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Social Distress and Economic Integration

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Social Distress and Economic Integration

Abstract

We analyze whether social distress from income comparisons affects attitudes towards the integration of economies. Using Germany's division as natural experiment, we find that East Germans' feelings of relative deprivation with respect to better-off West Germans led to significantly more support for the upcoming German re-unification.

Keywords: relative deprivation, economic integration, merger of populations, social comparisons, natural experiment

JEL Classification: D31, F15

Social Distress and Economic Integration

1. Introduction

Populations have merged in all times, within and across all continents, and for a variety of reasons: settlements and resettlements, conquests, political unifications (as the European Union), large-scale migrations, collapse of regimes, and more. Standard economic theory tells us that integration should generate welfare gains for the merged populations. By contrast, Stark (2013) provides theoretical support that a merger might decrease aggregate welfare even if it increases absolute income. His analysis is based on the theory of relative deprivation which suggests that an individual feels relatively deprived when others in one's reference group earn more. The premise is that a merger of populations alters the social space, i.e. the composition of one's reference group, and therefore relative deprivation. Stark shows that, upon a merger, "the aggregate relative deprivation of merged populations is larger than or equal to the sum of the pre-merger level of the aggregate relative deprivation of the constituent populations" (p.2). From an individual point of view, to be in favor of the merger, integration must generate a significant gain in absolute income to compensate for personal disutility caused by relative deprivation.

Note that the model of Stark assumes that before the merger people compare themselves only to people within their own population. What happens if a merger does *not* change the social space, what if people compare themselves to the other population even *before* the merger? Modern communication and information technologies, common currencies and cultural traits, or even trade and migration likely result in social comparisons beyond borders. In this paper, we address the question whether relative deprivation affects individuals' attitudes towards a merger of populations when people already compare themselves to the other population *before* the merger. By empirically analyzing the reunification of Germany, we focus on people in the German Democratic Republic (GDR) in summer 1990 who had economically better-off relatives and friends in the Federal Republic of Germany (FRG) even before the upcoming merger.

2. Merger of Populations and Relative Deprivation – A Simple Model

Consider two populations, a poor population P and a rich population R , where the highest income in P is less than the lowest income in R . Note that this simplified framework mimics our empirical setting. Individuals of P also compare their incomes to that of the (richer) individuals of R even before P and R are merged. In what follows we only focus on individuals emanating from P . Consider the utility, u , of an individual in P which is a function of absolute income, x , and relative deprivation, RD , sensed from unfavorable income comparisons. Since income comparisons between populations take place even before merger, RD_P refers to P and RD_R refers to R . The coefficient α is an intensity parameter. It represents the weight accorded to unfavorable income comparisons. Then,

$$u = x - \alpha RD_P - \alpha RD_R. \quad (1)$$

Let the relative deprivation functions of an individual earning income x be given by

$$RD_P = \bar{x} - x \text{ and } RD_R = \bar{y} - x, \quad (2)$$

where \bar{x} (\bar{y}) denotes the average income of others earning more than x in P (R). Consider the case that upon merger all individuals in P expect an increase in their level of absolute income by ε .¹ Then the (expected) post merger utility is

$$\tilde{u} = x + \varepsilon - \alpha((\bar{x} + \varepsilon) - (x + \varepsilon)) - \alpha(\bar{y} - (x + \varepsilon)), \quad (3)$$

and the expected change in utility is given by

$$\Delta u = \varepsilon + \alpha \varepsilon. \quad (4)$$

Claim 1: Individuals sensing RD expect a higher increase in utility.

Proof: $\lim_{\alpha \rightarrow 0} \Delta u = \varepsilon < \Delta u = \varepsilon + \alpha \varepsilon$

Claim 2: The more individuals sense RD , the higher the (expected) increase in utility.

Proof: $\frac{\partial \Delta u}{\partial \alpha} = \varepsilon > 0$

We naturally assume that the change in utility is correlated to the favor of a merger. Therefore, we hypothesize that the more individuals sense RD , the more they are in favor of a merger.

¹ We derive similar results when incomes in R increase by σ , where $\sigma < \varepsilon$.

3. Empirical Design

3.1 Identification

In our empirical framework, we focus on people of the GDR in summer 1990 who have relatives and/or friends in the FRG. We observe the distress these persons experience from comparisons to the better-off reference group in FRG, i.e. the αRD_R term in equation (1). Then, East Germans' attitudes towards the upcoming reunification are regressed on this distress variable. To exclude that correlation between attitudes and distress is driven by unobserved common factors or by reverse causality, we apply an IV approach. We instrument the endogenous regressor of distress from RD by the wealth gap between East German respondents and their closest relatives in FRG. In justifying the corresponding exclusion restriction, the historical setting in the GDR in summer 1990 has essential advantages.

First, the West German reference group of people in the GDR was for the most part exogenously given.² In the period after the erection of the Berlin wall in 1961, it was almost impossible to acquire new contacts to West Germans since emigration as well as visits to West Germany were prevented. Either West German contacts existed before 1961 or there were none. Moreover, we can rule out that East Germans who were highly sensitive for RD cut pre-existing ties to well-off West Germans more frequently than individuals without a strong aversion to RD . People from the GDR might have compared their own economic status to that of West Germans even before 1989, but those comparisons became *effective* not before the fall of the wall. During the period of Germany's division, having affluent West German relatives was not a concern in terms of income inequality. The West German economy was physically and mentally out of reach – a situation that radically changed after 1989, particularly after the monetary union in July 1990. Therefore, sorting effects in terms of the West German reference group seem to be negligible; nonetheless, in the regressions, we control for strength of social ties to West Germans.

Second, for people from the GDR, the wealth gap compared to their West German reference group can be considered as exogenous variation. Whether West Germans had acquired a high standard of living or not during the period of Germany's division was – from an East German's view – a matter of chance. Vice versa, the opportunity to reduce the gap in economic status by improving the own income in the GDR was unrealistic given the flat wage distribution within the communist country and strong restrictions on monetary transfers from West Germany.

Even if the variation of West Germans' wealth is completely random to their relatives in the GDR, it could be correlated with East Germans' attitudes towards German reunification via specific expectations concerning the economic consequences of reunification. Fortunately, we are able to take into account those differences in economic expectations related to German reunification. Moreover, strong contacts to wealthy relatives in the West might spur feelings of belonging together. To exclude that our results are driven by differences in one's social identity we control for the perception of cultural proximity between the GDR and West Germany.

² See Burchardi & Hassan (2013) for a related argument.

3.2. *Data and Measurement*

In explaining how distress from *RD* translates into support for or opposition to German reunification we make use of a representative survey conducted in the GDR in September 1990, i.e. already after the monetary union but still before the political unification.³ Since the survey focuses on attitudes related to the upcoming reunification, we are able to measure relevant variables in a straightforward manner. With respect to our dependent variable, respondents directly express their support for German reunification on a four-point Likert scale. In the regressions, we use the condensed information whether someone is against or pro reunification. Moreover, the intention to vote for Helmut Kohl vs. Oskar Lafontaine as German chancellor is available. At the time of the survey, Helmut Kohl was *the* protagonist of a fast German reunification. Oskar Lafontaine, by contrast, was the most famous opponent of a rapid economic and political integration of the GDR. Both variables will be used to measure the support for a merger of (German) populations.

Our main explanatory variable is distress from *RD*, which is given by a survey question that represents the self-reported disutility caused by the respondent's negative discrepancy in the standard of living in comparison to the closest West German relatives and/or friends. Following the identification strategy, we use the wealth gap of an East German respondent in comparison to West German peers for instrumenting the regressor of distress. Our survey data provides information on this wealth gap. Note that after monetary union and conversion of financial assets, rents, and wages, East Germans could estimate the wealth gap compared to West Germans with much more precision than before.

To disentangle the effect of distress arising from *RD*, we control for a rich set of variables, i.e. main socio-demographic characteristics (age, sex, partnership status, and children), labour market status, qualification, economic status, and regional information. We also control for the strength of social ties to West Germans. Additionally, we are able to consider the effect of cultural proximity by observing how strong the respondents identify themselves as Germans as well as by the expectation whether or not the unified Germany will converge to a common culture. Moreover, individuals' expectations concerning the process of economic catching up are taken into account both at the individual and at the aggregate level of East Germany.

³ Data are available by the GESIS Data Archive, Cologne. ZA6016 Data file Version 1.0.0, doi:10.4232/1.6016.

4. Results

Table 1 presents the results of the second stage IV probit regressions. In all specifications, we use the wealth gap as instrument for distress from *RD*. As shown in column one, the estimated coefficient of distress is highly significant and positive: when East Germans feel distressed by income comparisons to West Germans, they are more likely to be in favour of reunification. As can be seen in columns (1)-(4), the result is extremely robust to the inclusion of relevant variables. Moreover, we find a strong and significant impact of optimistic economic expectations on support for reunification. The cultural channel also works; people in the GDR who feel themselves as German and expect a fast cultural convergence between East and West Germany are in favour of reunification. Strong social ties to West Germany seem to work via cultural and/or economic expectations. After controlling those channels (columns (4) and (1)), they lose significance.

Table 1: RD and Attitudes towards Reunification (IV-Probit-Results)

	Pro Reunification (1/0)				Pro Kohl (1/0)
	(1)	(2)	(3)	(4)	(5)
Distress from <i>RD</i>	1.162 [0.000]***	0.971 [0.002]***	0.894 [0.010]**	1.027 [0.001]***	0.770 [0.022]**
Peer Contact (Base group: <i>none</i>)					
<i>Weak</i>	-0.021 [0.924]		0.276 [0.196]	0.080 [0.715]	0.063 [0.754]
<i>Strong</i>	0.073 [0.751]		0.470 [0.045]**	0.240 [0.303]	0.218 [0.292]
Cultural Convergence	0.555 [0.005]***			0.833 [0.000]***	0.642 [0.001]***
German Patriotism	0.356 [0.013]**			0.451 [0.002]***	0.330 [0.005]***
East Germany will Stay Behind	-0.494 [0.009]***				-0.305 [0.004]***
Merger Increases Personal Income	0.763 [0.000]***				0.479 [0.000]***
Controls	Yes	Yes	Yes	Yes	Yes
Wealth Gap (First stage)	0.162***	0.170***	0.166***	0.165***	0.171***
F-Test (2SLS)	34.5***	38.5***	35.9***	35.6***	35.6***
Observations	938	952	951	946	865

Notes: Significance levels: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$. P-value in brackets; other controls not reported. Instrument: Wealth gap to West German reference group.

We performed several robustness checks. Column (5) shows that support for Helmut Kohl, as German chancellor – representing the desire for a fast reunification – is significantly higher for East Germans feeling distress from *RD*. Moreover, results remain almost unchanged when using the entire information of the four-point Likert scale of support for German reunification.

5. Conclusion

Using the natural experiment of Germany's division, we find strong support that East Germans experiencing high distress from relative deprivation regarding better-off West Germans were more in favor of the upcoming re-unification in 1990. Individuals feeling disutility by upward social comparisons to West Germans benefit from the merger in two ways. First, their level of absolute income is supposed to rise. Second, by the expected catching up of East Germans' incomes, relative deprivation should diminish and disutility would shrink.

References

- Burchardi, K. B., Hassan, T. A., 2013. The Economic Impact of Social Ties: Evidence from German Reunification. *The Quarterly Journal of Economics* 128(3), 1219-1271.
- Stark, O. 2013. Stressful integration. *European Economic Review* 63, 1-9.

Appendix

Table A1: Descriptive statistics for regression samples

Variable	Label	Share/Mean
Attitude towards reunification		
<i>Definitely Against</i>		2.0%
<i>Rather Against</i>	M08_0018	8.8%
<i>Rather Support</i>		38.4%
<i>Definitely Support</i>		50.8%
Pro Helmuth Kohl	M08_0010	50.6%
Distress from RD: <i>None</i>		
<i>Some</i>	M08_0141	22.4%
<i>High</i>		5.0%
Wealth Gap to West Germans:		
<i>High</i> [Wealth West >> Wealth East]		55.2%
<i>Low</i> [Wealth West > Wealth East]		39.9%
<i>None</i> [Wealth West = Wealth East]	M08_0140	3.1%
<i>Negative</i> [Wealth West < Wealth East]		1.5%
<i>Very negative</i> [Wealth West << Wealth East]		0.3%
Strength of West Contact: <i>None</i>		
<i>Weak</i>	M08_0138	33.4%
<i>Strong</i>		60.5%
Cultural Convergence	M08_0023	92.2%
German Patriotism	M08_0012	71.5%
East Germany will Stay Behind	M08_0017	63.9%
Merger increases Personal Income	M08_0020	78.5%
Age (years)	M08_0114	35.5
Male	M08_0113	46.3%
Living in Partnership	M08_0115	59.3%
Having Children	M08_0116	68.3%
Labour Market Status: <i>No Workforce</i>		
<i>(Self-)Employed</i>	M08_0121	61.5%
<i>Unemployed</i>		4.7%
Qualification: <i>Unskilled</i>		
<i>Still in Training</i>	M08_0120	15.4%
<i>Skilled</i>		47.1%
<i>Academic</i>		34.0%
Economic Status: <i>Poor</i>		
<i>Average</i>	M08_0005	50.2%
<i>Good</i>		36.7%
Living in a City >100,000 Residents	M08_0178	28.5%
Observations		938

Notes: Statistics is based on the regression sample in column (1) of table one except for the *Pro Helmuth Kohl* variable representing column (5).

Table A2a: RD and Attitudes towards Reunification (IV-Probit-Results, full table)

	Pro Reunification (1/0)				Pro Kohl (1/0)
	(1)	(2)	(3)	(4)	(5)
Distress from <i>RD</i>	1.162 [0.000]***	0.971 [0.002]***	0.894 [0.010]**	1.027 [0.001]***	0.770 [0.022]**
Strength of West Contact (Base group: <i>None</i>)					
<i>Weak</i>	-0.021 [0.924]		0.276 [0.196]	0.080 [0.715]	0.063 [0.754]
<i>Strong</i>	0.073 [0.751]		0.470 [0.045]**	0.240 [0.303]	0.218 [0.292]
Cultural Convergence	0.555 [0.005]***			0.833 [0.000]***	0.642 [0.001]***
German Patriotism	0.356 [0.013]**			0.451 [0.002]***	0.330 [0.005]***
East Germany will Stay Behind	-0.494 [0.009]***				-0.305 [0.004]***
Merger Increases Personal Income	0.763 [0.000]***				0.479 [0.000]***
Age	0.018 [0.002]***	0.020 [0.000]***	0.020 [0.000]***	0.014 [0.009]***	0.010 [0.022]**
Male	0.019 [0.875]	0.229 [0.041]**	0.243 [0.036]**	0.162 [0.169]	-0.023 [0.813]
Living in a Partnership	0.004 [0.981]	-0.004 [0.975]	-0.018 [0.901]	0.005 [0.973]	-0.102 [0.393]
Having Children	-0.096 [0.629]	-0.151 [0.408]	-0.129 [0.489]	-0.153 [0.430]	0.075 [0.623]
Labour Market Status (Base Group: <i>No Workforce</i>)					
<i>(Self-)Employed</i>	0.353 [0.064]*	0.281 [0.102]	0.294 [0.098]*	0.243 [0.180]	0.335 [0.019]**
<i>Unemployed</i>	0.743 [0.032]**	0.619 [0.049]**	0.647 [0.047]**	0.729 [0.036]**	0.421 [0.113]
Education (Base Group: <i>Unskilled</i>)					
<i>Still in Training</i>	-0.680 [0.166]	-0.192 [0.622]	-0.192 [0.637]	-0.532 [0.242]	-0.128 [0.679]
<i>Skilled</i>	-0.579 [0.166]	-0.113 [0.740]	-0.080 [0.824]	-0.353 [0.372]	-0.081 [0.749]
<i>Academic</i>	-0.622 [0.146]	-0.301 [0.384]	-0.300 [0.409]	-0.478 [0.234]	-0.325 [0.194]
Economic Situation (Base Group: <i>Poor</i>)					
<i>Average</i>	0.192 [0.246]	0.342 [0.027]**	0.331 [0.037]**	0.266 [0.098]*	-0.126 [0.446]
<i>Good</i>	0.351 [0.061]*	0.652 [0.000]***	0.629 [0.000]***	0.559 [0.002]***	0.156 [0.407]
Living in a City	-0.173 [0.227]	-0.272 [0.045]**	-0.238 [0.086]*	-0.250 [0.078]*	-0.081 [0.482]
Observations	938	952	951	946	865

Notes: Significance levels: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$. P-value in brackets; constant and district dummies not reported. Instrument: Wealth gap to West German reference group.

Table A2b: First Stage results (IV-Probit-Results, full table)

	Pro Reunification (1/0) (1)	Pro Kohl (1/0) (5)
Wealth gap	0.162 [0.000]***	0.171 [0.000]***
Strength of West Contact (Base group: <i>None</i>)		
<i>Weak</i>	0.022 [0.781]	0.051 [0.525]
<i>Strong</i>	0.075 [0.325]	0.103 [0.188]
Cultural Convergence	0.010 [0.886]	-0.020 [0.787]
German Patriotism	0.019 [0.651]	0.017 [0.707]
East Germany will Stay Behind	-0.022 [0.580]	-0.019 [0.638]
Merger Increases Personal Income	-0.057 [0.233]	-0.066 [0.189]
Age	-0.006 [0.000]***	-0.007 [0.000]***
Male	-0.032 [0.393]	-0.026 [0.505]
Living in a Partnership	0.031 [0.508]	0.024 [0.628]
Having Children	0.032 [0.586]	0.039 [0.534]
Labour Market Status (Base Group: <i>No Workforce</i>)		
(<i>Self-</i>) <i>Employed</i>	-0.040 [0.489]	-0.056 [0.340]
<i>Unemployed</i>	-0.282 [0.005]***	-0.316 [0.002]***
Education (Base Group: <i>Unskilled</i>)		
<i>Still in Training</i>	-0.051 [0.684]	0.000 [0.997]
<i>Skilled</i>	0.128 [0.206]	0.181 [0.083]*
<i>Academic</i>	0.027 [0.792]	0.079 [0.457]
Economic Situation (Base Group: <i>Poor</i>)		
<i>Average</i>	-0.118 [0.039]**	-0.138 [0.025]**
<i>Good</i>	-0.226 [0.000]***	-0.258 [0.000]***
Living in a City	0.026 [0.565]	0.048 [0.312]
Observations	938	865

Notes: Significance levels: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$. P-value in brackets; constant and district dummies not reported.

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