, one-third shows a weak/moderate agreement and one in ten shows a strong agreement. Within-country similarity of occupations is larger than across-country similarity.
ADVANTAGES

Provide specific information
Visintin et al. (under review) study how within-occupations tasks implementation differences are related with within-occupation wage dispersion
Visintin et al. (under review) study how tasks implemented within 100 occupations are related with within-occupation wage dispersion.

[Graph showing the relationship between education level and median wage with task implementation heterogeneity on the x-axis and median wage on the y-axis.]
CONCLUSIONS

Web surveys such as the wageindicator can be a useful source of information in labour-related socioeconomic research particularly EXPLORATIVE way

Similar information to other survey Labour Force Survey

With the disadvantage of a lower potential for generalisation

With the great advantages of:

• Wide international scope (including emerging countries)
• High industry and occupation details
• High flexibility (provides specific information)
Thank you for your attention
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Usefull links
http://www.wageindicator.org
http://magazine.wageindicator.org/september
http://idsc.iza.org/?page=27&id=59
http://www.eduworks-network.eu/pages/home

The international web News
WI dataset available
Eduworks web
References


• Steinmetz, S., de Vries, D. H., & Tijdens, K. G. (2014b) Should I stay or should I go? The impact of working time and wages on retention in the health workforce. Hum Resour Health, 12(1), 23.


• Visintin S, Tijdens KG, Steinmetz S and Pedraza P (under review) Task Implementation Heterogeneity and Wage Dispersion