Globalization's Winners and Losers - Evidence from Life Satisfaction Data, 1975 - 2000

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Abstract

This paper analyzes the effect of globalization on subjective well-being by using a dataset that combines micro- and macro-level variables for the EU-15 countries from 1975 to 2000. The estimations provide evidence that - in line with theoretical predictions - globalization has benefited especially high-skilled workers, right-wing voters, and people in the highest income quartile. On the other hand, globalization has increased well-being to a higher extent for old people than for young people.

Keywords: Life satisfaction; well-being; globalization; Heckscher-Ohlin theorem

JEL codes: F15; F16; I31

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1.Introduction

The economic literature provides evidence that globalization is beneficial in terms of macroeconomic performance (Dreher, 2006) and increasing product variety (Broda and Weinstein, 2006), while income inequality between (Dutt and Mukhopadhyay, 2005) and within countries (Dreher and Gaston, 2008) has been exacerbated in a globalized world. At the same time, there is a growing literature investigating the effect of country-level variables on individuals' subjective well-being (Di Tella et al. 2001; Frey and Stutzer, 2002). However, the question of who are globalization's winners and losers in terms of well-being has so far only been analyzed in one cross-country study (Bjørnskov et al., 2007), while the results of this analysis are of limited use if subjective well-being is not internationally comparable (Diener and Oishi, 2006).[1]

To fill this gap, this paper analyzes the effect of globalization on people's life satisfaction drawing on a rich micro dataset for the EU-15 countries from 1975 to 2000. The analysis suggests that globalization has generally contributed to people's well-being. In addition, skill-level, income, political ideology and age represent dimensions that identify the main beneficiaries of globalization.

2.Theoretical considerations and hypotheses

The Heckscher-Ohlin theorem provides a clear prediction with regard to globalization's winners and losers. It contends that in a world where production factors are mobile across sectors more liberalized trade induces changes in relative factor prices according to the Stolper-Samuelson theorem. More specifically, in developed regions such as the EU-15 countries the prices of relatively abundant production factors (high-skilled labor) increase, while those of relatively scare production factors (low-skilled labor) decrease. Hence, due to this change in relative wages the well-being of high-skilled workers increases more than that of low-skilled workers *(hypothesis 1)*.[2] O'Rourke (2006) provides preliminary evidence for this first hypothesis by showing that skill-level has a significant influence on voters' support for globalization.

Secondly, people with a higher income should be better able to benefit from the increased opportunities for travelling and consumption that globalization offers *(hypothesis 2)*. Thirdly, as right-wing voters are generally in support of liberalization, one might suspect that they benefit more from globalization than left-wing voters *(hypothesis 3)*. Finally, there is reason to believe that globalization's effect on well-being varies across age groups since young people may be more prepared and better able to take advantage of the increased opportunities on the labor market (Doyle and Fidrmuc, 2005) *(hypothesis 4)*.

[1] This may also explain why the authors only find a significant effect of globalization in one out of eight estimations.
[2] We do not assume a decline in the well-being of low-skilled workers because they do benefit from other aspects of globalization such as opportunities for travelling and increasing product variety.

3. Data description and empirical strategy

Given the evidence for a negative effect of unemployment and inflation on life satisfaction (Di Tella et al. 2001), the estimations include the vector $Macro_{tc}$ representing the growth rate of the consumer price index (OECD Key Economic Indicators) and unemployment rates (OECD Economic Outlook). In addition, the KOF globalization index (based on data from the political, social and economic sphere) appears in the estimations as our main independent variable.[3] Finally, the regressions take into account micro-level variables from the Eurobarometer Survey Series, where $Individual_{itc}$ includes gender, age, relative income, ideological preferences, marital and employment status, education level and the number of children. The dependent variable – life satisfaction – is based on the question 'On the whole, are you very satisfied (4), fairly satisfied (3), not very satisfied (2) or not at all satisfied (1) with the life you lead?'.

The regression model best suited to the analysis in this paper is an ordered response model, where the dependent variable is discrete and measured on a finite ordinal scale. The first part of the model is a structural equation for the latent, continuous dependent variable:

$$Lifesat_{itc}^{*} = \alpha + \beta Individual_{itc} + \gamma Globalization_{tc} + \delta Macro_{tc} + \omega_t + \mu_c + \varepsilon_{itc} \qquad (1)$$

ε_{itc} represents an i.i.d. and normally distributed error term and all regressions include an intercept α, time fixed effects ω_t and country fixed effects μ_c. The latter are indispensable since measures of subjective well-being may not be internationally comparable.

The second part of the model is an observation rule for the ordinal dependent variable, which relates the observable dependent variable to the latent variable by spelling out how $Lifesat_{itc} \in \{1,2,3,4\}$ changes its value if $Lifesat_{itc}^{*}$ crosses a fixed given threshold τ_j:

$$Lifesat_{itc} = \begin{cases} 1 \;\; if \;\; Lifesat_{itc}^{*} \le \tau_1 \\ 2 \;\; if \;\; \tau_1 < Lifesat_{itc}^{*} \le \tau_2 \\ 3 \;\; if \;\; \tau_2 < Lifesat_{itc}^{*} \le \tau_3 \\ 4 \;\; if \;\; \tau_3 < Lifesat_{itc}^{*} \end{cases} \qquad (2)$$

The ordered response model outlined above is estimated for the following population subgroups:

Unskilled/skilled:	Respondents who at most attended school until the age of 15/ at least attended school until the age of 20
Poor/rich:	Respondents in the lowest/ highest income quartile
Left-wing/right-wing:	Respondents placing themselves on the left/ right of the ideological scale
Young/old:	Respondents who are at most 30 years old/ older than 50 years

[3] For more details on the KOF index see Dreher (2006). The data can be downloaded at http://globalization.kof.ethz.ch/.

4. Estimation results

Table 1 displays estimations results for each of the eight subgroups and provides evidence that globalization has a significantly positive effect on well-being across all groups. Since the magnitudes of the coefficients have no meaningful interpretation in microeconometric estimations, we have additionally calculated marginal effects at the independent variables' means. The difference in terms of globalization's effect on well-being is largest across the ideological dimension. To be more exact, when the globalization index increases by one unit, the probability of being 'very satisfied' with one's life rises by 0.7 percentage points for left-wing voters and 1.5 percentage points for right-wing voters. Given that the globalization index ranges from 24.8 to 47.7 in our sample, we conclude that globalization has an economically significant effect on well-being.

The findings for model 7 and 8 provide strong evidence against hypothesis 4 as they suggest that old people benefit more from globalization than young people.[4] A potential explanation is that globalization puts pressure on young people by requiring additional skills from them such as foreign languages. Hence, young people may find that the job market offers more opportunities but is also more competitive than ever. In addition, it may be difficult for young people to maintain social relationships across national borders when studying abroad or taking up an international assignment. Summarizing, we cannot reject hypotheses 1 to 3, while we do reject hypothesis 4.

5.Conclusion

The empirical analysis in this paper suggests that globalization has benefited especially high-skilled workers, right-wing voters, and people in the highest income quartile. This implies among other things that there is evidence in favor of the Heckscher-Ohlin theorem. On the other hand, globalization has increased well-being to a higher extent for old people than for young people. This may be attributed to the fact that a globalized labor market puts pressure on young people in terms of the skills that they need to master and due to the difficulty of maintaining social relationships across borders. Overall, we find that on the level of population subgroups globalization has only created winners in terms of well-being.

[4] The difference in marginal effects is even larger when redifining the age groups for instance with a cut-off at 45 years or with the young defined as below 35 years of age and the old defined as 60 years old or over.

Table 1: Ordered probit estimation results for subgroups, 1975 - 2000

	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**	**Model 8**
	Unskilled	*Skilled*	*Poor*	*Rich*	*Left-wing*	*Right-wing*	*Young*	*Old*
Globalization	0.019***	0.019***	0.019***	0.019***	0.023***	0.015***	0.016***	0.025***
	(16.358)	(12.043)	(10.816)	(12.392)	(16.682)	(10.737)	(11.973)	(16.832)
	[0.005]	**[0.007]**	**[0.005]**	**[0.007]**	**[0.007]**	**[0.015]**	**[0.005]**	**[0.008]**
Unemploy-ment rate	0.001	-0.017***	-0.001	-0.007***	0.001	-0.016***	-0.007***	0.001
	(0.748)	(-7.881)	(-0.636)	(-4.138)	(0.918)	(-8.765)	(-4.041)	(0.691)
Inflation rate	-0.012***	-0.017***	-0.015***	-0.012***	-0.009***	-0.017***	-0.013***	-0.011***
	(-6.711)	(-6.855)	(-5.319)	(-4.784)	(-4.142)	(-7.885)	(-6.376)	(-4.418)
Male	-0.034***	-0.069***	-0.061***	-0.053***	-0.043***	-0.080***	-0.078***	0.003
	(-4.589)	(-7.322)	(-6.377)	(-5.920)	(-5.779)	(-8.507)	(-9.707)	(0.345)
Age	-0.030***	-0.037***	-0.030***	-0.029***	-0.032***	-0.028***		
	(-24.266)	(-16.824)	(-19.617)	(-13.206)	(-22.190)	(-17.348)		
Age^2	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***		
	(25.223)	(15.836)	(21.256)	(12.627)	(21.262)	(18.020)		
Relative income	0.132***	0.113***			0.133***	0.130***	0.103***	0.129***
	(39.864)	(25.094)			(37.832)	(31.712)	(28.141)	(33.334)
Ideological preferences	0.091***	0.105***	0.079***	0.094***			0.099***	0.088***
	(21.522)	(18.315)	(13.776)	(17.252)			(19.495)	(17.846)
Marital status								
Married	0.119***	0.185***	0.118***	0.191***	0.140***	0.137***	0.122***	0.074***
	(10.457)	(13.977)	(9.272)	(12.324)	(12.896)	(9.898)	(12.709)	(4.817)
Divorced	-0.251***	-0.185***	-0.271***	-0.158***	-0.182***	-0.260***	-0.386***	-0.229***
	(-12.553)	(-7.139)	(-14.062)	(-4.390)	(-9.467)	(-9.927)	(-10.655)	(-10.206)
Separated	-0.315***	-0.232***	-0.306***	-0.271***	-0.189***	-0.371***	-0.299***	-0.321***
	(-10.022)	(-5.328)	(-9.707)	(-4.951)	(-6.191)	(-8.752)	(-6.649)	(-8.029)
Widowed	-0.124***	-0.145***	-0.111***	-0.221***	-0.119***	-0.134***	-0.238**	-0.087***
	(-7.972)	(-4.539)	(-6.648)	(-6.254)	(-6.001)	(-6.194)	(-2.474)	(-5.139)
Employment status								
Unemployed	-0.531***	-0.537***	-0.583***	-0.515***	-0.543***	-0.530***	-0.517***	-0.495***
	(-38.721)	(-24.249)	(-37.223)	(-19.527)	(-38.909)	(-26.310)	(-36.740)	(-22.903)
School	0.118***	0.020	0.113***	0.090***	0.084***	0.120***	0.185***	-0.048
	(5.029)	(1.246)	(6.198)	(4.754)	(5.660)	(6.278)	(18.467)	(-0.375)
Retired	0.015	-0.027	-0.074***	0.022	-0.005	0.035**	-0.232***	0.127***
	(1.254)	(-1.140)	(-4.524)	(0.977)	(-0.314)	(2.069)	(-3.137)	(12.513)
Home	0.015	0.053***	-0.086***	0.070***	0.003	0.033**	-0.036**	0.074***
	(1.458)	(2.930)	(-5.379)	(4.598)	(0.264)	(2.372)	(-2.511)	(5.354)
Self-employed	-0.024**	0.006	-0.078***	0.008	0.027*	-0.047***	0.039**	-0.029*
	(-2.113)	(0.365)	(-4.105)	(0.614)	(1.926)	(-3.455)	(2.245)	(-1.929)
Education till age								
16 to 19 yrs			0.081***	0.126***	0.082***	0.084***	0.067***	0.082***
			(7.181)	(11.286)	(9.218)	(8.170)	(6.468)	(8.783)
> 19 yrs			0.148***	0.191***	0.139***	0.176***	0.084***	0.140***
			(9.984)	(15.597)	(13.497)	(14.418)	(7.015)	(11.433)
Number of children <= 15 years								
1	-0.071***	-0.006	-0.026*	-0.009	-0.030***	-0.023*	-0.023**	-0.151***
	(-6.836)	(-0.464)	(-1.754)	(-0.743)	(-2.820)	(-1.763)	(-2.050)	(-8.618)
2	-0.050***	-0.005	0.008	0.009	-0.018	0.007	-0.068***	-0.079***
	(-4.482)	(-0.347)	(0.469)	(0.675)	(-1.578)	(0.469)	(-5.260)	(-3.752)
>= 3	-0.099***	0.003	-0.080***	0.021	-0.033**	-0.062***	-0.096***	-0.158***
	(-7.203)	(0.145)	(-3.686)	(1.248)	(-2.257)	(-3.576)	(-5.542)	(-6.360)
Observations	132,278	71,722	70,777	80,759	111,370	82,257	93,858	96,300

[1] Hypothesis tests are based on robust standard errors [2] t-statistics are in parentheses [3] Significance at 10% (*), 5% (**) , 1% (***)
[4] Marginal effects at means of independent variables in square brackets and bold letters
[5] Base levels for dummy variables: female, single, education till age < 15 years, employed, no children <= 15 years
[6] Ideological preferences: -1 (left-wing), 0 (center), +1 (right wing) / Relative income: 1 (lowest income quartile) to 4 (highest quartile)
[7] The numbers of observations for each of the four dimensions do not add up to the total of 319,703 since medium-skilled workers, medium-income earners, people with a centrist ideology and medium-aged people are not considered in the analysis

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