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CENTRE POUR LA RECHERCHE ECONOMIQUE ET SES APPLICATIONS

The Emerging Aversion to Inequality
Evidence from Poland 1992-2005

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Titre : The Emerging Aversion to Inequality. Evidence from Poland 1992-2005

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Résumé : Cet article illustre le retournement de la tolérance aux inégalités au cours d'une période de forte croissance et de transformation économique et politique rapide. Il s'appuie sur l'expérience polonaise de transition économique et explore les attitudes subjectives des citoyens recueillies dans des enquêtes répétées, à haute fréquence, de 1992 à 2005. Une rupture entre l'inégalité et la satisfaction est identifiée aux alentours de l'année 1997. Cette évolution coïncide avec la montée, au sein de la population, d'un certain rejet des élites politiques.

Mots-clés : Inégalite, Politique économique, Croissance, Revenu, Bien être, Pologne

Classification JEL : C25, D31, I30, P20, P26

Title : The Emerging Aversion to Inequality. Evidence from Poland 1992-2005

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Abstract : This paper provides an illustration of the changing tolerance for inequality in a context of radical political and economic transformation and rapid economic growth. We focus on the Polish experience of transition and explore self-declared attitudes of the citizens. Using monthly representative surveys of the population, realized by the Polish poll institute (CBOS) from 1992 to 2005, we identify a structural break in the relation between income inequality and subjective evaluation of well-being. The downturn in the tolerance for inequality (1997) coincides with the increasing distrust of political elites.

Keywords : Inequality, Subjective satisfaction, Breakpoint, Transition, Poland

JEL classification : C25, D31, I30, P20, P26

1. Introduction

Does rising inequality spoil the welfare benefits of growth? This could happen if national income growth is accompanied by rising income inequality, as suggested by Kuznets (1955), and if inequality undermines subjective welfare. Inequality may undermine subjective welfare for several reasons, including pure inequality aversion, or more sophisticated mechanisms involving the externalities of corruption and criminality (Alesina et al., 2004; Fong, 2001; Alesina and Perroti, 1996). Yet inequality can also improve subjective welfare in certain contexts. This has been suggested by Hirschman and Rothschild (1973). The authors argue that societies experiencing rapid development may initially show tolerance for higher inequality, because they interpret it in terms of greater opportunities. However, this tolerance for inequality may wither away over time: if expectations are not met, supporters of the development process may become its enemies. This may also happen when people acquire a more accurate idea of their place and destiny in society. After such a "turning point", the side-effects of development, and in particular the increase in inequality, may swamp the subjective benefits of growth.[1]

The dynamic scenario sketched by Hirschman and Rothschild, including the downturn in public satisfaction and adhesion to reforms, may well be currently taking place in the Eastern part of Europe, the former socialist bloc. Turning their back on administered economy, transition countries have embarked since 1990 on a new development path based on market liberalization, which has brought about both average income growth and a sharp differentiation in individual earnings. If the beginning of the transition may have looked like a

[1] "The rulers are not necessarily given any advance notice about (…) the time at which they ought to be on the lookout for a drastically different climate of public and popular opinion; on the contrary, they are lulled into complacency by the easy early stage when everybody seems to be enjoying the very process that will later be vehemently denounced and damned as one consisting essentially in "the rich becoming richer" " (Hirschman and Rothschild, 1973, p.552).

big reshuffling of cards and a big jump into uncertainty, it is likely that after ten years, citizens of transition countries have acquired a more precise idea of the new economic regime and of their own prospects in the new society. Depending on how fair the process of social change and the resulting income distribution appears to their citizens, some transition countries may find themselves in the second part of the roadmap sketched by Hirschman and Rothschild. This would provide an explanation to "reform fatigue" and disenchantment, which seems to have appeared in Central and Eastern European countries (Kornai, 2006; Desai and Olofsgärd, 2006). Despite significant achievements in establishing democratic and market institutions, continuous economic growth and increasing prosperity, and joining NATO and the European Union, the mood of public opinion changed at the end of the last century. The rise of populist parties was observed in a number of countries in the region (Krastev, 2007). Popular discontent was associated with increasing public distrust of political elites, who were viewed as corrupt and self-interested. In summary, the backlash on reforms seems to be partly due to the rise in income inequality, and the perception that the process of income distribution is flawed and corrupt.

The objective of this paper is to test Hirschman and Rothschild's conjecture, using a series of repeated cross-sections of exceptional frequency and length that cover the entire transition experience in Poland. We hinge on self-declared satisfaction with the state of the Polish economy (henceforth "country satisfaction"), which is both a satisfaction domain and a political attitude. We also use two other self-declared satisfaction variables: 1) satisfaction with the living conditions of one's family (henceforth "private satisfaction"); and 2) expectations concerning the living conditions of one's family in the near future (henceforth "private expectations").

A first look at the raw data (Figure 1) reveals the surprising hump shape of country satisfaction, in a context of sustained growth … and rising inequality. Private satisfaction and private expectations follow a similar pattern but of smaller amplitude. Although more flat than country satisfaction, these curves present the same downward inflexion at some point around the mid-1990's, and a slight upturn around 2001, which can be due to the fact that inequality recedes. Hence, the schedule of GDP, inequality and country satisfaction look very much like an illustration of Hirschman and Rothschild's scenario.

Understanding Figure 1 implies mobilizing different strands of the economic literature. The subjective perception of the country's situation is related to the political economy of development. Several papers have underlined the sociopolitical instability that results from income inequality (Alesina and Perotti, 1996; Perroti, 1996). Income distribution concerns have also been shown to discourage individuals' adhesion to the deepening of market reforms or development policies, calling for fiscal policies that hamper economic growth (Alesina and Rodrik, 1994; Persson and Tabellini, 1994). Acemoglu and Robinson (2000, 2002) have argued that in Nineteenth Century Europe, the extension of voting rights that led to unprecedented redistributive programs can be viewed as a strategy by the elite to avoid political discontent and revolution, which was in turn fed by the inequalities rising from economic development and industrialization. In a way, analyzing country satisfaction is a means to address these issues with the tools of the happiness literature, i.e. using subjective variables.

Private satisfaction and private expectations are more typical variables of the happiness literature. Here, our conjecture is that rising inequality, after some point, deters not only individuals' appreciation of the country's situation, but also their satisfaction with their own situation, as well as their expectations concerning their private situation. As such, the rise in inequality could contribute to explain the much cited "Easterlin paradox", i.e. the flatness of the average happiness score in developed countries after the second world war, during periods of sustained GDP growth (Easterlin 2001). This empirical finding has played a major heuristic role in the subjective happiness literature (see Clark et al., 2008), and is still disputed (Stevenson and Wolfers, 2008). Two main groups of potential explanations have been proposed: adaptation effects and comparison effects[2]. Other attempts to explain the Easterlin paradox consist in looking for omitted variables in the estimation of the relation between income and subjective well-being (Di Tella and MacCulloch, 2008). The conjecture of this

[2] The former points to the deleterious role of aspirations, which evolve in parallel with the standard of living attained by individuals, putting satiation out of reach. The latter hinges on the idea that satisfaction depends on the effect of comparisons with the "reference income" of some relevant others. Of course, aspirations are also formed on the basis of the observing other people's income.

paper is that income distribution may constitute one of these missing variables that weaken the welfare effect of growth. In estimations on the entire set of pooled data, inequality does not exert a significant impact on subjective satisfaction. However, we show that it is possible to identify a break-point, after which inequality does significantly reduce subjective well-being.

This paper belongs to the literature dedicated to the relationship between income distribution and self-rated happiness (see Senik, 2005, Clark et al., 2008). Most work finds that individuals' attitude towards income inequality depends on their beliefs regarding the factors of economic success and failure. Prospects of upward mobility make people more tolerant for inequality (Alesina et al., 2004; Alesina and la Ferrara, 2005), but fairness considerations also play an important role in the degree of inequality aversion (Alesina and Angeletos, 2005; Fong, 2001). In sum, people dislike inequality, and suffer from it, when they view income differences as unmerited.

Concerning more specifically the subjective welfare effect of inequality during the process of transition, Sanfey and Teksoz (2007) found that income inequality has a positive effect on life satisfaction in transition countries, whereas the impact is negative in other countries from the World Values Survey. Other articles have analyzed the evolution of satisfaction during transition with a special interest in the role of income differentiation. Guriev and Zhuravskaya (2007) have investigated the weaker relation, ceteris paribus, between GDP and life satisfaction in transition countries, as compared to non-transition countries. Although they did not identify inequality as a major culprit (but rather point at income volatility as a source of lower life satisfaction), this is not in contradiction with our results, as they did not consider the existence of a discontinuity in their sample. Some papers have used the experience of transition as a sort of giant "natural experiment" in order to assess the negative welfare effects of inequality (Ravallion and Lokshin, 2001) and income comparisons (Ferrer-i-Carbonell, 2005). Alesina and Fuchs-Schuendeln (2007) have documented the slow convergence of preferences for state intervention in East-Germany, after the shock of the German reunification. We follow this usage of transition as a country-wide experiment. Starting from a situation of relatively egalitarian distribution of income (notwithstanding other forms of inequality), transition to a market economy makes it possible to trace the relationship between

unfolding inequality and subjective satisfaction, as we assume that most changes are perceived as exogenous shocks by citizens of the former socialist bloc.

We test for the existence of a breakpoint in the relation between inequality and satisfaction, not by imposing a specific date but by looking over the entire series and using the *sup-Wald* test (Andrews 1993) to identify breakpoint existence and location. The results show that the breakpoint is situated at the end of 1996. Consequently, we consider the relationship between income inequality and satisfaction before and after this point. Popular satisfaction with the country's economic situation initially rises with income inequality, but falls with inequality in the later period. The relationship between income inequality and individuals' expectations concerning the future situation of their households follows a similar pattern: in the first period, inequality is associated with higher expectations; in the second period, it no longer affects expectations, suggesting that it lost its informational value in the eyes of the population. Finally, income inequality significantly reduces private satisfaction after 1996, whereas it has no significant impact before that date. Dissatisfaction with the economic situation of the country is also reflected in political attitudes. We find that the percentage of people who position themselves at the extreme Left of the political spectrum has significantly increased since 1996 (see section 2). More evidence on the evolution of public opinion suggests that the changing tolerance for inequality coincided with the growing perception that high incomes reflect corruption and other unfair phenomena.

The following section briefly summarizes the evolution of the political situation in Poland. Section 3 presents the data, Section 4 discusses the empirical strategy, and Section 5 presents the results. Last, Section 6 concludes.

2. The evolution of political attitudes in Poland

We focus on the Polish experience, which, after 45 years of Communism, engaged in a process of radical transformation in 1989 (Sachs, 1993). The twin transitions towards democracy and a market economy brought about radical changes in attitudes and expectations. Initially, the process relied on high expectations and massive support from the population. Immense hopes were entrusted in the mere abandon of Socialism. In the middle

of the 1990s, however, this consensual period started to come to an end, and initial enthusiasm gave way to disappointment: expectations began to be confronted with experience. Criticism of some of the transition outcomes, including corruption, growing inequality (Brainerd, 1998; Milanovic, 1998, 1999; Kornai, 2006) and the high price paid by the losers of transition, progressively became the dominant theme of public discourse.

The evolution of public opinion in Poland is reflected to an extent in the results of parliamentary elections (Table 1). The constant reshuffling of the political supply notwithstanding, one clear trend is the growing influence of Left-wing parties up to 2001 and declining support for liberal pro-reform parties. A particular inflexion in voting behavior is visible after 1997. This coincides with the announcement by the newly-appointed Centre-Right government of a wave of second-generation welfare-state reforms (related to health, pensions and education), which was met with some reluctance by the population. The spectacular upsurge in the votes for the Left in the following elections in 2001, and the large rise in the support for an openly populist party, Samoobrona, can both be interpreted as protest votes against the policy of the coalition government of AWS/UW, which was in power between 1997 and 2001. In the 2005 elections, the support for the Left-wing, in power from 2001 to 2005, shrank from 41% to 15%; this defeat was clearly the price paid for the budgetary discipline imposed during the process of accession to the European Union. It was also related to the outbreak of several corruption scandals (Freedom House, 2005). At the same time, two Right-wing parties, the national-conservative *Law and Justice* (PiS) and the liberal-conservative *Civic Platform* (PO), respectively tripled and doubled their scores. Law and Justice won the election with an electoral campaign focused on the losers from transition, and underlining the contrast between the "Poland of Solidarity" and "liberal Poland". The negative outcomes of reforms, such as corruption and social stratification, were at the center of electoral debates.

Several public opinion polls reveal the weakening of political support for reform after 1997. Figure 2 draws on a Public Opinion Research Center survey (CBOS, 2003) to show the weakening tolerance for income inequality. Egalitarian attitudes have gained in popularity since 1997: we can observe the increase in the percentage of people considering that "the government should reduce differences between high and low wages" and that "inequalities of income are too large in Poland". By contrast, the percentage of people who consider that

"energetic entrepreneurs should be remunerated well in order to ensure the growth of the Polish economy", that "future well-being in Poland requires remunerating well those who work hard", or that "economic inequalities are necessary for economic progress", have significantly decreased. The same pattern is visible in the data from the New Europe Barometer surveys.[3] These data show that, in Poland, the proportion of individuals who declare that "incomes should be made equal so that there is no great difference in income" rather than "individual achievement should determine how much people are paid; the more successful should be paid more" rose from 24% in 1992 to 32% in 1998, and 54% in 2004.

Figure 2, relying on another CBOS survey (CBOS, 2004), displays the proportion of the population considering corruption as an important problem. This sentiment increased sharply, reaching 75 percent in 2004. More generally it seems that the Polish population's perception of the fairness and efficiency of the income-generation process deteriorated during the period under observation, with a visible turning point around 1997.

3. Data

The data is constructed from individual-level surveys carried out by CBOS in Poland.[4] We exploit 84 surveys of representative samples of the Polish adult population, consisting of approximately 1000-1300 interviews per survey, covering the period 1992-2005 (six surveys per year). Even though some variables are available in earlier years, we choose 1992 as our starting date, the year that GDP growth resumed after two years of significant decline. A standard set of questions appeared systematically: gender, age, education, residential location, labor market status, and occupation. In terms of income, the best documented and most complete measure available is net total monthly household income per capita. This includes all of the revenues from the individual's main job, including bonuses, rewards, various additional remunerations, revenues from other jobs, including sporadic contracts, disability

[3] The questionnaires and descriptive statistics are available at http://www.abdn.ac.uk/cspp/nebo.shtml. These surveys were conducted by the Centre for the Study of Public Policy at the University of Aberdeen.

[4] The sample design is explained at http://www.cbos.pl/EN/About_us/design.shtml.

and old-age pensions, and other revenues and transfers. People were asked to indicate their net monthly average income per capita over the last three months. We use this notion of income, deflated using the monthly consumer price index published by the Polish Central Statistical Office (GUS).

The data also contain specific attitudinal questions. We use three of these (recoded so that higher numbers indicate greater satisfaction): [5]

- Country satisfaction: *How do you evaluate the economic situation in Poland?* Respondents could tick one out of five possible answers: *very good/good/neither good nor bad /bad/ very bad*.

- Private satisfaction: *How are your life and your family's life?* The proposed answers were: *Very good/ good /neither good nor bad/bad /very bad*.

- Private expectations: *Do you think that in the coming year, you and your family will live*: *much better than now/a little bit better/the same as now/a little bit worse/much worse.*

We match the CBOS data to macroeconomic data taken from official sources (GUS): yearly GDP, the yearly GDP deflator, and the monthly unemployment rate.

We compute the Gini coefficient of income inequality using the successive surveys of the dataset. This measure of inequality is of "high quality" as defined by Deininger and Squire

[5] The correlation between the three questions is around 0.3.

(1996): it is calculated on the basis of successive representative samples of the population and takes into account all sources of revenues.[6]

The descriptive statistics for all variables are presented in Tables A1 - A3 in the Appendix. Over the 1992-2005 period, the economy grew at an average rate of 4.4 percent. More precisely, average GDP growth rate reached 5.3 percent between 1992 and 1997, and then fell slightly to 3.7 percent after 1997. In the meantime, there was a rise in unemployment and inequality. Income inequality as measured by the Gini coefficient was 0.32 at the beginning of 1992, but reached 0.38 by the end of 2005 (see Table A1 in the Appendix).

Figure 1 displays yearly averages of the main variables of interest: country satisfaction, private expectations, private satisfaction, real GDP and the Gini coefficient. As already noted, although real GDP has been rising continuously since 1992, satisfaction with the country's economic situation improved only up to 1997, and then declined substantially until 2002, with a slight improvement after this date. The patterns of private satisfaction and expectations exhibit similar movements, but of smaller amplitude.

4. Empirical strategy

We consider the possibility of a structural break in the relationship between individual satisfaction and inequality, without imposing any specific date for the discontinuity. We instead treat the breakpoint as endogenous. As Wald tests constructed with breaks treated as parameters do not possess standard large sample asymptotic distributions, we use the *sup-Wald* test based on the maximum of a sequence of Wald statistics, with critical values from Andrews (1993).[7]

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[6] Our measure of income inequality turns out to be slightly higher than the Gini coefficient for Poland calculated, for instance, by UNICEF (see Table A3 in the appendix): the difference may result from 1) UNICEF providing yearly measures while our data produces monthly estimates of the Gini, and 2) our use of monthly CPI.

[7] The critical values from Andrews (1993) are widely used in formal tests of parameter stability. See also Bai and Perron (1998).

The basic regression we estimate is:

$$S_{it} = a_T \, Gini_t + b_1 X_{it} + b_2 \gamma_T + b_3 \text{ time trend} + b_4 \nu_j + e_{it} \qquad (1)$$

where S_{it} denotes the satisfaction of individual *i* at date *t* (or alternatively satisfaction with the economic situation of the country, private satisfaction, or private expectations); $Gini_t$ is an inequality measure calculated for each representative cross-section; X_{it} represents the socio-economic characteristics of individual *i* at date *t* consisting of age, age-squared, gender, education, occupation, labor market status, household income per capita and residential location; γ_T are year dummies capturing the general macroeconomic and other circumstances that affect all individuals in a given year; ν_j denotes region dummies; and e_{it} is the error term. The time trend is included to neutralize the possible co-variation of all the magnitudes of interest during the period under study. As the satisfaction variables are ordinal, we estimate equation (1) using an ordered logit model. We pool the individual observations from the different surveys, and cluster by cross-section so as to adjust standard errors for intra-survey correlations. Clustering is important to make sure that we do not exaggerate the statistical significance of those right-hand-side variables which are more highly aggregated than the dependent variable.

We test the hypothesis that the parameter on the Gini coefficient (a_t) is the same over the entire period. Consequently, we use a partial structural change model, constraining the coefficients of the other explanatory variables to remain the same over all of the periods. In other words, some parameters are taken as constant under H0 and H1. If the null hypothesis is rejected, we want to locate the break point. Specifically,

H0: $a_T = a^*$ for all T

H1: $a_T = a_1$ for $T = 1992, \ldots, T^B$

$a_T = a_2$ for $T = T^B+1, \ldots, 2005$

We consider different values of T^B from 1993 to 2004, trimming the sample at about 15% (i.e. leaving at least 15% of the sample either before or after the break) and compute the Wald statistic for each value of T^B in order to test whether the regression coefficient on the Gini estimated over the sub-period [1992, T^B] is equal to that estimated over the sub-period [T^B+1, 2005]. We calculate the Wald statistic over all possible breakpoints and compare the maximal value with the relevant critical value (taken from Andrews 1993). If the *sup Wald* statistic is smaller than the critical value, the test does not reject the null hypothesis of zero breaks. If the maximal Wald statistic exceeds the critical value, the test rejects the null hypothesis of equal coefficients. We then divide the sample into two parts at the estimated breakpoint and carry out a parameter constancy test for each sub-sample. If the hypothesis of no break in the sub-samples is not rejected, we estimate equation (1) separately for each sub-sample.

5. Results

We start by estimating the impact of inequality on satisfaction, pooling the entire set of data. As shown in Table 2, inequality does not appear to exert any significant influence on country or private satisfaction, as in Guriev and Zhuravskaya (2007) for instance. The coefficient on private expectations however, is significantly positive, suggesting that income differentiation is interpreted in terms of opportunities.

We also check whether the satisfaction regressions yield results consistent with those in the literature with respect to the usual individual level correlates of well-being (see for example Di Tella et al., 2003). As expected, we find a U shaped relationship between age and satisfaction, and a positive correlation with income, education, and higher occupations. Men are happier than women, a frequent observation in Central and Eastern Europe and in Latin America, as opposed to Western Europe and the United States (Graham and Pettinato, 2002; Guriev and Zhuravskaya, 2007; Easterlin, 2008; Georgellis et al., forthcoming). People who live in rural areas are more satisfied and optimistic about their future standard of living than are inhabitants of urban agglomerations, who, in turn, are more satisfied than those who live in large cities. By contrast, individuals who live in rural areas view the situation of the country in a more pessimistic way.

We then try to identify a discontinuity in the relationship between income inequality and subjective attitudes. As explained above, we test for the existence of a possible breakpoint without imposing any specific date for the discontinuity.

For country satisfaction, the highest value of the Wald test is 16.93, corresponding to T^B = 1996 (the critical value is 8.85 at the 5% level). For the relationship between private expectations and inequality, the *sup-Wald* test is 9.86 and also occurs for T^B = 1996. With respect to the relation between private satisfaction and inequality, the tests do not allow to identify a breakpoint.[8] However, if we impose 1996 as a breakpoint, a simple Wald test on the Gini index leads to the rejection of the null hypothesis of parameter equality over the two periods (1992-1996 and 1997-2005). This test, based on an exogenously given date, is less powerful than the previous Wald test. We thus treat the results for private satisfaction with some caution. Finally, we perform a parameter constancy test for each of the sub-samples[9] and find no additional breaks.

Table 3 shows the estimation results for equation (1) of the three different satisfaction variables over the two sub-periods 1992-1996 and 1997-2005. The impact of the Gini coefficient on the evaluation of the country's situation is significantly positive before 1997 (column 1) and then significantly negative afterwards (column 2). Columns 3 and 4 show individuals' expectations regarding their living conditions. Our measure of inequality is significantly positively correlated with expectations up to 1997, but uncorrelated with it thereafter. This suggests that inequality is initially interpreted as an opening of new opportunities, but then loses this signification in the eyes of the population in the later stages of transition. Finally, private satisfaction is initially weakly influenced by inequality. In the second period, however, the coefficient on the Gini becomes significantly negative (columns

[8] We believe that the relationship between private satisfaction and inequality is different from that between country satisfaction and inequality because private satisfaction mainly depends on personal circumstances and specific dynamics such as adaptation or a homeostatic mechanism of return to a baseline level, which partly isolate it from external circumstances such as the income distribution.

[9] See Bai and Perron (1998).

5 and 6). Obviously, the interpretation of income inequality has changed over the period under consideration, with a visible turning point in 1997.

As we have already indicated, the subjective assessment of the country's situation is a political variable as much as a satisfaction variable. A natural question is thus whether the negative impact of the Gini coefficient on the country's satisfaction is reflected in political attitudes. In Section 2, we presented some evidence about changing attitudes towards the income distribution and the perception of corruption. To go further, we explore another question included in the CBOS survey: "*Can you describe your political opinions? Please, use the scale 1 to 7, 1 meaning left and 7 meaning right*". We assume that the percentage of the respondents who position themselves at the extreme left of the political scale approximately captures the radical rejection of liberal reforms. As illustrated in Figure 4, this percentage follows the rise in the Gini coefficient. It then drops after 2001, when the Right-wing party Law and Justice won the election with a strongly pro-redistributive and anti-corruption program (see Section 3). These results suggest that the weakening tolerance for inequality does affect individuals' political attitudes.

Robustness checks

In order to make sure that the decline in country satisfaction and other subjective evaluations is actually due to the changing tolerance for inequality, we first assessed the influence of other macro-economic variables, such as GDP growth, unemployment and inflation. Table 4 includes alternatively each of these variables. It shows that including the annual rate of real GDP growth (panel A), the monthly rate of unemployment (panel B) or the monthly rate of inflation (panel C) does not alter the results concerning the impact of inequality on subjective attitudes.

Second, as the effect that we are trying to capture is the changing impact of inequality on satisfaction, we considered how inequality affects average levels of satisfaction over time. Because satisfaction is an ordinal variable, a good measure of average satisfaction can be obtained by estimating date fixed effects in the regression of satisfaction. We thus first estimated the coefficients on wave fixed effects from an ordered logit regression of

satisfaction, controlling for all individual level characteristics (gender, age, age-squared, education, residential location, employment status, occupation, and regional dummies). We then ran an OLS regression of this measure of average satisfaction against the Gini coefficient (based on 82 observations corresponding to the number of surveys).

The results are presented in Table 5. They are consistent with the previous results obtained with individual data: the effect of income inequality is significantly positive up to 1997 and negative thereafter. The results are unaffected by the inclusion of additional controls, such as the monthly rate of unemployment or the monthly rate of inflation. Columns (1) and (2) show that the effect of unemployment on country satisfaction is similar to that of income inequality: it is positive in the first period, and negative in the second period. This is not particularly surprising, as unemployment can be viewed as another facet of inequality. The initial rise in unemployment may have been interpreted in a positive way as reflecting a necessary process of industrial restructuring required for future growth, whereas the subsequent deepening of layoffs produced a more pessimistic evaluation. Finally, the coefficients on the monthly rate of inflation are mostly insignificant.

We then checked for a possible effect of seasonality by including monthly dummies. Table 6 shows that their inclusion does not affect the results.

We also asked whether the changing tolerance for inequality is due to the reduced importance of the welfare state. The tolerance for inequality certainly depends on the extent of redistribution and social protection. Keane and Prasad (2002), following Garner and Terrel (1998), argued that in Poland at the beginning of transition substantial social transfers compensated for increasing wage inequality. The mechanisms of social transfers were thus critical in ensuring political support for reform. Their period of observation stops in 1997, but official statistics show that the share of social expenditure in GDP has remained stable at around 23% since 1997. Hence, the changing tolerance for inequality does not seem to be associated with the withering away of the welfare state.

Finally, we verified that the results are robust to the use of alternative measures of inequality. It could be argued that people have more local views of the income distribution and that the

Gini coefficient calculated at the country level does not measure the level of inequality that is actually perceived. We thus calculate income inequality for different residential locations: large cities (over 100 000 inhabitants), smaller cities and rural areas. As shown in Table 7, the results are unchanged with this new inequality measure: the sign of the Gini coefficient changes after 1996 in the regression of country satisfaction; inequality stops informing expectations starting in 1997, and private satisfaction falls with inequality after 1996.

We have also checked that the same pattern holds when inequality is measured as the standard deviation of log household income for each cross section: in the estimation of country satisfaction, the coefficient on this measure is 0.001*** before 1997 and -0.001** after 1996; in the estimation of private expectations, the coefficient is 0.002*** before 1997 and 0.000 thereafter. Finally, in the estimation of private satisfaction, the coefficient is 0.000 before 1997 and -0.001*** afterwards.

These results confirm that the parallel processes of income growth and inequality were initially well accepted by Poles, who might have seen them as a promise of future shared gains. However, by the late mid-1990s, these high expectations seem to have given way to more negative attitudes fed by the rising intolerance for income inequality, the continued rise in GDP notwithstanding.

6. Conclusion

This paper provides evidence of the influence of income inequality on individuals' views of the economic situation of the country, which can partly be interpreted as a measure of support for reforms. Income inequality was initially perceived as a positive signal of increased opportunities, but after a couple of years of rapid economic transformation, unfulfilled expectations and diminishing patience brought about a change in attitudes: growing inequality started to undermine satisfaction. Individuals seem to have become disappointed with transformation and skeptical about the legitimacy of the enrichment of reform winners. Various public opinion surveys confirm the changing popular opinions about the degree of corruption in the country and the desirability of high pay-offs in certain professions. Hence, the turning point in the tolerance for income inequality seems to come with the increasingly

wide perception that the process that generates income distribution is itself unfair.

The findings of this paper constitute a link between the literature on subjective well-being and the political economy literature focusing on inequality and growth. It provides, from the "internal" subjective point of view of citizens, some evidence of the mechanism, hypothesized for instance by Acemoglu and Robinson (2000, 2002) or Perotti (1996), that growth that is accompanied by inequality generates dissatisfaction and, as such, carries the menace of social instability.

The results obtained in this paper offer a number of lessons for developing and transition countries: if it is important for governments to rapidly exploit the initial "window of opportunity" for reforms, it is also crucial that they adopt redistributive policies early on in the process, in order to ensure durable popular support for reforms. But the lesson can be extended to developed countries, as it stresses the importance to ensure that the functioning of the market and the process of income distribution are perceived as fair and transparent.

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Fig. 1. Satisfaction variables, real GDP and the Gini coefficient, 1992-2005 (yearly averages)

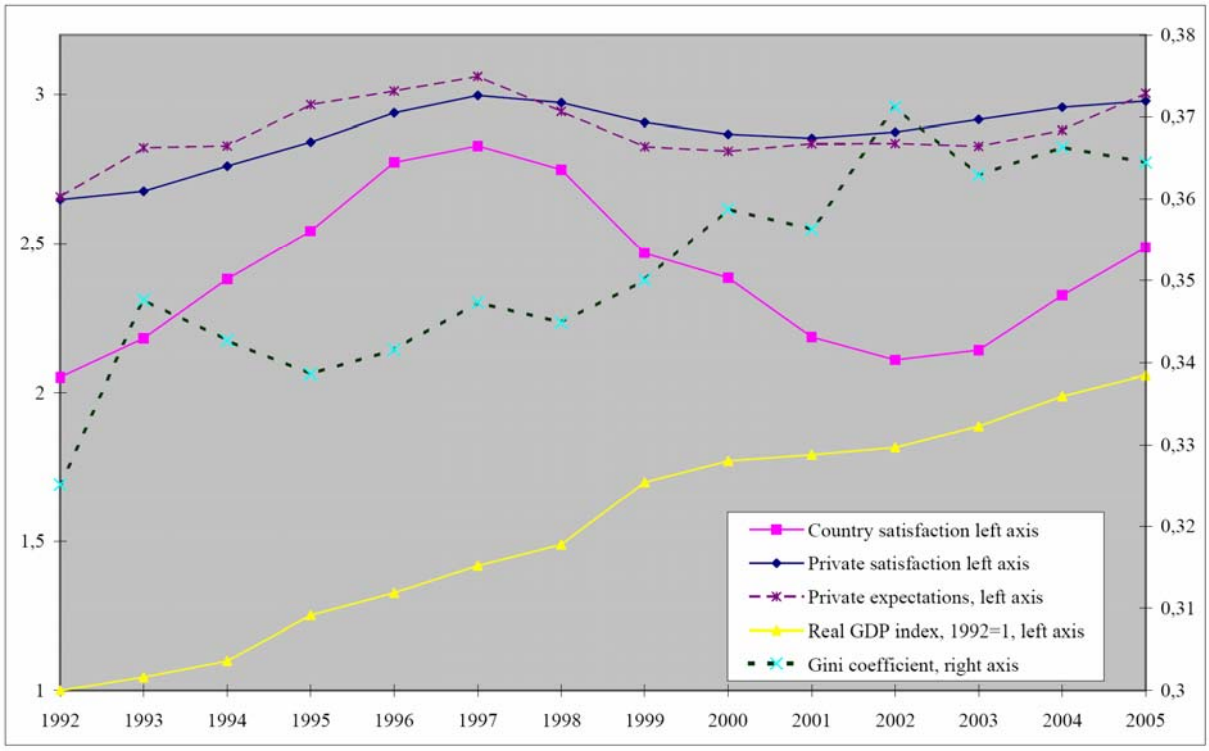
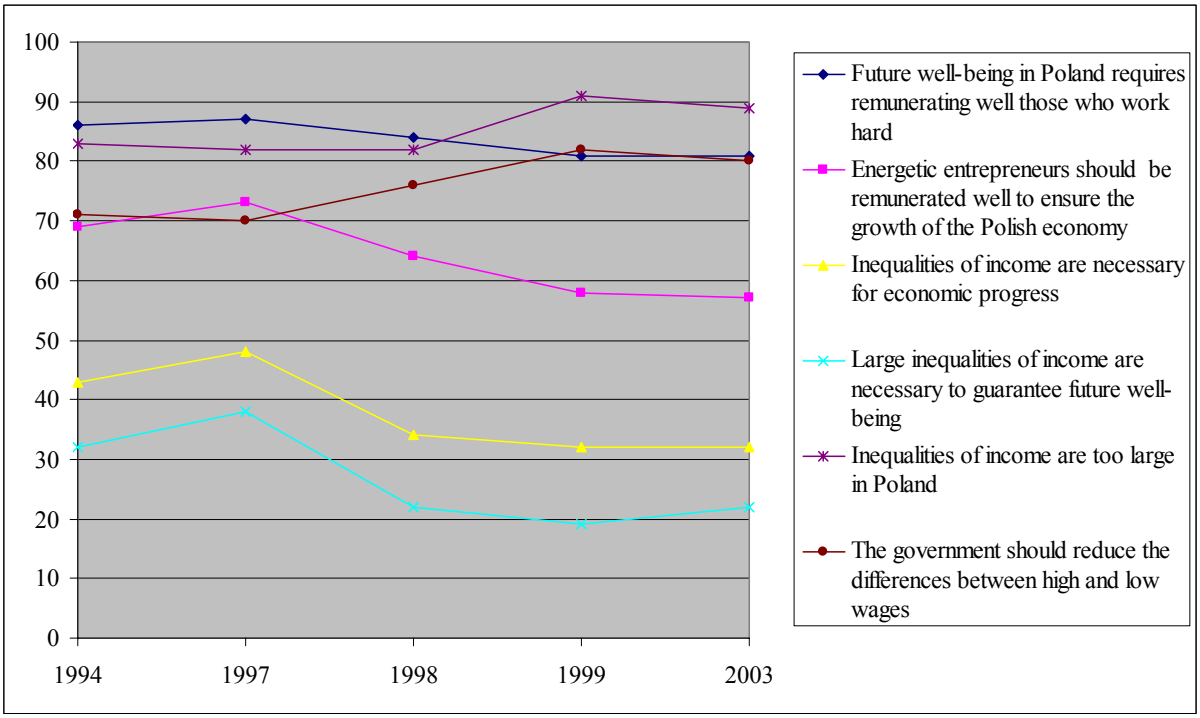
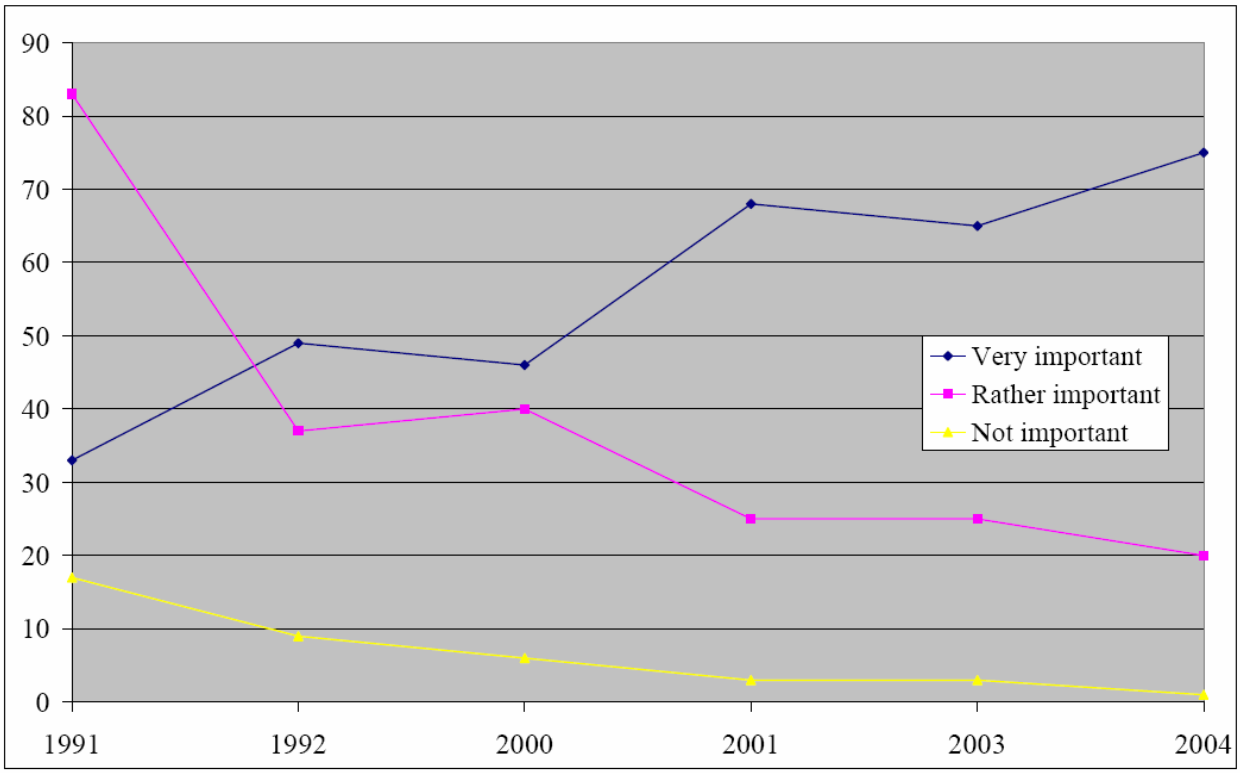


Fig. 2. Opinions concerning income inequality: Poland 1994-2003 (%)



Percentage of people who agree with the statements indicated in the legend. Source: CBOS (2003).

Fig. 3. Is corruption an important problem? Poland 1991-2004 (%)



Percentage of people who answer positively the following question: 'In your opinion, how important is the corruption problem in Poland: very important/rather important/not very important/not important". Source: CBOS (2004).

Figure 4. Income inequality (Gini) and percentage of respondents identifying themselves as extreme left.

Table 1: Parliamentary election scores of the main Polish political parties.1991-2005

	1991	1993	1997	2001	2005
Left-wing parties	11.99	27.69	31.87	41.04	15.31
Liberal parties	19.81	14.58	13.37	15.78	26.59
AWS	-	-	33.83	5.60	-
Agrarian parties	14.14	17.77	7.31	8.98	6.96
Samoobrona	-	2.78	0.08	10.20	11.41
PC/PiS	8.71	4.42	-	9.50	26.99
Other right**	21.98	11.18	5.56	7.87	7.97

Source: Our calculations based on data from the State Electoral Commission (http://www.pkw.gov.pl/). Left-wing parties include SLD, Unia Pracy and SdPl. Agrarian parties include PSL and PSL-Porozumienie Ludowe. Liberal parties include UD/UW/PD, KLD and PO. AWS was a large coalition of right-wing parties around the Solidarity trade union. Other right includes mostly right-wing Catholic parties, and some radically anti-communist and populist parties. See the description of Polish political parties in the Appendix for more details.

Table 2. Estimations of satisfaction variables. Whole sample. Ordered logit.

	Country satisfaction	Private satisfaction	Private expectations
	(1)	(2)	(3)
Gini	0.159	-0.949	4.951***
	[1.891]	[0.918]	[1.570]
Gender	-0.061***	-0.098***	-0.117***
	[0.021]	[0.014]	[0.017]
Age	-0.031***	-0.090***	-0.077***
	[0.003]	[0.005]	[0.005]
Age-squared	0.000***	0.001***	0.001***
	[0.000]	[0.000]	[0.000]
Log household income	0.334***	1.277***	0.335***
	[0.016]	[0.018]	[0.019]
Time trend	0.003	-0.004	0.010
	[0.008]	[0.003]	[0.008]
Education	0.117***	0.293***	0.052***
	[0.024]	[0.017]	[0.019]
Unemployed	-0.032	-0.537***	0.007
	[0.028]	[0.042]	[0.037]
Pensioners	-0.110***	-0.611***	-0.222***
	[0.023]	[0.030]	[0.031]
Farm	-0.173***	-0.050	-0.051
	[0.034]	[0.048]	[0.041]
Unqualified worker	-0.085**	-0.319***	-0.151***
	[0.034]	[0.040]	[0.043]
Qualified worker	-0.019	-0.112***	-0.056**
	[0.031]	[0.030]	[0.028]
Not working	0.133***	-0.159***	0.104**
	[0.039]	[0.039]	[0.046]
Higher professions	0.189***	0.308***	0.138***
	[0.038]	[0.035]	[0.037]
Entrepreneur	0.041	0.453***	0.381***
	[0.047]	[0.049]	[0.051]
Students	0.211***	0.161***	-0.165***
	[0.041]	[0.059]	[0.055]
Rural	-0.152***	0.236***	0.076***
	[0.022]	[0.021]	[0.022]
Large city	-0.022	-0.196***	-0.042*
	[0.025]	[0.022]	[0.025]

Table 2. Continued.

	Country satisfaction	Private satisfaction	Private expectations
	(1)	(2)	(3)
West	-0.076**	-0.169***	0.055*
	[0.031]	[0.030]	[0.030]
Centre-West	-0.017	0.024	-0.097**
	[0.030]	[0.026]	[0.038]
Centre	-0.132***	-0.210***	-0.083***
	[0.029]	[0.024]	[0.027]
East	-0.204***	0.050*	-0.136***
	[0.039]	[0.029]	[0.039]
South-east	-0.083***	0.061*	-0.172***
	[0.030]	[0.032]	[0.030]
South-west	0.149***	0.126***	-0.022
	[0.031]	[0.027]	[0.033]
cut1:Constant	0.916	0.070	2.955
	[3.101]	[1.130]	[3.303]
cut2:Constant	3.387	2.036*	4.797
	[3.104]	[1.128]	[3.298]
cut3:Constant	5.398*	4.903***	7.384**
	[3.109]	[1.129]	[3.287]
cut4:Constant	9.939***	8.633***	10.551***
	[3.102]	[1.132]	[3.290]
Observations	73581	77692	67550
chi2	5186	18301	3381
Pseudo R2	0.05	0.11	0.03
log likelihood	-85274	-83013	-77411

The dependent variables are answers to the following questions: How do you assess current economic situation in Poland? Answers from 1 “very bad” to 5 “very good” (Country satisfaction); Do you think that in a year your life and the life of your family will be: Answers from 1”much worse” to 5”much better” than now (Private expectations); How do you and your family live? Answers from 1 “very bad” to 5 “very good” (Private satisfaction). Gini coefficients are calculated for each successive representative cross-section. Yearly dummies included. Omitted variables: men, education less than secondary, medium cities (less than 100 000), employees, and north region. All standard errors (in brackets) are clustered by cross-section.* significant at 10%, ** significant at 5%, *** significant at 1%.

Table3. A break in the relation between inequality and satisfaction. Ordered logit estimations.

	Country satisfaction		Private expectations		Private satisfaction	
	1992-1996	1997-2005	1992-1996	1997-2005	1992-1996	1997-2005
	(1)	(2)	(3)	(4)	(5)	(6)
Gini	6.402***	-6.199***	8.981***	0.258	0.627	-2.844**
	[2.100]	[2.170]	[2.156]	[1.352]	[0.898]	[1.397]
No. of observations	30520	43061	27115	40435	32357	45335
Chi2	3240601	9383	31416	41941	18861	26526
Pseudo R2	0.06	0.06	0.02	0.04	0.10	0.12
Log likelihood	-34891.44	-50214.02	-32677.07	-44364.70	-34828.81	-47973.66

The dependent variables are answers to the following questions: How do you assess current economic situation in Poland? Answers from 1 "very bad" to 5 "very good" (Country satisfaction); Do you think that in a year your life and the life of your family will be: Answers from 1"much worse" to 5"much better" than now (Private expectations); How do you and your family live? Answers from 1 "very bad" to 5 "very good" (Private satisfaction). Controls include gender, age, age-squared, education, residential location, labor market status, occupation, regional dummies, time trend, and year dummies. Gini coefficients are calculated for each successive representative cross-section. All standard errors (in brackets) are clustered by cross-section. *, ** and *** denote significance at the 10, 5 and 1% levels respectively.

Table 4. Satisfaction and inequality, controlling for other macroeconomic variables. Ordered logit estimations.

	Country satisfaction		Private expectations		Private satisfaction	
	1992-1996	1997-2005	1992-1996	1997-2005	1992-1996	1997-2005
Panel A						
Gini	5.398**	-9.459***	8.814***	-1.835	1.026	-3.421**
	[2.298]	[2.655]	[3.089]	[2.489]	[1.106]	[1.346]
GDP growth	-0.009	0.189***	0.035	0.072***	0.046**	0.064***
	[0.041]	[0.020]	[0.059]	[0.017]	[0.020]	[0.009]
No. of observations	30520	43061	27115	40435	32357	45335
Chi2	8831	2795	4445	3152	9414	21211
Pseudo R2	0.06	0.05	0.02	0.03	0.10	0.12
Log likelihood	-34911	-50670	-32695	-44553	-34846	-48019
Panel B						
Gini	5.914***	-5.709***	8.411***	0.269	0.611	-2.814**
	[1.872]	[2.202]	[2.353]	[1.326]	[0.901]	[1.391]
Regional unemployment	-0.008***	-0.016***	-0.003	-0.004	0.002	-0.002
	[0.003]	[0.004]	[0.004]	[0.003]	[0.002]	[0.003]
No. of observations	30520	43061	27115	40435	32357	45335
Chi2	1972145	9627	9451	4815	22850	28663
Pseudo R2	0.06	0.06	0.02	0.04	0.10	0.12
Log likelihood	-34912	-50204	-32699	-44364	-34829	-47973
Panel C						
Gini	5.809***	-6.648***	8.373***	-0.038	0.638	-2.863**
	[1.777]	[2.248]	[2.302]	[1.352]	[0.905]	[1.366]
Inflation	0.022	0.079**	0.015	0.033*	0.011	0.003
	[0.022]	[0.039]	[0.043]	[0.018]	[0.011]	[0.030]
No. of observations	30520	43061	27115	40435	32357	45335
Chi2	435180	8314	56413478	5017	11296	26615
Pseudo R2	0.06	0.06	0.02	0.04	0.10	0.12
Log likelihood	-34915	-50207	-32698	-44363	-34828	-47974

The dependent variables are answers to the following questions: How do you assess current economic situation in Poland? Answers from 1 "very bad" to 5 "very good" (Country satisfaction); Do you think that in a year your life and the life of your family will be: Answers from 1"much worse" to 5"much better" than now (Private expectations); How do you and your family live? Answers from 1 "very bad" to 5 "very good" (Private satisfaction). Controls include gender, age, age-squared, education, residential location, labor market status, occupation, regional dummies, and year dummies in the middle and bottom panels. Gini coefficients are calculated for each successive representative cross-section. All standard errors (in brackets) are clustered by cross-section. *, ** and *** denote significance at the 10, 5 and 1% levels respectively.

Table 5. The role of inequality in explaining the wave fixed effects. OLS regressions.

	Country satisfaction				Private expectations				Private satisfaction			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	1992-1996	1997-2005	1992-1996	1997-2005	1992-1996	1997-2005	1992-1996	1997-2005	1992-1996	1997-2005	1992-1996	1997-2005
Gini	4.840**	-4.950*	5.884**	-6.799**	7.880*	0.545	9.583**	0.161	0.719	-2.474*	0.676	-2.595**
	[2.188]	[2.552]	[2.323]	[2.550]	[4.033]	[1.653]	[4.234]	[1.598]	[1.018]	[1.269]	[0.969]	[1.245]
Regional unemployment	0.094**	-0.095**			0.152*	-0.013			-0.003	-0.004		
	[0.043]	[0.045]			[0.080]	[0.028]			[0.020]	[0.022]		
Monthly inflation rate			0.020	0.083*			0.015	0.034			0.012	0.010
			[0.027]	[0.048]			[0.049]	[0.030]			[0.011]	[0.024]
No. of observations	29	53	29	53	29	53	29	53	29	53	29	53
R-squared	0.946	0.914	0.936	0.911	0.621	0.779	0.560	0.785	0.925	0.752	0.929	0.753
F-stat	64.72	44.36	54.01	42.76	6.00	14.81	4.66	15.31	45.30	12.76	47.62	12.82

The dependent variables are wave fixed effects estimated by an ordered logit of subjective variables, controlling for individual socio-economic characteristics: gender, age, age-squared, education, residential location, employment, labor market status, occupation and regional dummies. The subjective variables are answers to the following questions: How do you assess current economic situation in Poland? Answers from 1 “very bad” to 5 “very good” (Country satisfaction); Do you think that in a year your life and the life of your family will be: Answers from 1”much worse” to 5”much better” than now (Private expectations); How do you and your family live? Answers from 1 “very bad” to 5 “very good” (Private satisfaction). Gini coefficients are calculated for each successive representative cross-section. Year dummies included. *, ** and *** denote significance at the 10, 5 and 1% levels respectively.

Table 6. Country satisfaction: controlling for seasonality. Ordered logit

	Country satisfaction	
	1992-1996	1997-2005
Gini	4,893***	-6,445***
	[1,882]	[1,902]
Month_2		0,07
		[0,107]
Month_3	-0,230**	-0,269***
	[0,107]	[0,103]
Month_5	-0,207**	-0,185**
	[0,104]	[0,085]
Month_6	-0,088	
	[0,105]	
Month_7	-0,177*	-0,241***
	[0,104]	[0,087]
Month_9	-0,237***	-0,117
	[0,091]	[0,109]
Month_10	-0,082	
	[0,107]	
Month_11	-0,209	-0,095
	[0,130]	[0,091]
Month_12	-0,16	
	[0,099]	
No. of observations	30520	43061
Chi2	7479	8344
Pseudo R2	0,06	0,06
Log likelihood	-34874	-50162

The dependent variable represents the answer to the question: How do you assess current economic situation in Poland? Answers from 1 “very bad” to 5 “very good”. Controls include gender, age, age-squared, education, residential location, employment status, occupation, regional dummies, time trend, and year dummies. Gini coefficients are calculated for each successive representative cross-section. All standard errors are clustered by cross-section. *, ** and *** denote significance at the 10, 5 and 1% levels respectively.

Table 7. Satisfaction and inequality by residential location. Ordered logit estimations.

	Country satisfaction		Private expectations		Private satisfaction	
	1992-1996	1997-2005	1992-1996	1997-2005	1992-1996	1997-2005
Local Gini	1.914***	-2.396***	3.545***	-0.793	0.288	-1.175**
	[0.736]	[0.892]	[1.071]	[0.630]	[0.452]	[0.511]
No. of observations	30520	43061	27115	40435	32357	45335
Chi2	8321127	6299	1905	4251	28509	25201
Pseudo R2	0.05	0.06	0.02	0.04	0.1	0.12
Log likelihood	-34916	-50225	-32740	-44363	-34829	-47975

The dependent variables are answers to the following questions: How do you assess current economic situation in Poland? Answers from 1 “very bad” to 5 “very good” (Country satisfaction); Do you think that in a year your life and the life of your family will be: Answers from 1”much worse” to 5”much better” than now (Private expectations); How do you and your family live? Answers from 1 “very bad” to 5 “very good” (Private satisfaction). Controls include gender, age, age-squared, education, residential location, labour market status, occupation, regional dummies, time trend, and year dummies. Local Gini is calculated for each representative cross-section for different residential location: large cities (over 100 000 inhabitants), smaller cities and rural areas. All standard errors (in brackets) are clustered by cross-section. *, ** and *** denote significance at the 10, 5 and 1% levels respectively.

Appendix

Brief description of Polish political parties (see Table 1).

SLD (Sojusz Lewicy Demokratycznej), a social-democratic party which succeeded the pre-1989 communist party PZPR. Initially used anti-capitalist arguments and opposed the privatization program; after 1997 the accent was put on economic reforms, on joining NATO and the UE. In 2001 the results for SLD include Unia Pracy (UP). In 2005 the results for SLD include SdPl (Socjaldemokracja Polska), which obtained 3.89% of the votes.

Samoobrona – a populist agrarian party, proposing a radical program of isolationism, protectionism, and hostility to foreign investors.

UD/UW/PD (Unia Demokratyczna/Unia Wolnosci/Partia Demokratyczna) – three successive embodiments of a centre party: economically pro-capitalist, culturally and politically liberal

KLD (Kongres Liberalno-Demokratyczny) – a liberal party: it joined UW in 1994, but then left UW in 2001; its leaders helped to found a new more conservative party, Platforma Obywatelska (PO).

PO (Platforma Obywatelska) was created in 2001 – a liberal-conservative party.

AWS/AWS Prawicy (Akcja Wyborcza Solidarnosc) – large coalition of Right-wing parties around the Solidarity trade union.

PC/PiS – a popular, nationalist, conservative party; since its formation PiS has focused on fighting against the post-Communist left and corruption.

Other right – includes mostly right-wing Catholic parties, and some radically anti-communist and populist parties. These typically reject liberalism, defend the Catholic Church and family values, and want to protect national interests against globalization, foreign capital, and the European Union

Table A1: Descriptive statistics per wave. Subjective variables, household income and the Gini coefficient calculated by cross-section.

Dates (year_month)	Country satisfaction	Private Expectations	Private satisfaction	Household income	Gini coefficient
1992_01	2.002	2.679	2.753		
1992_05	1.944	2.531	2.613	5.454	0.323
1992_07	2.036	2.849	2.640	5.528	0.331
1992_09	2.060	2.742	2.635	5.569	0.312
1992_10	2.147	2.707	2.652	5.515	0.339
1992_12	2.108	2.453	2.610	5.467	0.320
1993_01	2.124	2.637	2.659	5.516	0.353
1993_03	2.126	2.641	2.677	5.528	0.355
1993_05	2.085	2.741	2.713	5.527	0.324
1993_07	2.124	2.700	2.628	5.490	0.325
1993_09	2.272	3.046	2.663	5.486	0.379
1993_11	2.347	3.169	2.720	5.532	0.347
1994_01	2.343	2.924	2.788	5.488	0.351
1994_03	2.235	2.704	2.703	5.407	0.345
1994_06	2.437	2.886	2.738	5.471	0.357
1994_07	2.462	2.861	2.769	5.514	0.347
1994_09	2.379	2.733	2.818	5.510	0.337
1994_11	2.426	2.859	2.749	5.542	0.323
1995_01	2.521	2.928	2.832	5.546	0.339
1995_03	2.430	2.952	2.809	5.519	0.336
1995_05	2.526	2.904	2.851	5.573	0.306
1995_07	2.599	2.963	2.847	5.569	0.353
1995_09	2.574	2.931	2.841	5.566	0.339
1995_11	2.606	3.117	2.868	5.683	0.358
1996_01	2.943	3.137	2.975	5.650	0.364
1996_03	2.786	3.041	2.911	5.574	0.348
1996_05	2.702	2.988	2.938	5.614	0.329
1996_07	2.699	2.953	2.923	5.668	0.336
1996_09	2.724	2.941	2.959	5.675	0.329
1996_11	2.771	3.006	2.925	5.691	0.342
1997_01	2.745	3.072	2.906	5.726	0.371
1997_03	2.687	3.028	2.987	5.728	0.344
1997_05	2.840	3.048	3.023	5.807	0.332
1997_07	2.895	3.029	3.074	5.749	0.324
1997_09	2.939	3.141	3.005	5.794	0.352
1997_11	2.866	3.052	2.985	5.801	0.328
1998_01	2.771	2.929	3.000	5.720	0.337
1998_03	2.769	2.965	2.942	5.706	0.354
1998_05	2.774	2.988	2.967	5.797	0.337
1998_07	2.721	2.957	2.991	5.822	0.339
1998_09	2.746	2.878	2.943	5.834	0.352
1998_11	2.699	2.923	2.997	5.823	0.353
1999_01	2.706	2.889	2.945	5.805	0.347
1999_03	2.457	2.830	2.879	5.735	0.363
1999_05	2.471	2.828	2.912	5.818	0.342
1999_07	2.396	2.749	2.875	5.823	0.345
1999_09	2.330	2.814	2.882	5.879	0.353
1999_11	2.431	2.840	2.941	5.856	0.350
2000_01	2.490	2.848	2.874	5.800	0.372
2000_02	2.427	2.781	2.889	5.755	0.365

Table A1 continued.

Waves (year_month)	Country satisfaction	Private Expectations	Private satisfaction	Household income	Gini coefficient
2000_05	2.320	2.792	2.904	5.827	0.365
2000_07	2.339	2.751	2.826	5.775	0.337
2000_09	2.375	2.854	2.882	5.814	0.359
2000_11	2.348	2.834	2.830	5.779	0.354
2001_01	2.383	2.844	2.896	5.787	0.328
2001_03	2.201	2.770	2.809	5.791	0.368
2001_05	2.198	2.781	2.842	5.783	0.351
2001_07	2.098	2.841	2.864	5.840	0.377
2001_09	2.147	2.879	2.846	5.811	0.340
2001_11	2.077	2.899	2.870	5.811	0.378
2002_01	2.071	2.834	2.881	5.831	0.361
2002_03	2.056	2.791	2.849	5.779	0.375
2002_05	2.071	2.788	2.835	5.824	0.379
2002_07	2.035	2.839	2.864	5.885	0.389
2002_09	2.160	2.876	2.910	5.820	0.366
2002_11	2.247	2.885	2.906	5.852	0.357
2003_01	2.249	2.867	2.914	5.832	0.373
2003_03	2.111	2.836	2.880	5.822	0.355
2003_05	2.060	2.873	2.900	5.864	0.363
2003_07	2.134	2.804	2.882	5.806	0.356
2003_09	2.188	2.887	2.997	5.819	0.360
2003_11	2.120	2.683	2.917	5.778	0.369
2004_01	2.257	2.864	2.920	5.822	0.372
2004_03	2.121	2.772	2.934	5.802	0.381
2004_05	2.370	2.924	2.982	5.882	0.367
2004_07	2.323	2.891	2.942	5.786	0.351
2004_09	2.451	2.939	3.007	5.811	0.369
2004_11	2.445	2.902	2.961	5.773	0.355
2005_01	2.541	2.981	2.980	5.737	0.363
2005_03	2.415	2.966	2.926	5.747	0.351
2005_05	2.525	3.073	2.965	5.809	0.362
2005_07	2.371	2.903	2.989	5.782	0.369
2005_09	2.471	2.974	2.971	5.776	0.365
2005_11	2.588	3.123	3.037	5.778	0.377

Country satisfaction, private expectations and private satisfaction: mean values per cross-section. Country satisfaction: How do you assess current economic situation in Poland? Answers from 1 “very bad” to 5 “very good”; Private expectations: Do you think that in a year your life and the life of your family will be: Answers from 1”much worse” to 5”much better” than now; Private satisfaction: How do you and your family live? Answers from 1 “very bad” to 5 “very good”. Household income is the logarithm of net total monthly household income per capita, deflated by the monthly CPI. Gini coefficients are calculated for each successive representative cross-section.

Table A2. Descriptive statistics. The socio-demographic structure of the sample, yearly averages.

Year	Female	Age	Secondary education	Rural areas	Urban areas	Large cities
1992	0.55	46.77	0.34	0.42	0.52	0.28
1993	0.55	47.93	0.35	0.42	0.52	0.28
1994	0.48	47.89	0.37	0.40	0.53	0.28
1995	0.55	48.24	0.37	0.40	0.51	0.29
1996	0.55	47.61	0.39	0.37	0.55	0.28
1997	0.57	47.53	0.41	0.37	0.52	0.31
1998	0.56	47.74	0.41	0.37	0.53	0.30
1999	0.56	48.17	0.43	0.37	0.52	0.30
2000	0.55	48.13	0.45	0.37	0.50	0.32
2001	0.56	47.86	0.44	0.36	0.49	0.32
2002	0.55	48.46	0.46	0.35	0.46	0.35
2003	0.55	47.82	0.46	0.37	0.47	0.33
2004	0.52	46.89	0.46	0.41	0.51	0.29
2005	0.53	46.73	0.44	0.37	0.51	0.30

Large cities are defined as having over 100 000 inhabitants.

Table A2 continued.

Year	Unemployed	Pensioners	Farm	Not working	Unqualified workers	Qualified workers	Higher occupations	Self-employed	Employees
1992	0.08	0.34	0.11	0.07	0.06	0.14	0.06	0.03	0.15
1993	0.05	0.44	0.09	0.03	0.04	0.10	0.06	0.04	0.13
1994	0.04	0.45	0.09	0.02	0.04	0.10	0.06	0.04	0.13
1995	0.06	0.43	0.08	0.04	0.04	0.10	0.06	0.04	0.12
1996	0.08	0.37	0.07	0.06	0.04	0.10	0.07	0.04	0.15
1997	0.08	0.35	0.06	0.06	0.04	0.10	0.08	0.04	0.16
1998	0.07	0.37	0.06	0.05	0.04	0.09	0.07	0.04	0.16
1999	0.08	0.37	0.06	0.05	0.04	0.09	0.07	0.04	0.16
2000	0.09	0.37	0.06	0.05	0.03	0.08	0.07	0.04	0.16
2001	0.12	0.37	0.05	0.05	0.03	0.08	0.06	0.04	0.16
2002	0.13	0.37	0.05	0.04	0.03	0.07	0.07	0.04	0.16
2003	0.12	0.35	0.05	0.05	0.03	0.07	0.07	0.04	0.16
2004	0.12	0.34	0.06	0.05	0.03	0.07	0.07	0.04	0.16
2005	0.11	0.33	0.05	0.05	0.04	0.08	0.05	0.03	0.17

Table A3. Descriptive statistics. Macroeconomic variables

Year	Nominal GDP	Real GDP growth	Unemployment rate	Gini coefficient (our data)	Gini coefficient UNICEF data
1992	114243	102.6	13.1	0.325	0.274
1993	155780	103.8	14.9	0.348	0.317
1994	210377	105.2	16.5	0.343	0.323
1995	306318	107.0	15.2	0.339	0.321
1996	385448	106.2	14.4	0.342	0.328
1997	469372	107.1	11.6	0.342	0.334
1998	549467	105.0	10.0	0.345	0.326
1999	665688	104.5	11.9	0.350	0.334
2000	744378	104.3	13.9	0.359	0.345
2001	779564	101.2	16.1	0.356	0.341
2002	808578	101.4	17.7	0.371	0.353
2003	843156	103.9	18.0	0.363	0.356
2004	924538	105.3	19.6	0.366	-
2005	982565	103.6	18.2	0.353	-

Source: Polish Central Statistical Office (GUS). Gini coefficients calculated using yearly average household income in our data. The estimates of the Gini coefficient from the UNICEF Database (IRC TransMONEE 2005) are based on interpolated distributions from grouped data from household budget surveys reported to the MONEE project.