

Perceived and Preferred Occupational Earnings

Harry BG Ganzeboom

ISSP Research Session

Guadalajara, April 29 2018

Occupational Earnings

- By Occupational Title
- Open question: respondents are asked to respond in their own terms, e.g. report in daily, monthly or annual incomes.
- Repeated for Perceived (ACTUAL) and Preferred (SHOULD) earnings.

History in ISSP (ratio to mean)

	1987	1992	1999	2009
OWN-MAN LARGE FACTORY		1.91	1.70	
CHAIRMAN LARGE COMPANY	1.97	1.61	1.54	1.78
JUDGE		1.44	1.38	
CABINET MINISTER	1.82	1.36	1.25	1.38
LAWYER		1.11	1.08	
DOCTOR GP	1.50	1.07	0.97	1.07
SMALL SHOP OWNR	0.96	0.83		
BRICKLAYER	0.82	0.70		
BANK CLERK	0.65	0.66		
CITY BUS DRIVER	0.73	0.65		
SECRETARY	0.58	0.61		
SKLD FACTORY WRKR	0.77	0.62	0.50	
FARM WRKR	0.69	0.55		
SHOP ASSISTANT DEP ST		0.45	0.40	0.43
UNSKLD FACTORY WORKER	0.55	0.45	0.36	0.41

N of Cases

	1987	1992	1999	2009
N Countries	10	18	31	42
N Total	16964	26405	38014	57757
N Complete	11475	19142	26531	47007
	68%	72%	70%	81%
N Partial	12866	21875	32945	50894
	76%	83%	87%	88%
	1987	1992	1999	2009

Complications

- Ratio measurement in local currencies.
- Open questions are hard to process, e.g. to check for outliers, wild codes.
- Respondents find it difficult to answer → Missing values (JP?)
- These are not parallel items
 - Internal consistency and factor analysis do not apply
 - How to examine validity and reliability?

Missing data

- If respondents gave only partial answers, the algorithm will give a value, but it is likely to be biased (this is bit different than in the case of attitude items).
- If the missing occur in the ACTUAL and SHOULD at the same place, the bias may disappear.
- I would recommend single-step imputations on the logged deviations. You can use multiple imputation to do this, and save the mean imputation as a single imputation. Or use a single step.
- Make sure that you use every bit of information to make the imputations.

How they have been analyzed

- Traditionally: HI/LO ratio (high earning occupations / low earning occupations)

Kelley, Jonathan, and M D R Evans. 1993. "The Legitimation of Inequality: Occupational Earnings in Nine Nations." *American Journal of Sociology* 99(1): 75–125.

- Recently: by characterizing the FULL DISTRIBUTION using a Gini inequality coefficient

Osberg, Lars, and Timothy Smeeding. 2006. "'Fair' Inequality? Attitudes toward Pay Differentials: The United States in Comparative Perspective." *American Sociological Review* 71(3): 450–73.

Andersen, R., Yaish, M. 2012. "Public Opinion on Income Inequality in 20 Democracies: The Enduring Impact of Social Class and Economic Inequality." *Gini Discussion Papers* 48: 7–40.

- If you use a HI/LO ratio, there is no need for bringing in mid-earning occupation. However, does it help if you would use a distributional measure??

How to analyze

- Step 1: identify the missing values and code them as Sysmiss (or negative).
- Step 2: Calculate the mean of the amounts per respondents (this is equivalent to calculating the total).
- Step 3: Divide each variable by the person-specific mean → (ratio) deviations from the mean.
- Step 4: Take logs of the deviations → (interval) deviations from the mean.
- Step 5: take the SD of the logged deviations from the mean → earnings variance == inequality \approx Gini.

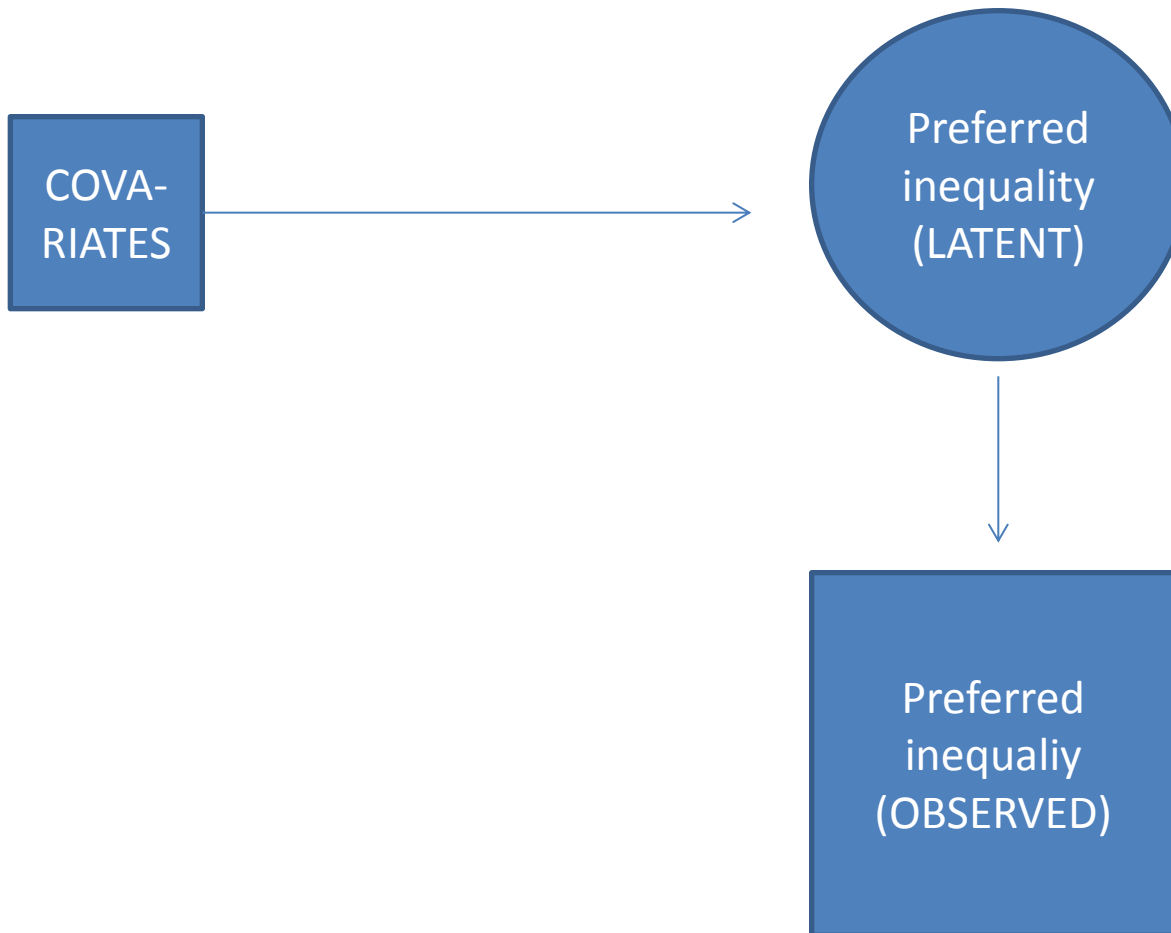
Reliability and Validity

- How can we determine reliability of the inequality measure and of its constituent indicators?
- Internal consistency (Cronbach's alpha) does not work here. At best you can contrast the (three) high paying occupations to (two) low paying occupations.
- Factor analysis does not work well either.
- I propose the method of external validation.

External validation

- Take some covariate of (preferred / perceived) earnings inequality:
 - You own income, earnings
 - Other opinions about inequality (ISSP)
 - Other predictors of inequality attitudes, such as political preferences.
- Very simple idea: compare explained variances of different constructions of the observed inequality index.
- This procedure can determine relative reliability, not absolute. So you can find the best inequality measure, not whether it is adequate or perfect.

External validation



Outliers

- Open quantitative questions are likely to generate outliers.
- Two approaches:
 - Remove (“trim”), make them missing
 - Scale back to “normal” values.

Note that decisions about extreme values are very important for assessing inequality: outliers contribute much.
- A commonly used approach among income analysts is to trim extreme values, e.g. trim 1-2% extremes.
- Notice that it should NOT be done at the level of the variables, but AFTER taking log-deviations from the personal mean.

Effect of trimming (1999)

		Adj R2	Adj R2	B(Attitude)	B(LNHINC)
Countries	26945	24.3%	26.4%	0.045	0.026
Trimming lowest 1%	26914	25.0%	26.8%	0.045	0.028
Trimming lowest 2%	26876	25.0%	26.8%	0.044	0.030
Trimming lowest 3%	26842	25.0%	26.7%	0.043	0.030
Trimming lowest 4%	26819	25.0%	26.8%	0.042	0.030
Trimming lowest 5%	26783	25.2%	26.9%	0.041	0.031
Trimming highest 1%	26923	25.7%	27.4%	0.043	0.025
Trimming highest 2%	26905	26.3%	28.0%	0.042	0.024
Trimming highest 3%	26889	28.2%	28.2%	0.042	0.024
Trimming highest 4%	26875	26.7%	28.3%	0.041	0.022
Trimming highest 5%	26843	26.5%	28.2%	0.041	0.021
Trimming lo&hi 1%	26892	26.0%	27.8%	0.043	0.028
Trimming lo&hi 2%	26836	26.7%	28.5%	0.041	0.028
Trimming lo&hi 3%	26782	27.0%	28.8%	0.040	0.029
Trimming lo&hi 4%	26740	27.3%	29.0%	0.038	0.027
Trimming lo&hi 5%	26674	27.5%	29.1%	0.038	0.026

How many occupations? Which ones to omit?

		Adj R2	Adj R2	B(Attitude)	B(LNHINC)
All nine	26945	24.7%	26.4%	0.045	0.026
Top 3 omitted	27885	23.3%	24.5%	0.035	0.017
Mid 3 omitted	26748	20.9%	23.0%	0.055	0.045
Bot 3 omitted	25844	21.8%	22.3%	0.026	0.001
2009 five	26470	23.5%	25.4%	0.050	0.034
2009	42237	23.8%	24.5%	0.031	0.036

Recommendations

- Archive: please start using negative values for missing data (also for income).
- We do not need middling occupations, although they do not hurt when you use a distributional measure of perceived / preferred earnings inequality.