Has transition improved well-being? An analysis based on income, inequality-adjusted income, non-income, and subjective well-being measures

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Abstract

In this paper we examine trends in economic well-being in transition countries from 1988-2002. To do this, we examine economic performance, inequality-adjusted well-being measures, subjective well-being measures, and non-income dimensions of well-being. While for some of the transition countries in Central Europe, the level of well-being is now higher than prior to transition, it is far below those levels in most other transition countries. The only indicator which has shown consistent improvements are measures of political and civil liberties.

JEL classification: D6, O15, P27

Keywords: Transition economies, Well-Being, Income Inequality, Subjective Welfare Measures

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1 Introduction

Fifteen years after the beginning of transition, and one year after the accession of 8 transition countries to the European Union (with two more due to join in 2007), it is worthwhile to examine whether transition has brought about a lasting improvement in the economic well-being of the populations in transition countries. For the accession countries and those due to join sooner or later, the additional question arises whether they have converged on the income levels of EU members or can be expected to in coming years.

For most former Soviet Bloc countries, the fall of the Berlin wall first led to economic (and for some countries also political) instability characterised by severe contractions in income levels, rising unemployment, increasing income inequality, and a worsening of the overall economic situation (Atkinson and Micklewright, 1992; Klasen, 1994; Milanovic, 1998; Gruen and Klasen, 2001). After the transition from a command regime to a market-oriented economy, most countries managed to return to a positive growth path. On average, however, the growth rates have been lower than within the EU, so the relative position of transition countries regarding income levels has not improved during the last decade (Coricelli and Masten, 2004).

Figure 1 illustrates the growth performance of 18 Central and Eastern European transition countries. By 2002, only six countries (all of which accession countries) reached and surpassed the level of per capita income they had prior to the transition.[1] Bulgaria and Belarus are close to their respective pre-transition income level. Together with Kazakhastan, Romania, and Uzbekistan, the two new EU members Latvia and Lithuania experience income levels that are still more than 10 per cent below those they had in 1988. Moldova and Ukraine suffered from the worst income losses during the transition period. Although recovering from these stark contractions during the last few years, in 2002, the income ratio amounted to 50 per cent for Ukraine and a mere 42 per cent in Moldova.[2] In addition, the transition countries for which no comparable data is available (Armenia, Georgia, Tajikistan, and Azerbaijan), are likely to fare similarly poorly.

The change of the economic system not only had an impact on per capita income, but also on its distribution. Prior to transition, income inequality was very low. The first two

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[1]Note that this figure is not directly comparable to the income ratio for the period 1988 to 1999 presented in Gruen and Klasen (2001). Then, we used GNP per capita data adjusted for purchasing power (WDI, 1999; World Bank, 2000), a data series which is no longer provided by the World Bank. According to these data, Czech Republic, Estonia, Hungary, Poland, Slovakia, and Slovenia had on average higher incomes in 1999 than in the pre-transition period. Re-calculating this income ratio using the PPP adjusted GNI per capita (WDI, 2004), only Hungary, Poland, and Slovenia would have surpassed their 1988 income levels in 1999.

[2]The overall picture does not change much when using GDP per capita, measured in constant local currency (WDI, 2004) as the income concept.

columns of Table 1 show how income inequality measured by the Gini coefficient changed drastically between 1988 and 2002. For all countries, except Uzbekistan, the distribution of incomes has become more unequal. The magnitude of the worsening, however, varies considerably across countries. Central European countries experienced relatively moderate increases in inequality whereas in Russia, the Gini coefficient almost doubled.

This paper takes a closer look at welfare in transition countries before and after the transition. It updates and extends the analysis of Gruen and Klasen (2001) which investigated well-being in transition countries and comparable middle-income countries between 1988 and 1995. Similar to our previous analysis, we will apply pure income and distribution-sensitive measures to measure the change in economic well-being but will expand the analysis up to 2002. Prior to transition, socialist countries enjoyed a relatively high level of economic well-being thanks to their rather equal distribution of income. During the transition, mean incomes fell and inequality worsened resulting in lower absolute and relative welfare levels. We assess the effect of these trends using distribution-sensitive well-being measures. In addition, we will also rely on subjective measures of well-being to assess the change in welfare related to the transition. In particular, we will link measures on subjective well-being (SWB) with data on income and income distribution to find out whether income inequality has a significant impact on the way people rate their lives. This allows us to get an alternative view on how welfare changed in a number of both transition countries and middle-income countries over the last two decades. Lastly, we will consider non-income dimensions of well-being to see whether they tell a different story from our income-based and subjective well-being measures.

2   Measuring welfare - some theoretical thoughts

There is a large axiomatic and applied literature on well-being measurement which we will only briefly summarize here.[3]

For international comparisons of economic welfare, real per capita income (now typically PPP-adjusted) is still the most widely used indicator. It can be derived from utilitarian welfare economics, but requires strict assumptions regarding individual preferences and utility functions, particularly when comparisons across time and space are made (Gruen and Klasen, 2003b). Particularly problematic is its neglect of income distribution which can only be justified with the highly unrealistic assumptions of linear utility functions or

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[3]For a more detailed discussion, refer to Sen (1979) or Gruen and Klasen (2003b).

an equal or 'optimal' distribution (in the sense that the ethical worth of each marginal dollar is the same).

To remedy this short-coming, the literature also suggests a number of indicators that combine income and its distribution (e.g. Atkinson, 1970; Sen, 1982; Dagum, 1990). More recent empirical observation on risk aversion also supports the hypothesis that higher inequality does have a negative impact on individual welfare levels (e.g. Stodder, 1991; Amiel, Creedy, and Hurn, 1999).[4] The theoretical arguments for incorporating the distribution of income into a meaningful measure of economic welfare are multiple and well-known (e.g. Rawls, 1971; Sen, 1984, 1987).[5] But only with the recent improvements regarding the availability of inequality data it has become possible to apply these measures and to conduct cross country and cross temporal studies (e.g. Kakwani, 1981; Jenkins, 1997; Gruen and Klasen, 2001, 2003b,a).

Related to this issue, a separate literature has developed that has focused on developing and analysing subjective measures of well-being (e.g. Easterlin, 1974, 1995; Morawetz, et. al., 1977; Frijters, Haisken-Denew, and Shields, 2004; Headey, Muffels, and Wooden, 2004). Subjective measures of welfare rely on the self-assessment of individuals. People are ask to evaluate their overall satisfaction with their lives or their happiness. Subjective well-being (SWB) therefore captures many different aspects individuals are concerned about and offers a self-rated view on welfare.

The concept of subjective well-being has been developed in psychology (e.g. Diener, 1984) but gains increasing significance in economics as well. Empirical analyses conducted in both fields of study have convincingly demonstrated that maximising happiness or life satisfaction instead of income appears to be the most important objective for most people (e.g. Clark and Oswald, 1995, 2002; Oswald, 1997; Frey and Stutzer, 2002; Di Tella, MacCulloch, and Oswald, 2001, add references from psychology).

There are two pieces of evidence that inequality reduces subjective well-being. First, there is strong evidence that relative (rather than absolute) incomes matter particularly strongly for subjective well-being (as preferences appear to be inter-dependent) and high inequality will increase income gaps between people with negative implications for subjective well-being (Clark and Oswald, 1996; Easterlin, 1995). Secondly, there is evidence of 'inequality aversion' in the sense that people appear to report lower levels of subjective well-being in places where there is high inequality (Blanchflower and Oswald, 2003).

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[4]For a more detailed discussion on these issues, see for example Gruen and Klasen (2003b).

[5]For a recent study on the inefficiency of inequality, please refer to Schiff (2004). Assuming interdependent preferences, he shows that welfare declines with inequality.

Though, shifting the focus from economic magnitudes like income to a self-rated assessment like overall life satisfaction does not imply that other desirable objects become just a means. Diener and Scollon (2003) argue that maximising subjective well-being is not sufficient. Even if people report to be less happy, they still value particular components of their life like health, marriage, work, or leisure. Thus, SWB should be considered as a intriguing complementary route to measure welfare but does not render traditional welfare theory superfluous (see also Frey and Stutzer, 2002).

Similarly, we will complement our assessment of well-being with other non-income dimensions of well-being such as health, education, political and civil liberties. We do this in the spirit of Sen (1999) who argues that these capabilities are critical components of well-being and should be considered alongside income.

In the remainder of the section, we will give a brief overview regarding the measures we will apply in our analysis of the inequality-adjusted income-based measures of economic welfare. For a more extended theoretical discussion on those measures, see for example Gruen and Klasen (2001, 2003b).

We apply four inequality-adjusted well-being measures which jointly consider mean income μ and its distribution. They all assume that an unequal distribution of income will reduce the level of welfare W.

$$W = \mu(1 - I), \quad 0 \leq I \leq 1.$$

The well-being measures used differ with respect to the implemented index of inequality I. The amount by which welfare is reduced given a particular income distribution also differs across the measures.

The first two measures will be based on the Gini coefficient G. Sen (1982) proposed the following welfare measure:

$$S = \mu(1 - G).$$

Mean income and the Gini coefficient are combined to arrive at a welfare level. The Sen measure has a sound theoretical foundation and can be derived from interdependent preferences for which there is considerable empirical support. The corresponding utility function does not only consider individual incomes but the entire income distribution.[6]

Dagum (1990) developed a variant of this measure. Preferences are still assumed to be interdependent but in addition the Dagum measure takes up the fact that individuals care in particular about people above them in the income distribution. The lower their own rank in the income distribution, the higher the welfare reduction they experience.

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[6]See also Dagum (1990).

$$D = \frac{\mu(1 - G)}{1 + G} = \mu(1 - \frac{2G}{1 + G}).$$

For a given distribution of income, the Dagum measure clearly imposes a larger welfare penalty than the Sen measure.

When considering transfers in income and their effect on welfare, the measures behave similarly. Both are consistent with the Dalton principle of transfers. As the Gini coefficient is sensitive to changes around the mode of the distribution, Gini-based measures are sensitive to changes that happen among the middle income group. Whether or not this is a desirable property has been extensively debated (e.g. Atkinson, 1970; Dagum, 1990; Sen, 1997). Also, the Gini-based measures are not sub-group consistent which is one of the criteria inequality measures are frequently expected to fulfill.

To address some these of shortcomings, our analysis also includes two indices from the Atkinson class of welfare measures (Atkinson, 1970). This class of measures can be derived from individual independent utility functions which can be aggregated into a social welfare function. We calculate the equally distributed equivalent income which is the amount of income that if distributed equally would yield the same welfare level as the actual mean income and its present distribution (Deaton, 1997). The general of the measure is given by:

$$A2 = \left[\frac{1}{N} \sum_{i=1}^{N} x_i^{1-\varepsilon} \right]^{\frac{1}{1-\varepsilon}}.$$

For $\epsilon = 1$:

$$ln(A1) = \frac{1}{N} \sum_{i=1}^{N} ln(x_i).$$

Varying the size of the parameter ϵ, the aversion to inequality factor, allows us to alter the penalty for inequality. The higher ϵ, the greater the welfare loss. Comparing the Atkinson class measures to the Gini based measures, the former also obey transfer sensitivity. Hence, poorer income groups receive a higher weight and any transfer that happens among the poor will lead to a more pronounced change in welfare than a similar transfer among the rich. For many researchers this seems to be a more desirable property than the sensitivity of the Gini based measures which will be greatest among the mode of the distribution. Moreover, the Atkinson measures are sub-group consistent. Any increase in income within a sub-population will, ceteris paribus, increase aggregate welfare. In contrast, a higher

income received by the richest could lower aggregate welfare when applying the Gini based measures. The increase in mean income can be more than offset by the increase in inequality. While the Atkinson measures thus appear to be theoretically more sound, the empirical evidence appears on risk and inequality aversion as well as subjective well-being seems to favor the Gini-based measures (Amiel, Creedy, and Hurn, 1999).

As will be shown in the empirical analysis, the Atkinson $\epsilon = 1$ and the Dagum measure can be seen as benchmarks to our welfare analysis. For any given income distribution, the Atkinson $\epsilon = 1$ reduces welfare the least, whereas the Dagum measure imposes often the greatest penalty for inequality.

3 Data

We calculate the distribution-sensitive welfare measures for 18 transition countries and 16 comparable middle income developing countries and poorer EU member countries[7] and compare them to a pure income based measure to see by how much economic welfare of each country has been reduced due to the unequal distribution of income. The income concept used is GNI per capita, adjusted for purchasing power parity (WDI, 2004). Gini coefficients and income shares to factor in the unequal distribution of per capita income are taken from the World Income Inequality Database (WIID, 2000), the World Bank Poverty Monitor (World Bank, 2004), and from Milanovic (1998) who provides inequality data for transition countries also for the pre-transition period.[8]

The benchmark years for our analysis of economic welfare are 1988 and 2002. Gini coefficients with associated distributions and, to a lesser extent, data on per capita income were not always available for exactly these two points in time. Particularly for the second benchmark year we had to rely on inequality data that were mainly based on years between 1998 and 2001. Occasionally, it dates back to 1996 (Columbia, Czech Republic, Slovakia, Spain). Regarding mean income in 1988, we sometimes had to use data for later years which may somewhat bias the achievements in terms of income growth in the post-transition period. The biggest compromise we had to make is with respect to Slovenia, where income data is only available since 1993 (see also Figure 1).

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[7]Compared to the original study (Gruen and Klasen, 2001), we included one more country into the sample, Turkey as it is now an applicant to membership to the EU. Although not currently negotiating its entry, the country first approached to join the EU in 1987. We also wanted to include the other two recent EU members, Cyprus and Malta, for comparative purposes but the necessary data were not available.

[8]For a critical assessment of the data sources used, see Gruen and Klasen (2001).

The availability of Gini coefficients and income shares has improved dramatically over the last decade. Not only there are different data sources to choose from. For one particular country, a single source frequently offers multiple Gini coefficients for one year. The Gini coefficients may be based on different income concepts (i.e. gross or net income, expenditure) and may use different reference units (i.e. household, person, family). In conjunction with Table 1, Table 2 shows the impact regarding alternative Gini coefficients for selected transition countries for the pre- and post-transition period. Clearly, the reported coefficients differ greatly, but much of this is due to differences in income concepts and reference units.

We therefore try to address the heterogeneity of Gini coefficients by making regression-based adjustment of the inequality indices used for calculating the Sen and Dagum measures. A large sample of Gini coefficients has been regressed on income concepts and reference units to determine the effect of different underlying specifications (Table 3). Most estimated parameters corroborate what one would expect. Gini coefficients based on expenditure data or net income are significantly lower than those based on gross income. If the inequality index has been adjusted for household composition, it is also significantly lower. A somewhat surprising result that turns out to be robust across different samples and specifications is that indices based on household level as the reference unit are significantly higher compared to the baseline case (i.e. per person). Theoretically, one would have expected that pooling income will lead to lower inequality.

In order to arrive at comparable inequality indices, we use the regression results to calculate adjusted Gini coefficients which are based on gross income per person. All calculations reported later on used both the original and adjusted Gini coefficients for comparative purposes.

The analysis of subjective welfare measures is based on the World Values Survey (Inglehart, 1998) and the European Values Study (Inglehart, 2003).[9] The surveys have been designed to investigate sociocultural and political change. By today, four waves have been carried out, covering a time span of almost 20 years. Due to data limitations, the range of countries surveyed in the EVS and WVS differs somewhat from our sample on economic welfare measures. Table 4 gives an overview.

On average, 1500 people have been interviewed in each country. They were asked to assess the political system of their country, whether they are satisfied with the government, about their family situation, the relationship with neighbours and friends, religious matters, to mentioned just a few aspects of the surveys. As indicators of subjective well-being, we choose the following two questions:

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[9]For alternative data on happiness, please refer to the Database of Happiness (Veenhoven, 2004).

A) Taking all things together, would you say you are:

    1 = very happy

    2 = quite happy

    3 = not very happy

    4 = not at all happy

B) All things considered, how satisfied are you with your life as a whole these days?

    1 = dissatisfied

    2

    3

    ...

    10 = satisfied

From the individual data we calculated mean values for 'Happiness' and 'Life satisfaction' for each country in each time period. In order to explore the relationship between the subjective welfare measures, mean income and income inequality, we added the corresponding income per capita and inequality index to this second set of data.

Lastly, we use data from the Transmonee Project and Freedom House to assess progress in non-income dimensions of well-being where we focus on life expectancy, under 5 mortality rates, education, and indicators of political and civil liberties.

4 Results

4.1 Exploring Economic Welfare

We compare welfare levels in transition countries in two ways. First, we compare countries with their own past levels of welfare and then we show welfare levels compared to comparable middle-income countries.

Compared to Figure 1, Figure 2 shows a much more negative assessment of changes in welfare in transition countries. While 6 transition countries had experienced higher income levels in 2002, once inequality is considered, three of them (Estonia, Czech Republic and Slovak Republic) are no longer better off than before due to the negative welfare

consequences of rising inequality. More importantly, the declines in well-being in countries that experienced a decline in per capita incomes are much larger when the rising inequality is considered. In many of the successor states of the Soviet Union, the well-being declines are 10-30 percentage points larger when inequality is considered.

As already suggested by Gruen and Klasen (2001), these results are heavily affected by the correlation between output decline and inequality increase in transition countries. Figure 3 plots the change in inequality versus the change in income experienced by the transition countries between 1988 and 2002. The scatter diagram suggests a negative correlation between the two variables which amplifies the welfare losses in those countries.[10]

Table 5 compares transition countries to other middle-income countries using the pure income based measure of welfare as well as four distribution-sensitive indicators for the pre-transition period. The country specific welfare levels are ranked according to the absolute values of the respective measure of well-being. The columns with the distribution-adjusted measures calculate the ratio of inequality-adjusted welfare levels to GNI/capita (reported in the first column) to give a sense of the implied well-being 'penalty' for income inequality. Comparing the real income comparison presented here to our earlier assessment (Gruen and Klasen, 2001, Table 1), the change of the income concept leads to a somewhat different ranking.[11] A number of (pre-)transition countries attain considerably higher welfare ranks (e.g. Lithuania, Turkmenistan, Romania, Bulgaria), Uzbekistan and Kyrgyz Republic on the contrary reach somewhat lower ranks. Similarly, Latin American countries like Venezuela, Colombia, and Brazil seem to be less rich according to the income measure applied in the present study (GNI per capita, PPP adjusted (WDI, 2004)).

The disaggregated view at to-be successor states reveals that economic performance, measured by the average income, varied notably within the Soviet Union. In our sample, Uzbekistan, Kyrgystan and Moldova are among the poorest regions, whereas the Baltic republics and Russia range in the top ten.

When the income distribution is accounted for, except for Poland all transition countries managed to either keep their welfare rank (e.g. Russia, Lithuania) or improve it, some of them dramatically.[12] This is due to the much lower inequality that prevailed in those countries, especially when compared to other middle income countries. On the top end,

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[10]When running regressions, the R^2 averages at 19 percent which is lower than the correlation we had found in Gruen and Klasen (2001). This suggests that during the initial output collapse the correlation between output loss and inequality increase was particularly strong.

[11]See also footnote 1.

[12]Poland drops by two ranks because it has a very similar income level than Bulgaria and Romania but slightly higher inequality.

Czech Republic surpasses Slovenia and Spain once inequality is factored in.[13] China keeps the lowest welfare level according to all indicators. Regarding the middle income range, high inequality Latin American countries as well as Turkey have lower ranks once the distribution-sensitive measures of well-being are looked at. In fact, relative welfare of Brazil and Mexico deteriorates most as they drop by 10 and 8 ranks, respectively, when referring to the Atkinson ($\epsilon = 2$) measure.

The actual welfare loss varies considerably across the distribution sensitive measures.[14] Sen and Atkinson ($\epsilon=1$) measures incur relatively small welfare losses, ranging between 7 and 30 per cent for transition countries. For Panama, Columbia, Brazil, and Mexico already these mildly penalising measures reduce welfare by more than 50 per cent. Turning to the Atkinson ($\epsilon=2$) and Dagum measures, welfare levels are only about a third or even less than the original levels for some of these countries. With respect to transition countries, applying measures that imply a rather heavy penalty for inequality reduces their welfare by no more than 30 to 40 per cent. This can be mainly attributed to the relatively high income share accruing to the poorest 20 per cent of the population, which leads to a much lower penalty in the Atkinson measure.

The different income and inequality levels lead to significant rank reversals. Moldova, for example, has a very low income rank (position 29) but climbs nine ranks according to the Atkinson ($\epsilon = 2$) and Dagum measures. It surpasses countries like Brazil and Mexico which have almost twice its average income.

Fourteen years later, the picture of absolute and relative welfare has changed significantly (see Table 6). Let us consider the pure income ranking first. While a few transition countries, all of which EU accession countries including Latvia, Poland, Hungary, Estonia, Slovak Republic and Slovenia have been able to maintain of even slightly improve their ranks, the majority of transition countries have fallen behind, some dramatically. This is particularly the case for the successor states of the former Soviet Union. Moldova, for example, dropped by 4 positions, Russia by 7, Turkmenistan by 10, Ukraine by 15.

The decline of the ranks of many transition countries is due to the combination of falling per capita income levels in those countries and rising income levels elsewhere. Success stories of sharply improving positions due to rising incomes include China, Costa Rica, Malaysia, Mexico, Panama, and Thailand.

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[13]This result has to be interpreted with caution, since the income data for those countries do not come from the same base year.

[14]Welfare losses in 1988 presented in Table 5 are identical to the one published in Gruen and Klasen (2001, Table 1) since the same Gini coefficients and income shares have been used.

Turning to the distribution-adjusted measures accentuates the results as the effects of rising inequality are now considered as well. The welfare levels get more reduced when inequality is accounted for. Welfare losses due to inequality incurred by transition countries now range between 10 and 45 per cent if the mildly penalising Atkinson ($\epsilon = 1$) and Sen measures are applied. Even bigger 'penalties' for inequality are associated with the Atkinson ($\epsilon = 2$) and Dagum measures. Referring to the latter one, Estonia, Lithuania, and Moldova only accomplish welfare levels less than half their respective real income per capita. These losses due to inequality are between 3 and 25 percentage points larger in transition countries in 2002 than they were in 1998, depending on the measure chosen. Particularly extreme examples are Turkmenistan, which lose 20 percentage points in the Atkinson (e=2) measure, and Russia, which loses an addition 24 percentage points in the Dagum measure. With a welfare reduction by more than 60 per cent, Russia is suffering from such an unequal income distribution that is comparable to Costa Rica, Peru, the Philippines, and Thailand who traditionally had higher income inequality.

Fewer transition countries are able to improve on welfare ranks when moving from a real income comparison to the distribution sensitive measures. The majority either maintains the same position across all measures or moves up (or down) by one rank only (Baltic countries, Central European countries). As a result, the decline in ranks is even sharper in some countries when the distribution-adjusted measures are considered. Examples include Moldova and Kyrgyz Republic which both slip by 14 and 3 ranks more between 1988 and 2002 when the distribution-sensitive Dagum and Atkinson measures are used than with the real income ranks.[15]

In 2002, we find three successor states of the Soviet Union far behind at the bottom end of all welfare rankings. During transition, especially Moldova and Kyrgyz Republic experienced plummeting income and sharply increasing inequality which put them in the last position. Compared to the pre-transition benchmark, Moldova experienced the worst deteroriation by having less than half the average income in 2002 and slipping by fourteen ranks according to the Atkinson ($\epsilon = 2$) and Dagum measures.

The results of this assessment are similar to what was found earlier in Gruen and Klasen (2001). This is quite worrying as several years of relatively high growth in many transition countries have not been able to bring transition countries close to the economic welfare level they had experienced just prior to the transition. Only some countries in EU accession countries Central and Eastern Europe have been able to get close to or slightly surpass their welfare levels prior to the transition. At the same time, even those countries have not

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[15] For quite a few countries, the worsening income distribution does not lead to a further penalty in terms of their rank as the rank is partly driven by the included sample and the proximity of different countries in these ranks.

so far been able to significantly reduce the gap to the other countries of the EU. For most, the gap in terms of welfare levels is now larger than it was at the start of the transition process.

4.2   Subjective Well-Being

In Figures 4 and 5, we plot the mean values for the subjective welfare measures against per capita income. Clearly, both indicators are positively correlated with income: on average, people who enjoy higher mean incomes are happier and more satisfied with their life. At the same time, there is a great deal of dispersion that is worth investigating further.

Table 7 shows the two indicators of subjective well-being by time period and distinguishes between transition and non-transition countries. Regarding the changes over time for the whole sample, both indicators point to the same direction: in 1999, people were less happy and less satisfied than two decades ago. Interestingly, the trends for the two country groups are different. Subjective well-being in non-transition countries has hardly changed at all and levels of subjective well-being were always somewhat higher. In transition countries, on the contrary, at least with respect to life satisfaction, people report a decline over the years. [16] None of these changes are, however, statistically significant. Only the differences in SWB measures emerging between transition and non-transition countries are significant. For all years considered, people living in non-transition countries are happier and enjoy a more satisfied life than people from the former socialist bloc.

In order to determine to what extent this result may be driven by the change in income and inequality, we continue with an econometric analysis. To explore the correlation between subjective well-being and income and income inequality, we first run a number of pooled regressions. Table 8 presents the results. Columns (1) and (5) confirm what has already been clear from Figures 4 and 5: The higher the income, the higher subjective well-being. Adding a measure of inequality yields a somewhat surprising result. Controlling for income, people living in more unequal societies report higher levels of happiness and life satisfaction. The effect seems to be small in size, but is highly significant.

Could the composition of our sample be responsible for this unexpected outcome? In particular, the question arises whether this result is driven by the correlation between low happiness and life satisfaction and (still) relatively low inequality in most transition countries. After adding control variables for transition countries and developed countries,

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[16]The lowest level is achieved in 1995-97 and it has since improved slightly which is closely correlated with the development of our well-being measures.

inequality has no longer a significant impact on SWB, but there is a clear indication that people in transition countries state lower levels of subjective well-being. Lastly, we explicitly test for the impact of inequality in transition countries. The results in column (8) indicate that higher inequality in transition countries leads to a lower level of subjective well-being, at least as far as the indicator life satisfaction is concerned.[17]

A second set of regressions follows the idea of Easterlin (1995) and Oswald (1997) that instead of focussing on the absolute levels, one should rather try to explain changes in well-being. Table 9 presents the results of fixed effects panel estimations on life satisfaction only.[18] The results corroborate the impression received earlier. The change in inequality towards a more unequal distribution for most transition countries results in a significantly lower quality of life.

Thus our analysis of subjective well-being confirms that the rise in inequality in transition countries has reduced subjective well-being, consistent with our treatment of inequality in the inequality-adjusted measures. Two more surprising results are that people in transition countries report lower levels of subjective well-being which merits further investigation. As there are few data points prior to the transition for these countries, it is unclear whether this is a transition-specific effect or not. Second, inequality only reduces subjective well-being in transition countries but not generally. This result should be treated with some caution though as is based on a rather aggregative analysis.

4.3   Further Aspects of Welfare

In Table 10 we examine trends in non-income measures of well-being for transition countries. Here the record is also mixed, but generally somewhat more positive than with the inequality-adjusted income-based and subjective measures.

As far as life expectancy is concerned, women have been able to slightly extend their life expectancy from the already high levels they enjoyed prior to transition (Klasen, 1993). In a few successor states of the Soviet Union, there were some declines. The picture for males is much more negative with declines in longevity in 7 countries and stagnation in a further

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[17]This is in line with previous research. Suhrcke (2001) analyses whether preferences for income inequality differ systematically between post-socialist countries and the Western world. His results show that people living in transition countries are less tolerant towards existing income differences.

[18]Here, both the dependent and independent variables are measured in differences. One might argue, the most appropriate way to analyse this question would be to have a level measure of SWB on the left hand side and changes in income and income inequality on the right hand side. Our sample size does not allow this. For an attempt to run regressions of such type see Headey, Muffels, and Wooden (2004). They, however, conclude that such equations usually yield weaker relationships.

2. The reasons for these gender-specific effects have been analyzed in the literature (Paci, 2002). This literature suggests that the uncertainty and economic and social crisis brought about by the transition have worsened diseases as well as dangerous behavioral patterns among males (esp. relating to alcohol abuse) with significant mortality consequences.

The picture is more favorable for under five mortality which has fallen in all transition countries. Thus child health seems to have been much less affected by the negative effects of transitions than adult health.

Turning to education, the record is more mixed again. In several countries, particularly those affected by severe income declines, there have been large declines in educational enrolments. This reduces well-being directly as it denies educational opportunities to many children. It will also negatively affect economic development in the future.

Lastly, we consider some indicators of political and civil rights. Here the picture is (as already shown in Gruen and Klasen (2001)) quite positive, compared to the pre-transition period. Virtually all transition countries have moved from not free to at least partially free societies. The big exception are the Central Asian former republics of the Soviet Union and Belarus which remain unfree to this date.

Thus measuring well-being in a non-income dimension suggests that transition countries have had some progress, notably in the health and political sphere. But the progress is not universal and there have been deteriorations in health and education and stagnation in political freedom in those countries where economic well-being had also declined the most.

5   Conclusion

In this paper, we examined trends in well-being in transition countries. After 15 years of transition, most transition countries have not regained the level of well-being they enjoyed at the start of the transition. This is true regardless of whether inequality-adjusted income measures, subjective measures of well-being, or some non-income measures (such as enrolments or life expectancy) are concerned.

At the same time, there is a great deal of variation between transition countries. In particular, those countries that joined the EU, have witnessed some improvements in well-being although most are not any closer to the EU average than they had been in 1990. In contrast, in most of the successor states of the Soviet Union, the welfare impact of transition

continues to be negative. Incomes are lower, inequality is larger (and thus inequality-adjusted well-being has fallen significantly), subjective well-being is lower, mortality is higher, enrolments are lower, and even political freedoms are not significantly better in quite a few states. Moreover, not only are people in the countries not better off than before, but they have fallen further behind compared to other middle-income countries in the world.

It remains to be seen when the negative welfare effects of transition will be overcome for the majority of the affected populations. It may well be that this is still far into the future.

Figure 1: **Real per capita income ratio, 2002 to 1988**
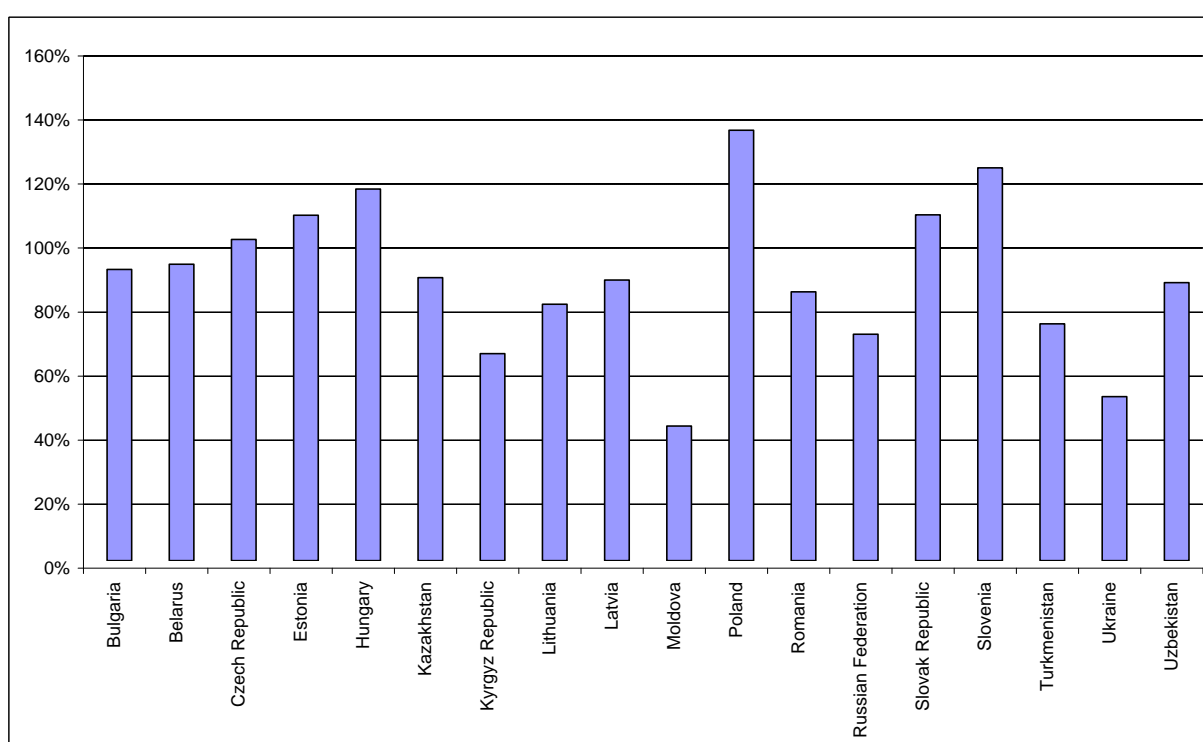
Notes: Source: Real GNI per capita, PPP adjusted, 2002 prices (WDI, 2004). Income data for 1988 were not available for all countries. Instead, we used the data of 1989 for Kazakhstan and Russia; 1990 for Belarus, Czech Republic, Lithuania, and Poland; 1993 for Slovenia.

Figure 2: **Change in well-being, 1988 to 2002**
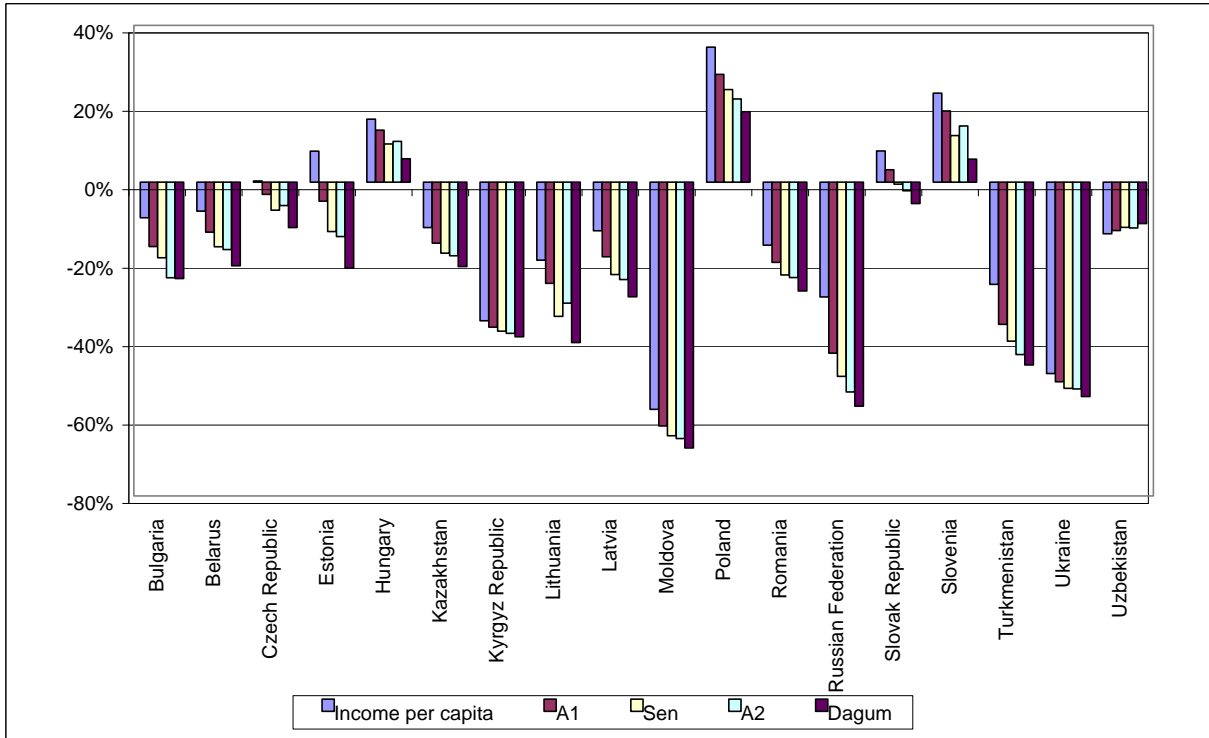
Figure 3: **Change in income and inequality, 1988 to 2002**
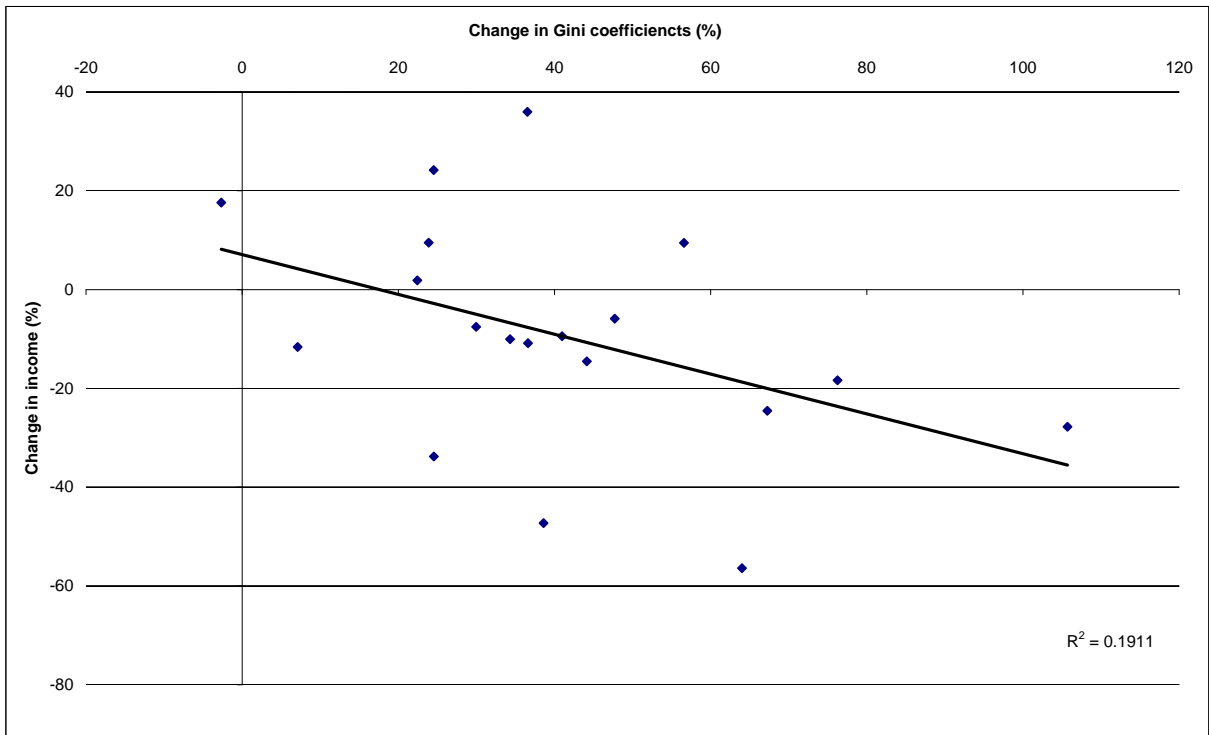
Figure 4: **Happiness and income per capita**
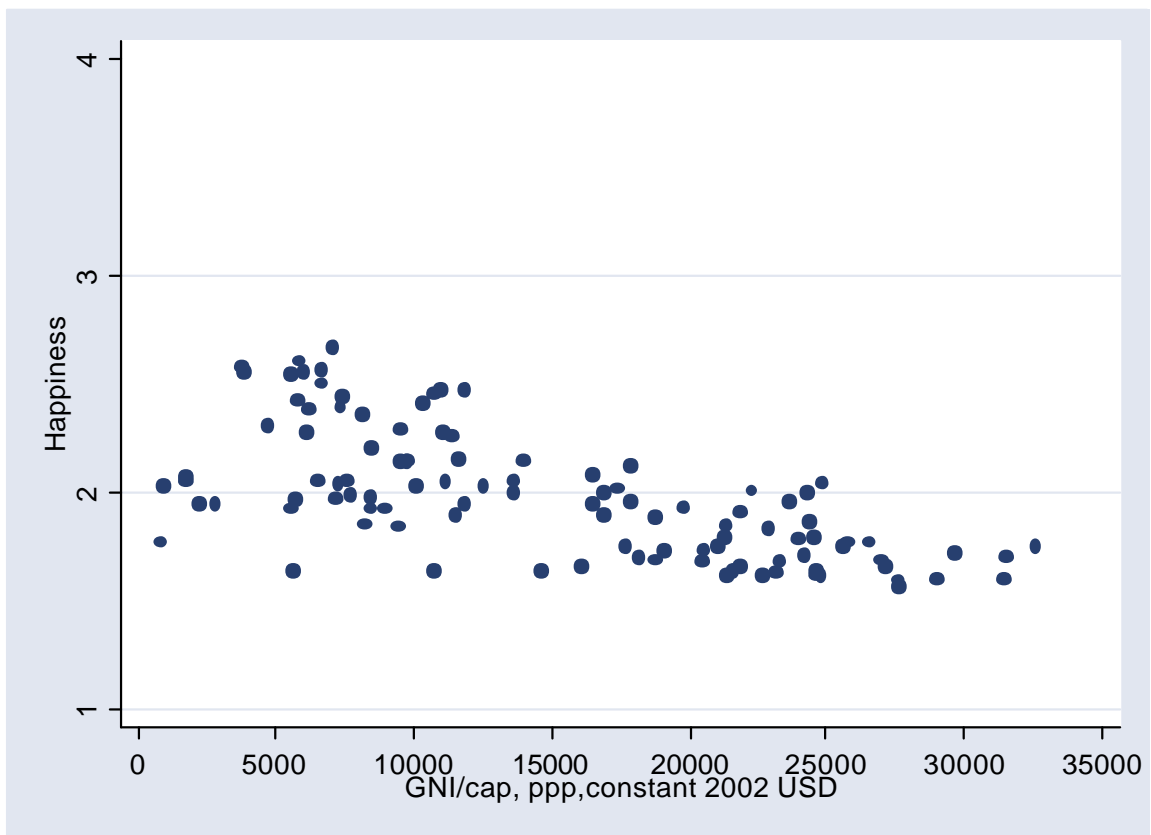
Notes: Happiness scores: 1 = very happy, 2 = quite happy, 3 = not very happy, 4 = not at all happy.

Figure 5: **Life satisfaction and income per capita**
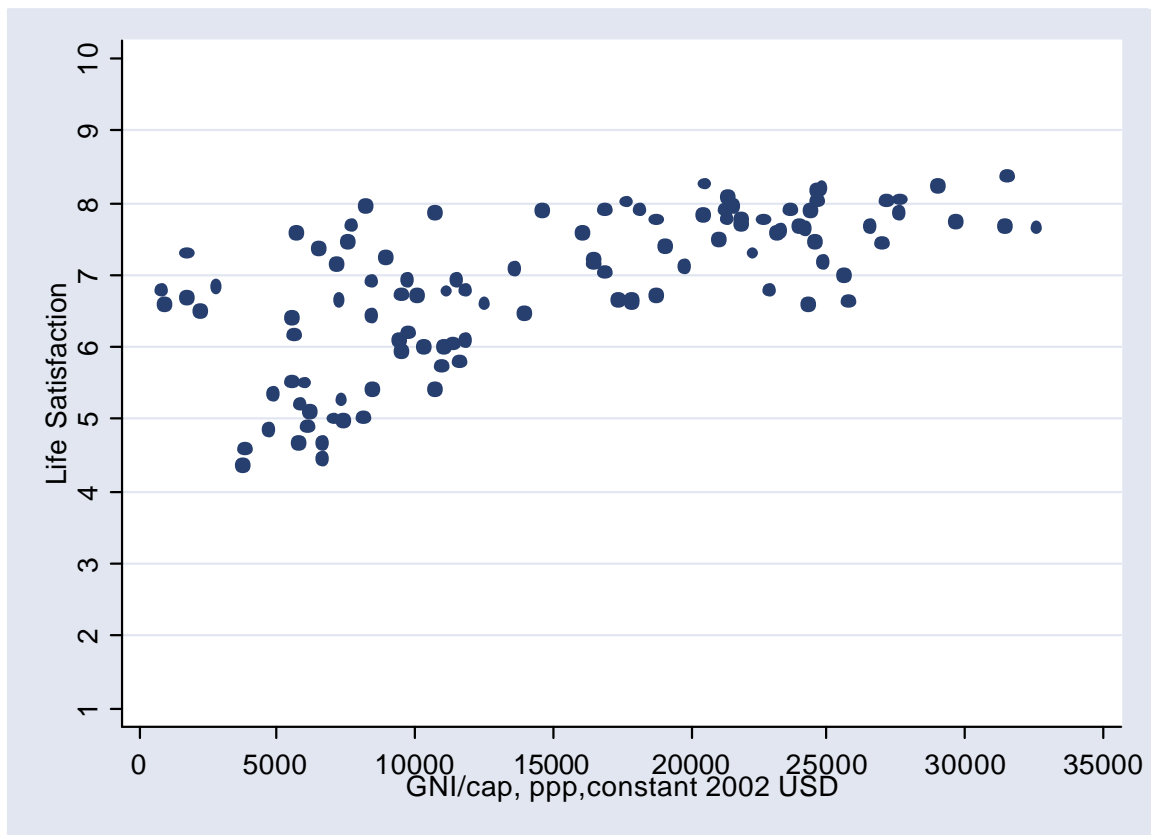
Notes: Scale for life satisfaction runs from 1 to 10 with 1 = dissatisfied, 10 = satisfied.

Table 1: **Income inequality in transition countries, 1988 and 2002**

Country	Original Gini 1988	Original Gini 2002	Adjusted Gini 2002
Bulgaria	23.3	31.9	29.1
Belarus	22.8	30.4	33.0
Czech Republic	19.4	25.4	22.6
Estonia	23.0	37.6	34.9
Hungary	21.0	25.3	24.0
Kazakhstan	25.7	31.2	33.9
Kyrgyz Republic	26.0	29.0	31.7
Lithuania	22.5	36.3	39.0
Latvia	22.5	32.4	29.6
Moldova	24.1	36.2	38.9
Poland	25.6	31.6	34.3
Romania	23.3	30.3	32.9
Russian Federation	23.8	45.6	48.3
Slovak Republic	19.5	25.8	23.0
Slovenia	21.5	28.4	25.6
Turkmenistan	26.4	40.8	43.5
Ukraine	23.3	29.0	31.7
Uzbekistan	28.2	26.8	29.5

Notes: These data have been used for the calculation of welfare measures shown in Tables 5 and 6. Gini coefficients in 1988 are based on gross income per person and do not need to get adjusted (Milanovic, 1998).

Table 2: **Alternative Gini coefficients**

	Pre-transition period		Post-transition period	
Estonia	27.8	(I G Hpc)	37.8	(I N Hpc)
Kyrgyz Republic	31.2	(I G Hpc)	40.5	(I - P)
Russian Federation	26.4	(I G Hpc)	34.6	(E - Hpc)
Turkmenistan	31.6	(I G Hpc)	42.1	(E - Hpc)
Uzbekistan	30.6	(I G Hpc)	44.7	(E - Hpc)

Table 3: **Determinants of Gini Coefficients**

Expenditure	-3.18**	(0.36)
Net income	0.97*	(0.46)
Unknown income	1.78*	(0.80)
Household	1.19**	(0.27)
Family	0.65	(0.44)
Unknown reference unit	-0.97	(1.26)
Equivalized	-4.47**	(0.30)
Primary source unknown	2.05**	(0.63)
No consistent source	-0.27	(0.24)
OECD * Net income	-4.02**	(0.55)
Intercept	36.91**	(0.30)
1960s	-0.61	(0.38)
1970s	-1.59**	(0.29)
1980s	-1.89**	(0.23)
N	2126	
R^2	0.24	

Notes: Country fixed effects regression.

Significance levels: $* : 5\%$ $** : 1\%$

Table 4: **Data samples**

Country	Code	Economic well-being	Subjective well-being			
			1981	1990	1995-97	1999
Argentina	ARG	-	✓	✓	✓	-
Australia	AUS	-	✓	-	✓	-
Belarus	BLR	✓	-	✓	✓	✓
Belgium	BEL	-	✓	✓	-	✓
Brazil	BRA	✓	-	✓	✓	-
Bulgaria	BGR	✓	-	✓	✓	✓
Canada	CAN	-	✓	✓	-	-
Chile	CHL	-	-	✓	✓	-
China	CHN	✓	-	✓	✓	-
Colombia	COL	✓	-	-	-	-
Costa Rica	CRI	✓	-	-	-	-
Czech Republic	CZE	✓	-	-	-	✓
Denmark	DNK	-	✓	✓	-	✓
Estonia	EST	✓	-	✓	✓	✓
Finland	FIN	-	✓	✓	✓	✓
France	FRA	-	✓	✓	-	✓
Hungary	HUN	✓	✓	✓	-	✓
Iceland	ICE	-	✓	✓	-	✓
India	IND	-	-	✓	✓	-
Indonesia	IDN	✓	-	-	-	-
Ireland	IRL	-	✓	✓	-	✓
Italy	ITA	-	✓	✓	-	✓
Jamaica	JAM	✓	-	-	-	-
Japan	JPN	-	✓	✓	✓	-
Kazachstan	KAZ	✓	-	-	-	-

Table 4: *continued*

Country	Code	Economic well-being	Subjective well-being			
			1981	1990	1995-97	1999
Kirgistan	KGZ	✓	-	-	-	-
Latvia	LVA	✓	-	✓	✓	✓
Lithuania	LTU	✓	-	✓	✓	✓
Malaysia	MYS	✓	-	-	-	-
Mexico	MEX	✓	✓	✓	✓	-
Moldova	MDA	✓	-	-	-	-
Netherlands	NLD	-	✓	✓	-	✓
Nigeria	NGA	-	-	✓	✓	-
Norway	NOR	-	✓	✓	✓	-
Panama	PAN	✓	-	-	-	-
Peru	PER	✓	-	-	-	-
Philippines	PHL	✓	-	-	-	-
Poland	POL	✓	-	✓	✓	✓
Portugal	PRT	✓	-	-	-	✓
Romania	ROM	✓	-	-	-	✓
Russia	RUS	✓	-	✓	✓	✓
Slovakia	SVK	✓	-	-	-	✓
Slovenia	SVN	✓	-	✓	✓	✓
South Africa	ZAF	-	✓	✓	✓	-
South Korea	KOR	-	-	✓	-	-
Spain	ESP	✓	✓	✓	✓	✓
Sweden	SWE	-	✓	✓	✓	✓
Switzerland	CHE	-	-	✓	✓	-
Thailand	THA	✓	-	-	-	-
Turkey	TUR	✓	-	✓	✓	✓
Turkmenistan	TKM	✓	-	-	-	-
Ukraine	UKR	✓	-	-	-	✓
United Kingdom	GBR	-	✓	✓	✓	-
USA	USA	-	✓	✓	✓	-
Uzbekistan	UZB	✓	-	-	-	-
Venezuela	VEN	✓	-	-	-	-

Table 5: **Welfare measures 1988**

Rank	GNI/cap* (PPP)		Atkinson ($\epsilon = 1$) (% of GNP/cap, PPP)		Sen (% of GNP/cap, PPP)		Atkinson ($\epsilon = 2$) (% of GNP/cap, PPP)		Dagum (% of GNP/cap, PPP)	
34	CHN	1599	CHN	83.0	CHN	65.1	CHN	68.2	CHN	48.3
33	UZB	1888	IDN	85.5	IDN	68.0	PAN	30.8	IDN	51.5
32	IDN	1957	UZB	89.2	UZB	71.8	IDN	74.3	UZB	56.0
31	KGZ	2412	KGZ	90.9	KGZ	74.0	UZB	79.8	PAN	27.8
30	JAM	3238	PAN	56.1	JAM	56.8	THA	49.3	JAM	39.7
29	MDA	3803	JAM	75.8	PAN	43.5	JAM	59.0	THA	35.7
28	THA	3803	THA	68.8	THA	52.6	KGZ	83.4	KGZ	58.7
27	PHL	3831	PHL	72.9	PHL	54.3	PHL	56.0	PHL	37.2
26	PAN	4231	MYS	70.1	MYS	51.7	BRA	35.3	MYS	34.8
25	PER	4837	MDA	91.8	COL	48.8	MYS	51.8	COL	32.3
24	MYS	4892	COL	66.4	PER	57.2	COL	46.0	BRA	28.1
23	TUR	5250	PER	76.9	MDA	75.9	MEX	40.9	PER	40.1
22	COL	5512	BRA	57.0	TUR	55.8	PER	61.9	TUR	38.6
21	BLR^b	5939	TUR	74.8	BRA	43.8	TUR	57.7	MEX	29.0
20	CRI	6174	MEX	61.9	MEX	45.0	MDA	84.4	MDA	61.2
19	KAZ^a	6367	CRI	74.3	VEN	54.8	CRI	54.8	VEN	37.8
18	VEN	6367	VEN	73.0	CRI	58.0	VEN	54.6	CRI	40.8
17	TKM	6463	BLR	92.8	BLR	77.2	BLR	86.1	BLR	62.9
16	BRA	6835	KAZ	90.7	KAZ	74.3	KAZ	82.3	KAZ	59.1
15	MEX	7138	TKM	90.7	TKM	73.6	TKM	83.0	TKM	58.2
14	BGR	7731	POL	91.0	POL	74.4	POL	83.0	POL	59.2
13	ROM	7731	ROM	92.3	BGR	76.7	ROM	85.0	BGR	62.2
12	POL^b	7772	BGR	92.6	ROM	76.7	BGR	86.1	ROM	62.2
11	UKR	9371	UKR	92.5	UKR	76.7	PRT	64.2	PRT	46.2
10	LVA	10487	LVA	92.9	PRT	63.2	UKR	85.5	UKR	62.2

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Table 5: *continued*

Rank	GNI/cap (PPP)		Atkinson ($\epsilon = 1$) (% of GNP/cap, PPP)		Sen (% of GNP/cap, PPP)		Atkinson ($\epsilon = 2$) (% of GNP/cap, PPP)		Dagum (% of GNP/cap, PPP)	
9	EST	10776	PRT	80.6	LVA	77.5	LVA	86.2	LVA	63.3
8	HUN	11259	EST	92.3	EST	77.0	EST	85.1	EST	62.6
7	RUS[a]	11424	RUS	92.0	RUS	76.2	RUS	84.5	RUS	61.6
6	SVK	11658	HUN	94.0	HUN	79.0	HUN	88.6	HUN	65.3
5	PRT	12182	SVK	94.7	SVK	80.5	SVK	89.8	SVK	67.4
4	LTU[b]	12719	LTU	93.0	LTU	77.5	LTU	86.6	LTU	63.3
3	CZE[b]	14869	ESP	91.5	ESP	75.6	ESP	83.4	ESP	60.7
2	SVN[c]	15062	SVN	92.4	SVN	78.5	SVN	85.6	SVN	64.6
1	ESP	15103	CZE	94.7	CZE	80.6	CZE	89.8	CZE	67.5

Notes: All rankings are based on the absolute values of the welfare indicator.

The last four columns present the ratios of the respective inequality-adjusted income to GNI per capita, PPP.

∗: Real GNI per capita, PPP adjusted, 2002 prices (WDI, 2004).

[a]: Income data of Kazakhstan and Russia from 1989.

[b]: Income data of Belarus, Czech Republic, Lithuania, and Poland from 1990.

[c]: Income data of Slovenia from 1993.

Table 6: **Welfare measures 2002**

Rank	GNI/cap (PPP)		Atkinson ($\epsilon=1$) (% of GNP/cap, PPP)		Sen (% of GNP/cap, PPP)		Atkinson ($\epsilon=2$) (% of GNP/cap, PPP)		Dagum (% of GNP/cap, PPP)	
34	KGZ	1560	MDA	82.7	MDA	63.8	MDA	69.5	MDA	46.9
33	MDA	1600	KGZ	88.6	KGZ	71.0	KGZ	79.2	KGZ	55.0
32	UZB	1640	UZB	90.0	UZB	73.2	UZB	81.2	UZB	57.7
31	IDN	3070	IDN	84.8	IDN	69.7	VEN	42.3	PHL	36.8
30	JAM	3680	JAM	80.2	JAM	62.1	IDN	73.8	IDN	53.5
29	PHL	4450	PHL	73.1	PHL	53.8	BRA	30.6	JAM	45.0
28	CHN	4520	VEN	65.8	PER	53.8	COL	38.7	COL	27.3
27	TKM	4780	PER	71.7	VEN	50.5	JAM	66.1	VEN	33.8
26	UKR	4800	CHN	78.2	COL	42.9	PHL	56.4	PER	36.8
25	PER	4880	COL	59.9	CHN	59.7	PER	52.5	BRA	24.5
24	VEN	5220	TKM	78.2	TKM	59.2	PAN	46.4	CHN	42.6
23	BLR	5500	BRA	53.3	BRA	39.3	CHN	62.3	TKM	42.0
22	KAZ	5630	PAN	67.8	PAN	51.5	TKM	62.9	PAN	34.7
21	PAN	6060	UKR	88.6	UKR	71.0	UKR	78.9	UKR	55.1
20	COL	6150	BLR	87.4	TUR	60.0	MEX	43.1	TUR	42.8
19	TUR	6300	KAZ	86.6	BLR	69.7	TUR	63.4	THA	39.7
18	ROM	6490	TUR	78.8	KAZ	68.8	THA	60.7	MEX	31.7
17	THA	6890	THA	76.0	THA	56.9	BLR	77.1	MYS	34.1
16	BGR	7030	MEX	63.9	MEX	48.1	KAZ	75.6	BLR	53.4
15	BRA	7450	ROM	87.4	MYS	50.9	MYS	50.3	KAZ	52.5
14	RUS	8080	MYS	69.1	RUS	54.4	RUS	55.6	RUS	37.3
13	MYS	8500	RUS	73.3	ROM	69.8	CRI	52.8	CRI	37.1
12	CRI	8560	BGR	85.2	CRI	54.1	ROM	76.7	ROM	53.6
11	MEX	8800	CRI	71.9	BGR	68.1	BGR	71.6	BGR	51.6
10	LVA	9190	LVA	85.8	LVA	67.6	LVA	74.0	LVA	51.1

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Table 6: *continued*

Rank	GNI/cap (PPP)		Atkinson ($\epsilon = 1$) (% of GNP/cap, PPP)		Sen (% of GNP/cap, PPP)		Atkinson ($\epsilon = 2$) (% of GNP/cap, PPP)		Dagum (% of GNP/cap, PPP)	
9	LTU	10190	LTU	86.2	LTU	63.7	LTU	74.7	LTU	46.7
8	POL	10450	POL	86.3	POL	68.4	POL	74.8	EST	45.3
7	EST	11630	EST	81.4	EST	62.4	EST	67.9	POL	52.0
6	SVK	12590	SVK	90.5	SVK	74.2	SVK	81.3	SVK	59.0
5	HUN	13070	HUN	91.7	HUN	74.7	HUN	84.2	HUN	59.6
4	CZE	14920	CZE	91.5	PRT	61.5	PRT	63.0	PRT	44.5
3	PRT	17820	PRT	79.0	CZE	74.6	CZE	84.2	CZE	59.5
2	SVN	18480	SVN	89.0	SVN	71.6	SVN	79.8	SVN	55.8
1	ESP	21210	ESP	92.4	ESP	77.0	ESP	85.4	ESP	62.6

Notes: For definition of columns, see Table 5.

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Table 7: **Change in subjective welfare measures**

	Whole sample		**Transition countries**		**Non-transition countries**	
Happiness						
1981	1.84	(0.17)	2.14	(-)	1.82	(0.15)
1990	2.01	(0.29)	2.41	(0.18)	1.87	(0.17)
1995-1997	1.97	(0.29)	2.34	(0.20)	1.81	(0.13)
1999	2.08	(0.34)	2.32	(0.20)	1.81	(0.24)
Life satisfaction						
1981	7.47	(0.58)	6.94	(-)	7.49	(0.58)
1990	7.00	(0.86)	5.87	(0.49)	7.40	(0.55)
1995-1997	6.53	(1.13)	5.17	(0.83)	7.13	(0.59)
1999	6.51	(1.20)	5.69	(0.83)	7.40	(0.85)

Notes: Standard deviations in parentheses.

Table 8: **Relationship between subjective well-being, income, and income inequality**

	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)	
Constant	2.33**	(0.05)	2.79**	(0.10)	2.19**	(0.13)	2.26**	(0.14)	5.59**	(0.17)	4.30**	(0.37)	6.63**	(0.48)	6.00**	(0.51)
Income	-0.02**	(0.00)	-0.03**	(0.00)	-0.01*	(0.00)	-0.01*	(0.00)	0.08**	(0.01)	0.09**	(0.01)	0.04**	(0.01)	0.04**	(0.01)
Gini	-		-0.01**	(0.00)	0.00	(0.00)	0.00	(0.00)	-		0.03**	(0.01)	0.00	(0.01)	0.01	(0.01)
TC	-		-		0.33**	(0.06)	0.08	(0.21)	-		-		-1.31**	(0.24)	0.90	(0.77)
DC	-		-		-0.11	(0.08)	-0.14	(0.08)	-		-		0.10	(0.29)	0.37	(0.29)
Gini*TC	-		-		-		0.01	(0.01)	-		-		-		-0.07**	(0.02)
N	95		95		95		95		95		95		95		95	
Adjusted R²	0.41		0.53		0.72		0.72		0.42		0.50		0.68		0.71	

Notes: Dependent variable in regressions (1) to (4) is 'Happiness', in regressions (5) to (8) 'Life Satisfaction'. Standard errors in parentheses. Income variables have been scaled by 10^{-3}. TC: transition countries; DC: developed countries.

Significance levels: * : 5%   ** : 1%

Table 9: **Country fixed effects regressions on subjective well-being**

	(1)		(2)		(3)	
Constant	6.53**	(0.21)	7.31**	(0.39)	7.22**	(0.37)
Income	0.02	(0.02)	0.02	(0.01)	0.01	(0.01)
Gini	-		-0.02*	(0.01)	0.00	(0.01)
Gini*TC	-		-		-0.05*	(0.02)
N	95		95		95	
R² (within)	0.03		0.12		0.21	

Notes: Dependent variable: 'Life Satisfaction'.
For definition of variables and significance levels, see Table 8.

Table 10: **Social and political indicators in pre- and post-transition period**

Country	Life expectancy 1989 Female	1989 Male	2001[a] Female	2001[a] Male	Mortality rate[b] 1989	2001[d]	Enrolment[c] 1989[e]	2001[f]	Freedom House Index[g] 1988-89 PR	CL	Status	2003 PR	CL	Status
Bulgaria	75.1	68.6	75.3	68.6	18.3	15.1	78.2	79.0	7	7	NF	1	2	F
Belarus	76.4	66.8	74.5	62.8	15.0	11.6	77.2	70.1	6	5	NF	6	6	NF
Czech Republic	75.4	68.1	78.5	72.1	11.8	5.0	79.2	86.2	6	6	NF	1	2	F
Estonia	74.7	65.7	76.2	64.7	18.9	10.9	57.2	80.9	6	5	NF	1	2	F
Hungary	73.8	65.4	76.5	68.2	18.0	9.4	72.7	105.7	4	3	PF	1	2	F
Kazakhstan	73.1	63.9	71.1	60.2	33.8	25.1	76.1	54.5	6	5	NF	6	5	NF
Kyrgyz Republic	72.4	64.3	72.6	65.0	46.9	29.5	65.0	36.4	6	5	NF	6	5	NF
Lithuania	76.3	66.9	77.4	65.9	14.3	10.8	73.7	64.9	6	5	NF	1	2	F
Latvia	75.2	65.2	76.6	65.2	15.2	13.7	70.2	72.3	6	5	NF	1	2	F
Moldova	72.3	65.5	71.6	64.6	27.1	20.3	67.1	37.9	6	5	NF	3	4	PF
Poland	75.5	66.7	78.4	70.2	21.8	9.0	90.2	83.4	4	3	PF	1	2	F
Romania	72.4	66.5	74.8	67.7	34.9	21.9	89.9	73.2	6	5	NF	2	2	F
Russian Federation	74.5	64.2	72.3	59.0	22.8	18.3	77.8	69.9	6	5	NF	5	5	PF
Slovak Republic	75.2	66.8	77.6	69.5	15.8	8.2	79.0	89.4	6	6	NF	1	2	F
Slovenia	76.7	68.8	79.6	72.1	10.3	4.7	80.5	97.5	2	3	F	1	1	F
Turkmenistan	68.4	61.8	72.0	65.4	77.8	36.9	66.8	30.4	6	5	NF	7	7	NF
Ukraine	75.0	66.0	73.6	62.4	17.6	14.4	65.6	59.3	6	5	NF	4	4	PF
Uzbekistan	72.1	66.0	73.0	68.2	53.6	28.5	67.7	50.0	6	5	NF	7	6	NF

Notes: Data are provided by UNICEF (2003) and Freedom House (2004).

[a]: Data for Uzbekistan from 1998.

[b]: Under five mortality rate, per thousand live births.

[c]: General secondary education enrolment, gross rates.

[d]: Data for Uzbekistan from 2000.

[e]: Data for Estonia and Romania from 1990, for Slovenia from 1993.

[f]: Data for Czech Republic, Slovenia, and Ukraine from 2000, for Uzbekistan from 1999.

[g]: Freedom House Index reports on political rights (PR), civil liberties (CL) and freedom status (Status). Political rights and civil liberties are rated at a one to seven scale, with one representing the highest degree. Freedom status varies between free (F), partly free (PF), and not free (NF). For the pre-transition period, the ratings for successor states of the Soviet Union equal the one for the USSR. Similarly, for Czech Republic and Slovakia, the rating prior to transition is taken from Czechoslovakia.

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