

Mick Jagger's Arithmetics : Can I get Satisfaction from Satisfactions ?

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1. Introduction

Since seminal papers of Easterlin (1974) and Nordhaus and Tobin (1972), increasing doubts have been cast upon the reliability of standard national accounts aggregates, GDP being the most prominent one, to convey some useful information about the genuine progress of societies and the true well-being of people. As a consequence, alternative indicators have been flourishing since the early nineties, exemplified by the release of the first Human Development Index by the World Bank in 1990.

Nowadays, the main synthetic indexes of so-called "well-being" (e.g. Index of Social Health by Miringoff and Miringoff or Index of Economic Well-Being by Osberg and Sharpe) are built-in providing implicit answers to the following questions :

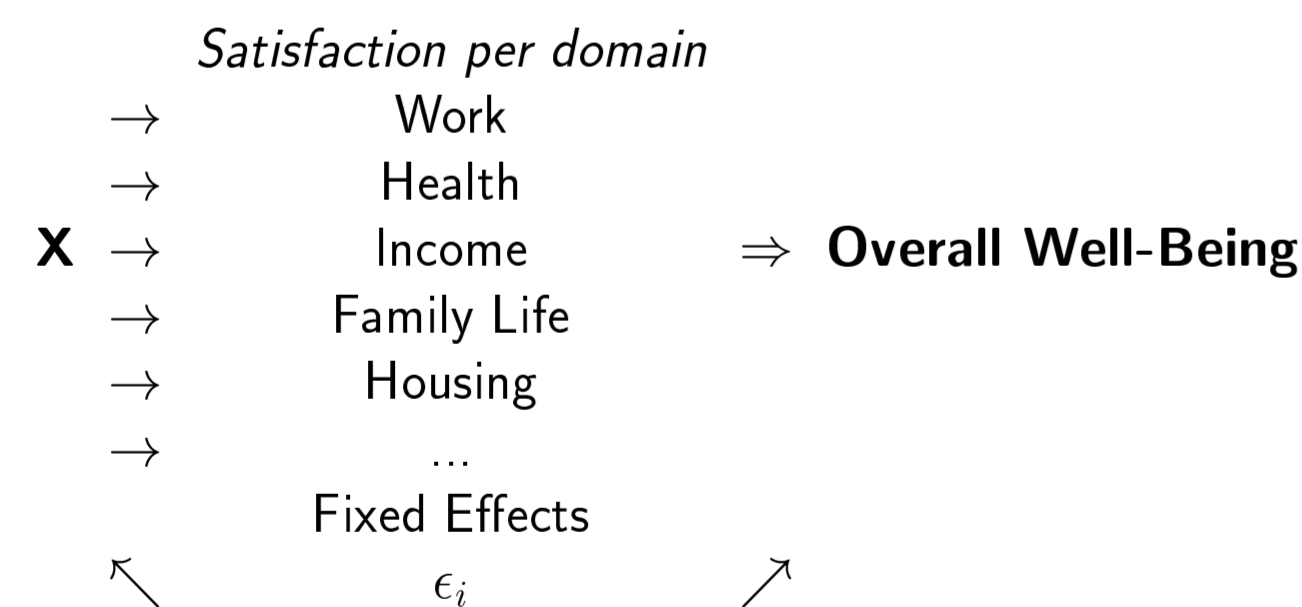
**What variables should be included for a good accounting of well-being?
What are the relative importance of those in the aggregate?**

Here we provide empirical investigations on the subjective counterpart of such questions based on individual data on satisfaction from the 2003 European Quality of Life Survey (EQLS) conducted by Eurofound (the European Foundation for the Improvement of Living and Working Conditions). Data were kindly provided by the *Economic and Social Data Service*.

2. Empirical Strategy

The EQLS provides data related to overall satisfaction and satisfaction along several items (income, job, health, personal relations) both measured on a 1-10 scale. Thus, we are able to identify what domains really matter in the overall satisfaction and how important they are. Table 1 depicts the model we have in mind.

Table 1: A very reduced form of well-being determinants



More formally, we estimate the β_j 's in the following equation using an **ordered probit model to explain overall satisfaction GS by domain satisfactions DS_j** . Controlling for **unobserved individual effects ϵ_i is possible with proxy** thanks to additional questions revealing personal characteristics (e.g being optimistic or not).

$$GS_i = GS(DS_{i1}, \dots, DS_{iJ}; \epsilon_{iG}) = \sum_{j=1 \dots J} \beta_j DS_{ij} + \epsilon_{iG} \quad (1)$$

$$DS_{ij} = DS_j(X_i; \epsilon_{ij}) = \sum_{k=1 \dots K} \alpha_k X_{ik} + \epsilon_{ij} \quad (2)$$

$$\epsilon_{iG} = \epsilon_i + \eta_{iG} \quad \epsilon_{ij} = \epsilon_i + \eta_{ij} \quad (3)$$

Figure 1: Distribution of overall life satisfaction (left) and family life satisfaction (right) in EU15 and former Socialist Republics (thereafter Ex-Soc.)

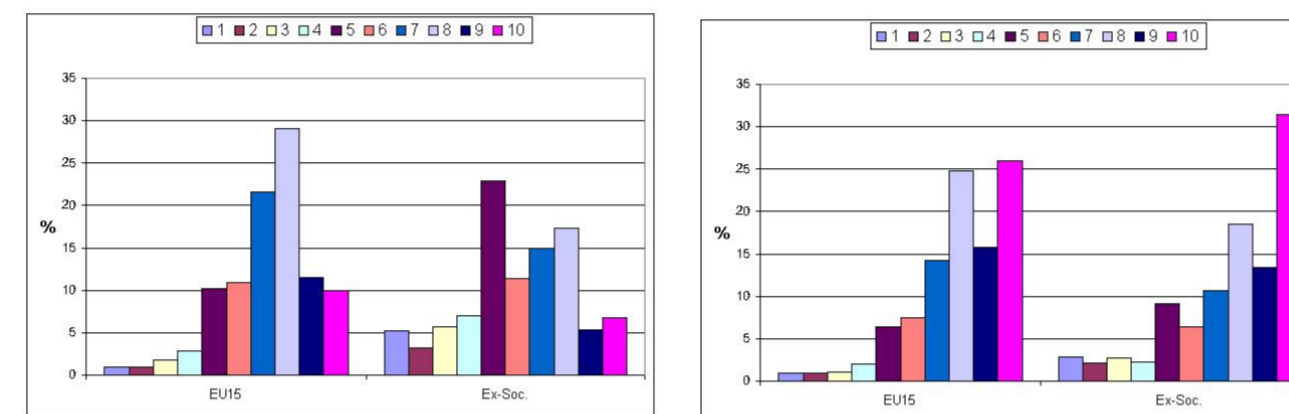


Table 2: Ordered Probit on global satisfaction in EU15

	Est.	Std. Err.	Est.	Std. Err.	Est.	Std. Err.
Intercept	-1.80	0.06	-1.90	0.19	-2.15	0.25
Education	0.06	0.04	0.08	0.05	0.07	0.06
Occupation	0.15	0.04	0.15	0.04	0.14	0.06
Income	0.27	0.04	0.27	0.05	0.23	0.06
Housing	0.18	0.05	0.17	0.06	0.17	0.07
Family Life	0.30	0.05	0.29	0.06	0.30	0.07
Health	0.14	0.04	0.16	0.06	0.15	0.07
Social Life	0.27	0.05	0.27	0.06	0.26	0.08
Country	-	-	NS		NS	
Gender (F)	-	-	0.04	0.08	0.04	0.09
Age 25-34	-	-	0.00	0.17	-0.01	0.22
Age 35-49	-	-	-0.02	0.17	0.01	0.21
Age 50-64	-	-	-0.03	0.17	0.04	0.22
Age over 65	-	-	0.14	0.18	0.22	0.22
Being optimistic	-	-			0.41	0.11
Obs.	12 796					

Note: Country, Gender, Age and psychological variable are introduced as dummies.

Table 3: Importance of domains (%) in overall life satisfaction

	EU15	Ex-Soc.	FR	UK	DE	DK	SP
Satisfaction along							
Education	5.2	2.7	8.8	0.5	1.0	2.7	15.3
Occupation	10.8	11.7	8.9	4.1	12.9	6.5	11.5
Income	17.7	28.4	14.8	12.9	28.6	12.9	17.2
Housing	12.9	14.5	16.4	23.3	4.6	10.5	10.5
Family Life	22.4	14.3	20.8	24.0	27.4	30.5	21.2
Health	11.2	13.3	8.2	10.7	11.8	12.4	8.3
Social Life	19.7	15.0	22.1	24.4	13.7	24.6	16.0
gender age country							
Obs.	12571	6947	891	847	888	840	877

Note: The weights (%) are equal to the ratio of the coefficient to the sum of all coefficients along satisfaction domains, as estimated from ordered probit model.

3. Results and Conclusions

1. Domain satisfactions perform well in explaining overall satisfaction

Estimates of the coefficients entering equation (1) related to domain satisfactions (table 2) are generally largely significant (except for Education). Estimates appear rather robust as additional co-variables standing for fixed effects proxies do not alter the results. Including "psychological variable", as being optimistic, also leave results largely unchanged, except for the income dimension. Being optimistic is largely significant and as such may be a good proxy for the fixed effects we are looking for.

2. Satisfaction patterns between countries differ substantially

Descriptive statistics illustrate the fact that satisfaction patterns between countries differ substantially. For instance, only 30% of French people are satisfied (8 and more) as to their education level whereas almost 45% of EU15 countries are very satisfied. For additional examples, see the full paper at <http://www.insee.fr/fr/insee-statistique-publique/default.asp?page=colloques/acn/acn12.htm>

3. Very different satisfaction patterns between EU15 and former Soviet Rep.

Figure 1 exemplifies the differences between EU15 and former Soviet Republics by displaying overall satisfaction and satisfaction in family life. Satisfaction in family life is much more right-skewed in former soviet republics than in EU15.

4. Among EU15, cash helps...but does not tell the whole story

Generally, as one could have expected, financial situation plays a significant role in explaining the overall life satisfaction as shown in Table 3, especially in former Soviet Republics. But among EU15 countries, it is not the most important part.

5. Social life and Family life quality do matter a lot

Indeed, the most striking results (Table 3) are the substantially large effects of satisfaction in family life and in social life (more than 20% each) in the overall life satisfaction pattern. Those results provide empirical support for the importance of social capital in individual well-being as articulated by R. Putnam.

6. Results cast doubts upon the feasibility of one single index covering all countries

The current assumption underlying so-called synthetic indicators, namely uniform weighting distribution along dimensions and across countries, are clearly at odds with our results. If any international index has to be elaborated someday, it must at least acknowledge the very specificity of "what really counts" according to the society you belong to.

References

- [1] Easterlin R. A. (1974): "Does Economic Growth Improve the Human Lot? Some empirical Evidence", *Nations and Households in Economic Growth*, NY.
- [2] Nordhaus D., Tobin J. (1972): "Is Growth Obsolete?", *Studies in Income and Wealth*, vol. 38, NBER.
- [3] Van Praag B.M.S, Frijters P., Ferrer-i-Carbonell A. (2003): "The anatomy of subjective well-being", *Journal of Economic Behavior and Organization*, vol. 51(1).