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Socioeconomic health inequalities in Belgium in an international perspective

by

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Abstract

The ECuity project, funded by the European Community's BIOMED programme, designed a common methodology to measure and compare existing socioeconomic inequalities in the concentration of health (or illness) between European countries (+ the U.S.). This report discusses the methodology and summarises empirical findings for Belgium and its regions. Where possible, results are compared with those of other ECuity partners.

Using self-assessed health as indicator, significant pro-rich inequalities in health between income groups are found in all countries. Health inequalities in Belgium are high when compared internationally; only

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the U.K. and the U.S. do worse. Within Belgium, there is significantly more socioeconomic health inequality in Brussels than in the other regions (Flanders, Wallonia).

The reason why Belgium performs rather badly is not clear. In a simple explanatory model, Belgium's health inequality seems to be much higher than one would expect on the basis of income inequality. Why Belgium is an outlier remains to be investigated.

Key-words

Morbidity, health status, socioeconomic factors, health surveys, equity.

Introduction

There appears to be wide agreement among policy makers that equity in the delivery of health care is an important goal of health policy. Equality of health then becomes one of the yardsticks against which the equity of a health care system might be judged. It is after all difficult to rationalize a concern about the distribution of medical care other than in terms of a concern about the distribution of health itself (1). Equality of health would then mean that its distribution should not be affected by socioeconomic factors such as income, gender, race, etc. Comparison between countries can reveal insight in how the organisation of health care influences socioeconomic inequalities in health. The ECuity project, financed by BIOMED III, designed a common methodology to measure and compare existing socioeconomic inequalities in health between European countries (+ the U.S.). This report discusses methodology and summarises empirical findings for Belgium and its regions. Where possible, results are compared with those of other ECuity partners. The remainder of this introductory part gives a brief discussion of previous Belgian empirical evidence.

For Belgium, socioeconomic differences in the distribution of health have been studied before but only fragmentary empirical evidence is

available. Deleeck first focused attention at socioeconomic inequalities in health in Flanders (2). He empirically analysed health inequalities for household-heads of a representative sample for the year 1976. He found that the percentage of respondents reporting a good to very good health status increases as income increases, from 68% for the lowest income group, to 83% for the middle group and to 90% for the highest income group. Since then socioeconomic inequalities in health have retained scientific interest, however, without (large-scale) empirical verification. Two studies find evidence of regional (North-South or Flanders-Wallonia) differences in mortality and relate these to socioeconomic regional differences (income) (3-4). This finding is being confirmed in Lagasse et al. (5). Dooghe et al. (6) report a decrease in health complaints with increasing level of schooling, but these results are in contrast with an earlier report (7) from the "Nationaal Onderzoek in de Sociale Wetenschappen" (NOSW) that finds increasing health complaints with increasing socioeconomic status. Polus and Louckx (8) attribute this difference to the wording of the questions. The NOSW study used open-ended questions, making the answers dependent on knowledge about health problems. A detailed study on peri-natal morbidity in three regions in Wallonia found that pregnant women with lower socioeconomic status have 2.5 times more chance of being hospitalised than women with higher socioeconomic status (9). These mothers also report 2.5 times more baby-illness during the first weeks of life. On an even more local level, i.e. the city of Ghent, evidence is reported of higher cardiac mortality in neighbourhoods with lower socioeconomic profile (10). More recently, Masuy-Stroobant (11) analysed socioeconomic differences in peri-natal mortality and found persisting and strong differences. For 1985-86 the peri-natal mortality rate per 1 000 births is 7.5 for the highest socioeconomic group (professional occupations, medical and paramedical jobs) but nearly 14 for the lowest socioeconomic group (blue collar workers). Recently, Deliège showed that blue-collar workers and unemployed report higher rates of absenteeism (primary disability) (12).

To summarise: socioeconomic inequality in health has been documented before for Belgium but only limited and fragmented empirical information is available. Moreover, findings have never been standardised (for example for age and sex). In an extensive literature survey, Polus and Louckx complain about the lack of general evidence on this research question for Belgium (8).

Methods [1]

Variables

The study uses self-assessed health as indicator of health. This indicator does not rely on a medical conceptualisation of health, but uses the respondents' own ratings of their health. It has been demonstrated, however, that this subjective measure captures important information about the person's health and well-being and is an important predictor of mortality (16-21). Moreover, it is a standard question which is widely available in health or multi-purpose surveys. In addition presence or absence of chronic illness is used as second indicator.

Disposable (i.e. after tax) total household income per equivalent adult (this means with a correction for household size) is used as our measure of socioeconomic status.

Measurement of inequality

When addressing existing socioeconomic (in)equalities in health in Belgium, we can learn a great deal from simple descriptive statistics. Cross-tabulations of health variables versus socioeconomic variables (such as household income) will demonstrate whether correlations exist.

When comparing health inequalities between different countries, we need a measure or index that enables us to quantify equity. A new approach to the measurement of health inequality was developed for the ECuity project. This method entails constructing an illness concentration curve and calculating an illness concentration index. The latter can be considered as a relative socioeconomic measure of inequality. Relative, since it is independent on the mean level of health or income in the sample, and socioeconomic, since individuals are ranked by income. Let us briefly explain the methodology.

[1] What follows is a brief discussion of the methods used, formal details of which can be found in published methodological papers of the ECuity project (13-15).

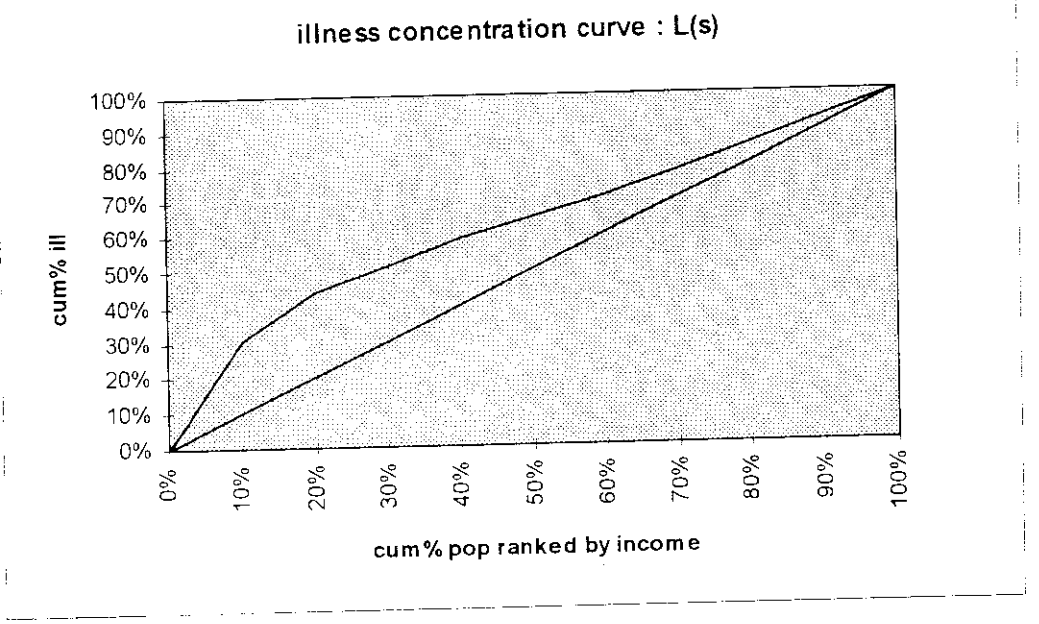

Fig. 1 : Illness concentration curve.

First, individuals are ranked by socioeconomic status (here household equivalent income) beginning with poor. The illness concentration curve, L(s), then plots the cumulative percentage of the population ranked by income against their cumulative percentage of ill health. If there is no inequality, L(s) will coincide with the diagonal. If ill health is concentrated in the lower income groups, L(s) will lie above the diagonal as in the example below.

The illness concentration index (CI) is then defined as one minus twice the area between L(s) and the diagonal:

$$CI = 1 - 2 \int_0^1 L(s)\, ds$$

On grouped data, assuming L(s) is piece-wise linear, Kakwani, Wagstaff & Van Doorslaer (14) showed that CI can be calculated as:

$$CI = \frac{2}{\mu}\sum_{t=1}^{T} f_t \mu_t R_t - 1 \text{ with } \mu = \sum_{t=1}^{T} f_t \mu_t$$

where μ_t = the morbidity rate among individuals in socioeconomic group t, f_t = the proportion of the sample in socioeconomic group t and R_t = the relative rank of the socioeconomic group t (with the latter defined as:

$$R_t = \sum_{\gamma=1}^{t-1} f_\gamma + \frac{1}{2} f_t$$

and thus indicating the cumulative proportion of the population up to the midpoint of each group interval). The authors further show that CI can also be interpreted as the slope coefficient of a convenience regression and use this result to develop an estimator of the standard error of CI. The variance of CI can be calculated as:

$$\text{var}(CI) = \frac{1}{n}\left[\frac{1}{n}\sum_{t=1}^{n} a_t^2 - (1+CI)^2\right]$$

where n = the sample size and

$$a_t = \frac{\mu_t}{\mu}(2R_t - 1 - CI) + 2 - q_{t-1} - q_t$$

with

$$q_t = \frac{1}{\mu}\sum_{\gamma=1}^{t} \mu_\gamma f_\gamma$$

The standard error estimates will allow testing for significance of differences in inequity between countries.

The index thus ranges from −1 (only the poorest person is sick) over 0 (no inequalities) to +1 (only the richest person is sick). So a negative (positive) index points to health inequalities favouring the rich (poor). We should note that the index is also equal to zero when the concentration curve crosses the diagonal such that the two areas on either side of the diagonal cancel each other out (this is the case when inequalities favouring the rich exactly offset inequalities favouring the poor).

We need to point at two important adjustments that have been made. First, the health variable has been standardised for age-sex differences to eliminate unavoidable demographic effects (14). This way, we calculated as if all income groups had the same age/sex structure, so that there is likely an unconfounded association between the remaining inequalities and the socioeconomic status.

The second adjustment has to do with the ill health variable. Health is measured by a categorical variable (How is your health in general: very good, good, fair, poor, very poor). Ill health could then be measured by dichotomising this variable. However, apart from a loss of information, Wagstaff and Van Doorslaer (15) also show that the measured inequality can be sensitive to the arbitrary cut-off point used for dichotomisation. For this reason, the categorical health variable is converted into a continuous latent health variable, increasing when health is deteriorating[1]. It is this variable that is then used to construct L(s) and calculate CI.

Results

Data

All data used in the study are derived from the Panel Study on Belgian Households (PSBH), a sample representing the non-institutionalised population in Belgium. This panel started in 1992 and is still on-going. Initially 4 439 households, including more than 11 000 individuals (children as well as adults) completed the survey. The sample

[1] See appendix one.

size and composition was chosen as to guarantee a representative picture of Flanders, Brussels and the Walloon region.

The survey is a general household survey, treating topics such as demographics, household composition, education, professional activity, household income, social participation and health. For the underlying research, the 1995 survey results have been used.

The analysis in our study is restricted to individuals over 18 years of age, with non-missing data on income, health status and medical care consumption. This leaves a total sample size of 5 636 individuals, 700 for Brussels, 2 572 for Flanders and 2 364 for Wallonia. The relative oversampling of Brussels and Wallonia, is corrected for by weighting the sample for any analyses at the country level. No weighting has been performed for possible selective drop-out of individuals over the different sample waves. A description of the questions, relating to all variables used in the underlying analysis, is given in appendix together with descriptive statistics for Belgium, Brussels, Flanders and Wallonia.

Results for Belgium

We investigate two health indicators in the data-set: self-rated health status [on a scale ranging from 1 (very good) to 5 (very bad)] and chronic health. The distribution of these variables in the sample is presented in appendix 3. The distributions are typically skewed as there are more people reporting good than bad health. On average people report good health (scale 2) and no chronic health problem. There is no significant difference between the regions in the mean value of these variables.

A simple cross-tabulation of the two health variables with net household-equivalent income, illustrates the presence of socioeconomic inequality in health in Belgium. Self-reported health status deteriorates and more chronic health problems are reported as income decreases. Tables one and two illustrate this statement.

TABLE 1

Cross-tabulation of self-assessed health with net equivalent household income (column percentages and number of observations (in brackets))

How is your health in general?	Net equivalent household income per month (in BEF)					
	30 000	30 001-40 000	40 001-52 000	52 001-64 000	64 001	All classes
Very good	17.2 (199)	19.1 (192)	24.5 (348)	30.6 (306)	31.9 (337)	24.5 (1 381)
Good	42.5 (492)	47.2 (474)	53.9 (765)	52.0 (518)	52.6 (556)	49.8 (2 805)
Fair	31.3 (362)	25.9 (260)	18.7 (265)	15.4 (154)	13.9 (147)	21.1 (1 189)
bad	7.3 (84)	6.5 (65)	2.6 (37)	1.8 (18)	1.2 (13)	3.8 (217)
Very bad	1.7 (20)	1.3 (13)	0.4 (5)	0.2 (2)	0.4 (4)	0.8 (44)

60% of individuals with incomes under 30 000 BEF per month, report their health to be very good or good. This percentage increases continuously with increasing income: it climbs to 66% for income between 30 001 and 40 000 BEF, jumps to 78% for income between 40 001 and 52 000 BEF, to 83% for income between 52 001 and 64 000 BEF and even to 85% for income above 64 000 BEF. Kendall's Tau-b indicates that the negative association between income and self-assessed health is statistically significant (Kendall's Tau-b = −0.18, T-value = −16.5).

TABLE 2

Cross-tabulation of chronic health with net equivalent household income (column percentages and number of observations (in brackets))

Do you have a chronic health problem?	Net equivalent household income per month (in BEF)					
	30 000	30 001-40 000	40 001-52 000	52 001-64 000	64 001	All classes
Yes	28.1 (318)	21.1 (216)	15.6 (218)	12.0 (120)	11.7 (126)	17.7 (998)
No	71.9 (815)	78.9 (809)	84.4 (1 183)	88.0 (876)	88.3 (955)	82.3 (4 638)

As income decreases, more individuals in the income group report a chronic health problem. In the highest income bracket

(+64 000 BEF) only 11.7% has a chronic health problem. This percentage increases continuously as income decreases: to 12% for the 52 001-64 000 BEF income group, to 15.6% for the 40 001-52 000 BEF group and to 21.1% for the 30 001-40 000 BEF group. In the lowest income group (≤30 000 BEF) nearly 3 out of 10 people (28%) report a chronic illness.

As a global quantification of health inequality, standardised concentration indices and their standard errors have been calculated for Belgium and its different regions. The values are reported in table 3. All concentration indices are negative and significantly different from zero, indicating that significant health inequalities exist and that they favour higher income groups. Pairwise comparison of the indices (using Student's t-test) between regions shows that there is significantly more health related inequality in Brussels than in the other regions. The differences between the CI values for Flanders and Wallonia are not significant.

TABLE 3

Region	Concentration index	Standard error	Significance of inequity
Flanders	-0.0906	0.0162	**
Wallonia	-0.0886	0.0151	**
Brussels	-0.162	0.0313	**
Belgium	**-0.0900**	**0.0098**	**

** Significant at a 1% significance level.

The concentration curves provide a means to visually compare inequality. As the concentration curves are quite close to the diagonal, we plot them in terms of deviations from the diagonal (Fig. 2).

All curves lie above the diagonal, confirming that health inequalities favour the rich as the CI already indicated. The concentration curve for Brussels strictly dominates the other curves, again showing that there is more health inequality in the capital region than in the other regions. The 10% poorest inhabitants of Brussels endure more than 16% of ill-health. More than 30% of ill-health is concentrated in the 20% lowest income-earners. For the other regions, concentration curves lie closely together and cross-over. Concentration curves virtually coincide for the two lowest income deciles. In Flanders as in Wallonia, 12% of illness is concentrated in the 10% lowest income-group and

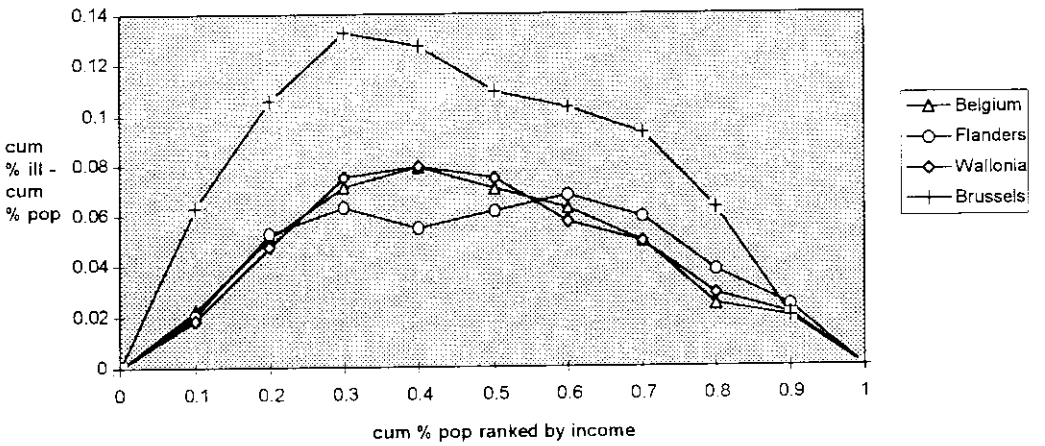

Fig. 2: Illness concentration curves for self-assessed health for Belgium (deviations from diagonal).

25% in the 20% lowest income-earners. In the third to fifth income deciles, Wallonia has slightly more illness concentration than Flanders, while the opposite can be said for the sixth to ninth income deciles.

International comparison

The ECuity project ensured all participating countries calculated concentration indices along the same methodology using similar data[1]. Thus, Table 4 provides a direct comparison of health inequality measures across countries. Countries have been sorted by increasing CI values, i.e. by increasing inequality.

All indices are negative and significantly different from zero, indicating that significant income-related inequalities in health exist in all countries and, without exception, favour the better-off. There is, however, substantial variation in index values between countries. The largest inequalities are observed in the U.S. (with a concentration index of −0.14) and in the U.K. (with an index of −0.11). The largest cluster of countries (Spain, Switzerland, the Netherlands, West-

[1] A description of the data-sets used in each country can be found in the multi-country report (13).

Germany and Finland) have index values around −0.07 or −0.06. Countries with lowest inequality indices are East-Germany (−0.04) and Sweden (−0.03). The Belgian results are rather disappointing in comparison with these international figures. With the exception of the U.S. and the U.K., Belgium has the highest income related inequalities.

TABLE 4

Illness Concentration Indices for self-assessed health and confidence intervals

Country		Concentration index	Limits of 95% confidence interval	Significance of inequity
Sweden	S	−0.035	−0.059; −0.011	**
E. Germany	EG	−0.044	−0.056; −0.031	**
Finland	SF	−0.057	−0.082; −0.032	**
W. Germany	WG	−0.057	−0.083; −0.031	**
Netherlands	NL	−0.066	−0.096; −0.036	**
Switzerland	CH	−0.070	−0.088; −0.051	**
Spain	E	−0.073	−0.102; −0.044	**
Belgium	B	−0.090	−0.109; −0.070	**
United Kingdom	UK	−0.115	−0.145; −0.085	**
United States	US	−0.136	−0.182; −0.090	**

** Significant at a 1% significance level.

Are the apparent differences in health inequality between countries significant? A pairwise comparison between countries (using Student's t-test), reveals that there are largely two clusters of countries. The first cluster contains the U.S. and the U.K., with significantly larger inequalities, and the second cluster contains the remaining countries, whose indices do not significantly differ (with some exception for Switzerland). Belgium is somewhat in the middle. Its result is not significantly different from the U.S. or U.K., but neither is it different from the highest indices in the second group (The Netherlands, Switzerland or Spain).

Discussion

The comparison of health inequalities prompts the question: what are the potential causal factors? Empirical analysis of the determinants of health inequality in the above mentioned countries (excluding Belgium) could only detect one statistically significant factor: the

degree of income inequality (measured by the Gini coefficient[1]). A simple linear regression, explaining differences in health inequalities by differences in income inequalities, resulted in an adjusted R^2 for the model of 0.71 (13). The Belgian situation, however, does not fit the regression well. When adding the Belgian results in the regression, the adjusted R^2 drops to 0.55.

Figure 3 plots the relationship between the gini-coefficient of net equivalent household income and the (negative of the) concentration index for self-assessed health.

As is the case for the U.K., Belgium has a higher level of health inequality than one would expect on the basis of income inequality. The opposite can be said for Sweden and to a lesser extent for Switzerland. The other countries are quite close to the regression line.

Since income inequality alone does not seem to explain health inequalities very well, one can question what other factors might explain cross-country differences. In previous work, Le Grand found

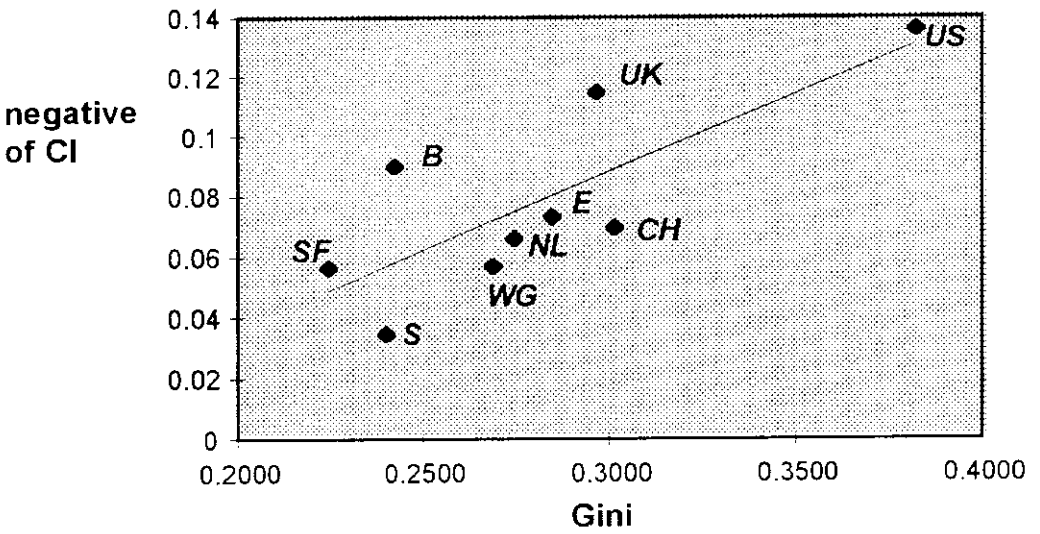

Fig. 3: Health and income inequality in selected OECD countries.

[1] The Gini coefficient for equivalent disposable income is calculated as the concentration index from the sample data.

positive impact of per capita health care spending and of the share of health expenditure financed publicly, while per capita national income influenced the regression negatively (22). In the ECuity sample, however, adding these variables did not ameliorate the regression analysis: the variables were jointly insignificant (13). These findings suggest that there is only a weak link between health care spending and health. Similar findings are reported earlier (23-24).

To summarise: Self-assessed health is clearly associated with indicators of well-being; there exist socioeconomic inequalities in health. However, it is not clear then what factors, other than income inequality, account for health inequalities. The outliers in the regression plot above remain interesting puzzles for further research. The need to move the research focus away from spendings on health care, had already been suggested by Lalonde in 1974, who sparked off international support by putting forward that lifestyle and environment determine health more than health care expenditure (25). Along this line, we can learn a great deal from the sociological literature where research models point at the importance of "cultural factors" (such as attitude, lifestyle, knowledge, behaviour) next to "material factors" (such as living and working conditions) in explaining differences in health outcomes (26-27). At the same time, they point out that the causal relationship might well reverse: an individual's health will determine her social mobility and hence her socioeconomic position. As if by definition, the cross-roads between economics and sociology seems particularly fruitful for the continuation of research on socioeconomic differences in health.

Conclusions

This paper explores whether income related inequalities in health can be found in Belgium. Analyses are performed on the basis of a general household survey of about 6 000 non-institutionalised individuals older than 18 years.

With relatively crude measures of health, such as self-assessed health and the presence of a chronic condition, significant inequalities in health are found between income groups in Belgium overall and also in the different regions (Brussels, Flanders and Wallonia). People in lower income groups endure more illness than people in higher income groups. This can be derived from simple cross tabulations and is confirmed in illness concentration curves and indices, after standardi-

zation for age and sex. Health inequalities are significantly higher in Brussels. These results confirm what others also found previously.

New evidence is put forward with respect to the relative position of Belgium versus other European countries. The comparison of concentration indices between countries, calculated along a common methodology, reveals that Belgium does not occupy a very favorable position. In all countries (European + U.S.), health inequalities are significant and favor the rich. Belgium however, is positioned at the higher end of the inequality ladder, just below the U.S. and the U.K.

This comparison prompts the question of the potential causal factors of health inequalities. Here the study has not yet been very informative. In a simple explanatory model, only health inequality and no medical care variables had any explanatory power. Belgium's health inequality seems to be much higher than one would expect on the basis of income inequality. More research on the causal factors of health inequalities is indicated.

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Résumé

Le projet ECuity, financé par le programme BIOMED de la Communauté Européenne, a construit une méthodologie commune afin de mesurer et comparer l'inégalité socio-économique dans la distribution de santé (ou maladie) entre les différents pays Européens (+ les Etats-Unis). Ce rapport explique les méthodes et présente les résultats empiriques pour la Belgique et ses régions. Lorsque cela est possible, les résultats sont comparés à ceux des autres partenaires d'ECuity.

Des inégalités significatives dans la distribution de santé sont trouvées dans tous les pays, toujours en faveur des riches. L'inégalité en Belgique est assez élevée comparée aux autres pays; seuls le Royaume-Uni et les Etats-Unis connaissent une situation plus inégale. Parmi les différentes régions de la Belgique, on constate qu'il existe significativement plus d'inégalités socio-économiques concernant la distribution de santé dans la région capitale de Bruxelles que dans les autres régions (Flandres, Wallonie).

Les raisons de la performance inquiétante de la Belgique ne sont pas claires. Dans un simple modèle explicatif, l'inégalité de santé en Belgique paraît plus élevée qu'on ne le supposerait sur base de l'inégalité des rémunérations. Ce fait reste à expliquer.

Samenvatting

Het ECuity project, gesponsord door het BIOMED programma van de Europese Gemeenschap ontwikkelde een gemeenschappelijke methodologie voor het meten en vergelijken van socio-economische ongelijkheden in de verdeling van gezondheid (of ziekte) tussen de Europese landen (+ de V.S.). Deze bijdrage bespreekt de methodologie en rapporteert empirische resultaten voor België en haar regio's. Waar mogelijk worden de resultaten vergeleken met die van andere ECuity partners.

Met zelf-gewaardeerde gezondheidstoestand als indicator, werden in alle landen significante gezondheidsongelijkheden ten voordele van de rijkere bevolkingsgroepen gevonden. Ziekte, met andere woorden, is geconcentreerd bij de armere bevolkingsgroepen. De mate van gezondheidsongelijkheid is in België aanzienlijk ten opzichte van de situatie in andere landen; enkel het Verenigd Koninkrijk en de Verenigde Staten kennen een meer ongelijke verdeling. Binnen de landsgrenzen noteren we significant grotere socio-economische gezondheidsongelijkheid in het Brussels Gewest dan in de overige gewesten (Vlaanderen, Wallonië).

Waarom België het internationaal zo slecht doet, is niet duidelijk. Uit een eenvoudig verklarend model blijkt dat de gezondheidsongelijkheid in België veel hoger is dan men zou verwachten op basis van de bestaande inkomensongelijkheid. Waarom België uit de vergelijking springt, blijft voorlopig een vraagteken.

APPENDICES

App. 1: From a categorical to a continuous latent health variable (based on (15))

Say y is the self-assessed health variable with five categories from 1 (best) to 5 (worst). Assume that there is a continuous variable y^* with a lognormal distribution, that is underlying this categorical health variable y, such that:

if	$y=5$	then	$-\infty < y^* \leq \alpha_1$
	$y=4$		$\alpha_1 < y^* \leq \alpha_2$
	$y=3$		$\alpha_2 < y^* \leq \alpha_3$
	$y=2$		$\alpha_3 < y^* \leq \alpha_4$
	$y=1$		$\alpha_4 < y^* \leq +\infty$

where the α_i are threshholds. Lognormality is assumed to allow for skewness in response; typically there are more people reporting good health than bad health.

The thresholds are estimated so that the area under the standard normal distribution is divided up into 5 portions, corresponding the numbers in the sample falling into each health category.

$$\alpha_t = \Phi^{-1}\left(\sum_{i=1}^{5} n_t/N\right)$$

where Φ^{-1} is the inverse standard normal cumulative density function, n_i is the number of cases in category i and N is the total number of cases.

Then the mean value of y^* in each interval was estimated as the log of the normal scores:

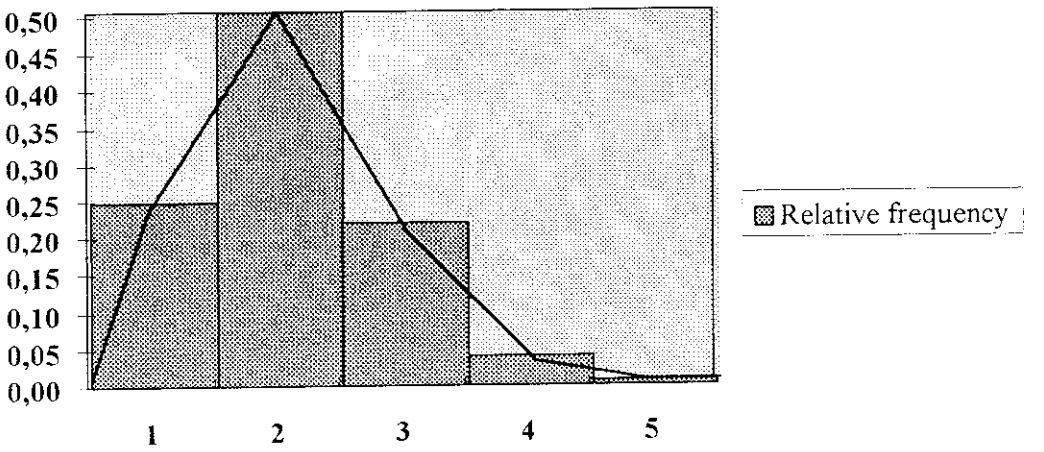
$z_i = (N/n_i) * [\Phi(\alpha_{i-1}) - \Phi(\alpha_i)]$

and

$y^* = -e^z$

where z_i are the normal scores and $\Phi(\,)$ is the standard normal density function.The following figure visualizes the transformation:

From a categorical to a continuous latent health variable



α		−0.698	−0.636	1.680	2.406	5.61
y^*	0.276	0.973	2.88	7.079	15.44	

Each individual now gets assigned a latent health score y^* according to his response category. The continuous latent health variable y^* is always positive and increasing when health is deteriorating. The resulting distribution over the income groups (starting with poor) is as follows:

Incomegroup	y^*
1	1,917
2	1,919
3	1,987
4	1,552
5	1,602
6	1,429
7	1,421
8	1,256
9	1,345
10	1,258
Total	**1,568**

It is clear from this distribution that health improves as income increases.

App. 2: Variable definitions

Variable	Question/ Definition
Born	In which year were you born?
Sex	Your sex: 1 = male; 2 = female.
Members	Number of individuals in the household.
Income	How much is your current total disposable net income, everything included, per month? In BEF.
Heqinceddy	Household equivalent income: weighting factor: (number of adults + 0.5 number of children)$^{0.5}$ (in BEF).
Healthassessed	How is your health in general? 1 = very good; 2 = good; 3 = not good, not bad; 4 = bad; 5 = very bad.
Chronic Health	Do you have a chronic health problem (psychological or physical), an illness or handicap? 1 = yes; 2 = no.

App. 3: Mean and standard deviation (between brackets) of variables

Variable	Belgium	Brussels	Flanders	Wallonia
Born	1949 (17.6)	1948 (18.0)	1949 (17.7)	1949 (17.4)
Sex	1.52 (0.5)	1.53 (0.5)	1.52 (0.5)	1.53 (0.5)
Members	3.05 (1.37)	2.84 (1.49)	3.13 (1.37)	2.96 (1.33)
Income	80 420 (42 374)	85 736 (51 616)	80 007 (39 515)	79 624 (44 197)
Heqinceddy	49 521 (23 400)	54 648 (28 539)	48 577 (21 803)	49 718 (24 289)
Healthassessed	2.07 (0.82)	2.14 (0.94)	1.97 (0.76)	2.21 (0.87)
Chronic Health	1.82 (0.39)	1.89 (0.32)	1.80 (0.40)	1.82 (0.38)
Sample size	5 636	700	2 572	2 364

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