



Munich Personal RePEc Archive

Social Transfers and Inequality During the Polish Transition

Keane, Michael and Prasad, Eswar

2001

Online at <https://mpa.ub.uni-muenchen.de/54326/>
MPRA Paper No. 54326, posted 14 Mar 2014 15:24 UTC

Social Transfers and Inequality during the Polish Transition

Michael P. Keane and Eswar
S. Prasad

5.1. Introduction

Beginning in the late 1980s and early 1990s, all the countries of the former Soviet Union and Eastern Europe have, to a greater or lesser extent, undertaken a process of transition away from central planning toward more market-oriented economic systems. However, different countries have chosen very different approaches to the process of transition. The outcomes, in terms of macroeconomic and social indicators, have been quite diverse as well. In general, however, most countries of the former Eastern bloc have experienced poor growth performance and large increases in income inequality during the transition process. The most obvious success story in the process of transition to date has been Poland, which has outstripped other transition economies in terms of growth performance, while at the same time experiencing only modest increases in inequality. Hence, a detailed analysis of the Polish experience, with a view toward asking what they did right, is of considerable interest.

There has been a lively debate on the efficacy of alternative market-oriented reform strategies, both in terms of the sequencing and magnitude of reforms (see, e.g., Aghion and Blanchard 1994; Dewatripont and Roland 1996). Poland pursued a strategy of rapid and decisive reform that has often been referred to as "shock therapy." This process began in August 1989–January 1990, a period that has become known as the "big bang." Price controls on food were lifted in August 1989 and those on most other products were lifted in January 1990. Numerous other macroeconomic and microeconomic reforms, including restraints on credit for state-owned enterprises, the hardening of their budget constraints, and the opening up of

the economy to import competition, were also instituted during this period.

One area in which the Polish reforms lagged behind those of many other transition economies was the privatization of state-owned enterprises (SOEs). Nevertheless, as argued by Pinto, Belka, and Krajewski (1993), even the SOEs that lagged behind in terms of changes in ownership and governance did undertake significant adjustment in response to hard budget constraints and import competition. Thus, the transformation of Poland from a command economy to a market-oriented economy was quite rapid by any measure. Confirming this, Poland has consistently ranked among the top reformers in terms of the various indicators used by the European Bank for Reconstruction and Development (EBRD) in its annual *Transition Report*.¹

Poland, like other former Eastern bloc countries, experienced substantial declines in output and employment in the early phase of transition.² Between 1989 and 1992, the cumulative decline in output was about 20 percent and the official unemployment rate rose from near zero to about 14 percent (table 5.1). Since then, however, the growth performance of Poland has been among the best of the transition economies. Real GDP in 1999 was 22 percent higher than in 1989. In contrast, only a few other transition economies (including Albania, the Czech Republic, Hungary, the Slovak Republic, and Slovenia) managed to keep output to within a few percent, above or below, their pretransition levels. Most other transition economies have still to recover to anywhere close to their pre-transition peaks.

How did Poland succeed in rapidly instituting durable market-oriented reforms despite falling income and rising unemployment? A widely held view is that the process of transition has led to substantial increases in income inequality in almost all the transition economies, thereby complicating the process of reform (see, e.g., Aghion and Commander 1999). How, then, was it possible to maintain broad-based support for market-oriented reforms in Poland?

In this chapter, we use microdata from the Polish Household Budget Surveys (HBS) to show that, in contrast to most other transition economies, the increase in income inequality in Poland during the transition was actually quite modest. In fact, our preferred estimate of the Gini coefficient for the overall individual income distribution actually declined from 0.256 in 1988 to 0.230 in 1992. It then

Table 5.1
Selected macroeconomic indicators for Poland
(annual percentage changes, unless indicated otherwise)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Real GDP	4.2	2.1	4.0	0.3	-11.4	-7.0	2.6	3.8	5.2	7.0	6.1	6.9	4.8	4.1	5.0
Consumer price index (annual average)	16.5	26.4	60.2	251.1	585.8	70.3	43.0	35.3	32.2	27.8	19.9	14.9	11.8	7.3	9.9
Employment (end-year)	0.3	0.0	-1.0	-0.8	-6.2	-3.9	-3.1	-1.7	1.1	0.3	3.5	1.3	1.4	-1.5	-6.7
Unemployment rate (%) (end-year)	—	—	—	0.1	6.1	11.8	14.3	16.4	16.0	14.9	13.2	8.6	10.5	13.0	15.1
Levels of real GDP in 1999 (1989 = 100) for selected transition economies															
Poland	122														95
Slovenia	109														95
Slovak Republic	100														94
Hungary	99														80

Note: Dashes indicate data are not available.

Sources: IMF (1994) and EBRD Transition Report (various years).

began a gradual increase, reaching levels comparable to the pre-transition period in 1994–1996 and then rising to 0.276 by 1997.

To put this overall increase of 0.02 in context, it is actually rather modest, being only two-thirds the magnitude of the increase observed in the United States in the 1980s (see, e.g., Atkinson, Rainwater, and Smeeding 1995). It is far smaller than the average increase of 0.09 reported by Milanovic (1998) for eighteen Eastern bloc countries. Indeed, our cross-county analysis (see section 5.5 below), suggests that Poland had the smallest increase in inequality of any transition country. Also, note that this still leaves Poland with a Gini value closer to those of the Scandinavian countries (around 0.25) than that of the United States (0.41). (See World Bank 2000.)

We find that social transfers played a critical role in mitigating the increase in income inequality during the Polish transition. In contrast to overall income inequality, inequality in labor earnings increased steadily and substantially during the transition period of 1989–1997. For instance, we estimate that the Gini measure of inequality for individuals in worker-headed households, based only on the labor earnings of those households, increased steadily from 0.252 in 1988, the last full year prior to the transition, to 0.298 in 1997. Thus, the increase in the Gini coefficient for labor earnings (0.046) was more than twice that of the Gini for overall income (0.020).

By attenuating the rise in overall income inequality that might have been generated by the increase in earnings inequality, social transfers may have contributed to maintaining the social and political cohesion that was essential for the reform process. In this regard, it is interesting that social transfers also played a key role in the evolution of between-group income dynamics. A marked increase in the generosity of public sector pensions in 1991 led to a substantial exit of older workers from the labor force onto the pension rolls in 1991–1992 and improved the relative income position of pensioner-headed households. At the same time, other social transfers were increased from 3 percent in 1989 to about 5 percent of GDP by 1992.

As Dewatripont and Roland (1996) point out, such large pensions and social transfers can be rationalized as necessary to achieve initial political support for the big-bang reform strategy. Generous pensions, in particular, may be efficacious (in the short run) for reform since they serve a dual purpose: first, paying off the older workers whose earnings capacity seems to have been most adversely affected by the reforms, and second, enabling enterprises to shed less pro-

ductive workers through early retirement. EBRD statistics indicate that Poland experienced among the most rapid increases in labor productivity of the transition countries.

Analysis of the targeting of transfers in Poland indicates that a substantial proportion was directed not toward households at the bottom of the income distribution but rather toward the middle class and, as noted earlier, toward older workers. Thus, it appears that the transfer system could have been better designed if the goal was purely income support. However, the focus on the middle class and older workers may have been critical for ensuring social stability and setting the stage for rapid reforms.

Recent developments in growth theory (see, e.g., Bénabou 1996) suggest mechanisms whereby greater income inequality may be detrimental for growth. Thus, aside from the political economy considerations noted earlier, maintenance of a high degree of income equality may have also enhanced growth in Poland by broadening the base of individuals with the resources to engage in small-scale entrepreneurial activity. Indeed, according to the EBRD reports, the transition in Poland has been characterized (more than in any other transition country) by an explosion in small-scale entrepreneurial activity. For instance, Poland had almost 2 million private entrepreneurs and 125,000 private commercial enterprises by 1996.

Beginning in 1993, the Polish government reined in the growth of social transfers. At that point, overall inequality began to rise gradually. This suggests that the drop in income inequality from 1989–1992 and the rise from 1993 onward did not follow as a direct consequence of the transition process, but may have been driven largely by fiscal policy choices. Thus, it appears that an increase in inequality is not a necessary consequence of successful transition, but, rather, that inequality dynamics during transition may be strongly influenced by policy choices.

The outline of the chapter is as follows: Section 5.2 describes the data and methods used in our analysis. Section 5.3 presents our results on changes in inequality during the Polish transition, and the role of social transfers in the evolution of inequality. Section 5.4 provides a cross-country perspective on the relationship among transfers, inequality, and growth in the transition countries. Section 5.5 relates the analysis in this paper to the broader literature on the relationship between inequality and growth, and section 5.6 concludes.

5.2 Data and Methods

The empirical analysis in this chapter is based on the Household Budget Surveys (HBS), a representative sample of Polish households conducted by the Polish Central Statistical Office (CSO).³ The CSO has been collecting detailed microdata on household income and consumption for more than two decades. Households were surveyed for a full quarter (until 1992) or for a full month (from 1993 onward) in order to monitor their income and spending patterns. Supplementary information, including household demographics, is collected from the same households once every year. The typical sample size is about 25,000 households per year.

The HBS contains detailed information on sources and amounts of income for both households and individuals within each household. Total income is broken down into four main categories: labor income (including wages, salaries, and nonwage compensation); pensions; social benefits and other transfers; and other income. Social benefits include income from unemployment benefits that were introduced in late 1989. A key point is that the data include measures of the value of in-kind payments from employers to workers, which have been an important part of workers' compensation in Poland and other transition economies. For farm households, farm income and expenditures, as well as consumption of the farm's produce, are also reported. There were no taxes on personal income until 1992. After that year, we use net incomes in the analysis. The HBS also contains detailed information on demographic characteristics of all household members.

We use the aggregate consumer price index (CPI) as the price deflator. Since there were large price changes in the early years of transition, we match the price data to the survey period for each observation by using quarterly CPI data for 1985–1992 and monthly data for 1993–1997.

The change from quarterly reporting to monthly reporting in 1993 has serious consequences for cross-sectional inequality measurement. Since income and consumption tend to be more volatile at the monthly compared to the quarterly frequency, this change could result in an exaggeration of any increase in inequality. In Keane and Prasad (2002a), we develop a technique for adjusting the 1993–1997 income and consumption data for the increased variability that may be attributable solely to the shift from quarterly to monthly report-

ing. The basic idea of our approach is to assume that income consists of a permanent or predictable component (determined by education, age, and other observable characteristics of households and their members) plus a mean zero idiosyncratic component. We first regress household income on a large set of controls; these regressions were run separately for each quarter from 1985–1992 and for each month from 1993–1997. We then assume that the variance of the idiosyncratic component would not have jumped abruptly between the fourth quarter of 1992 and the first month of 1993, since, to our knowledge, no dramatic policy changes or exogenous shocks occurred at that point in time. Rather, we assume that the variance of the idiosyncratic component varies smoothly over time (measured in months) according to a polynomial time trend. We estimate this polynomial trend, along with a dummy for the post-1992 period that captures the discrete jump in variance that occurred with the change to monthly income reporting.

The second-stage estimation, where the standard deviations of the income residuals from the first-stage regressions are used as the dependent variable, is done separately for households with different primary income. The results, shown in table 5.2, indicate that the adjustment factor ranges from 0.369 for farmers to 0.044 for

Table 5.2
Regressions using income residuals

	Workers	Farmers	Workers/ farmers	Pensioners
Time	0.001 (0.002)	0.006 (0.006)	0.006 (0.006)	0.000 (0.001)
Time ² /10 ³	0.000 (0.000)	0.188 (0.092)	-0.171 (0.092)	-0.002 (0.023)
Time ³ /10 ⁶	0.001 (0.010)	0.919 (0.365)	0.859 (0.364)	-0.009 (0.095)
Mean real income	0.207 (0.014)	0.126 (0.013)	0.116 (0.021)	0.367 (0.027)
Dummy for 93–97	0.165 (0.028)	0.369 (0.102)	0.201 (0.098)	0.044 (0.026)
Adjusted R ²	0.88	0.65	0.51	0.85
Number of observations	92	92	92	92

Note: The dependent variable is the log standard deviation of the residuals from equation (1). Standard errors are reported in parentheses.

pensioner-headed households.⁴ Once we have obtained these adjustment factors, we then scale down the idiosyncratic component (the residuals from the first-stage regressions) of the post-1992 income data for each household to eliminate this jump in variance.

Failure to account for the change in survey frequency may have caused prior studies to greatly overstate the increase in inequality in Poland. For instance, based on statistics computed by the CSO, OECD (1997, 86) reports that the Gini for Poland rose by 0.02 points between 1992 and 1993 alone, which is as large as the increase we find for the entire transition period (see section 5.3.1).⁵

Prior studies of changes in inequality in Poland have often relied on the aggregate data on quantiles of the income distribution published by the CSO in the annual publication *Budżety Gospodarstw Domowych*, which we henceforth refer to as the *Surveys*. Unfortunately, the aggregate income statistics reported by the CSO, as well as those reported by other former communist countries, differ in a number of important ways from economically meaningful measures of income. The official statistics appear to reflect total revenues or "inflows" since they include loans, dissaving, and cash holdings at the beginning of the survey period. For farmers, income includes gross farm revenues, rather than net revenues. This is an important issue as approximately one-fifth of Polish households are either farm households or mixed worker-farmer households. Access to the detailed microdata enables us to make important adjustments in order to obtain a more meaningful measure of income (by excluding non-income revenue items and by calculating net farm income).⁶

Both our procedure for adjusting for the spurious increase in inequality stemming from the switch to the monthly reporting interval, and our corrections for the definitions of income and consumption, rely on access to the HBS microdata.⁷ In particular, the variance correction requires access to the data for an extended period of time. Our study is unique in that it is based on the HBS microdata for a long sample period, extending from five years prior to the "big bang" to eight years after. To our knowledge, no prior study of inequality in Poland has adjusted for the change in survey design in 1993, and most have not adjusted for the definitional problems noted earlier.⁸

Table 5.3 reports sample means for some of the variables used extensively in our analysis of inequality.⁹ Two interesting features are that the average share of income from transfers and the share of

pensioner-headed households increase markedly after the transition. We discuss this in greater detail in what follows. The demographic characteristics of households and household heads remain quite stable during and after the transition. The means of the education dummies indicate a small increase in average levels of educational attainment of household heads in the 1990s (a similar increase occurs in the general population as well).

5.3 Changes in Inequality during the Transition

In this section, we examine various aspects of inequality in Poland over the period 1985–1997. For the years 1993–1997, we use the income and consumption measures that are adjusted (using the procedure described in the previous section) for the increase in idiosyncratic variance that occurred with the shift to a monthly reporting period.

The measures of inequality we examine are based on the distribution of individual income, unless explicitly noted otherwise. A key problem in inequality measurement is how to account for household composition and household economies of scale when measuring household well being, or when assigning individual income or consumption levels to household members. In Keane and Prasad (2001a), we constructed food share (FS)–based equivalence scales for Poland using the Engel (1895) method, which assumes that two households with different demographic composition are equally well off at income levels that enable them to have equal food shares (ratio of expenditure on food to total expenditure on nondurables).¹⁰ In Keane and Prasad (2002a), we document that our results on the evolution of inequality are not sensitive to the choice of equivalence scale.¹¹ Hence, in what follows, we present results using only the food share–based equivalence scale.¹²

5.3.1 Measures of Overall Inequality

We first examine the evolution of summary measures of overall inequality.¹³ Table 5.4 reports Gini coefficients based on total incomes adjusted by the FS equivalence scale. According to the Gini, inequality increased from 0.256 in 1988 to 0.263 in 1989, but then declined in 1990–1992. In fact, by 1992, the Gini had declined to 0.230, which is below the pretransition level.

Table 5.3
Household budget surveys: Sample means for selected years

	1988	1989	1990	1991	1992	1993	1995	1997
<i>Real household income (shares)</i>								
Labor income	0.52	0.53	0.51	0.49	0.49	0.50	0.52	0.56
Transfers	0.23	0.22	0.26	0.32	0.34	0.33	0.33	0.32
Farm income	0.18	0.19	0.16	0.12	0.12	0.11	0.11	0.08
Other income	0.06	0.05	0.06	0.06	0.05	0.07	0.05	0.05
<i>Real household consumption (shares)</i>								
Durables	0.13	0.14	0.11	0.10	0.08	0.08	0.08	0.10
Nondurables	0.87	0.86	0.89	0.90	0.92	0.92	0.92	0.90
Food	0.45	0.46	0.53	0.47	0.44	0.43	0.41	0.38
<i>Household characteristics</i>								
Urban	0.51	0.51	0.51	0.52	0.64	0.66	0.65	0.67
Number of persons in household	3.27	3.27	3.24	3.16	3.14	3.15	3.18	3.12
<i>Primary income source of household</i>								
Workers	0.55	0.55	0.53	0.50	0.49	0.44	0.42	0.42
Farmers	0.10	0.10	0.10	0.09	0.09	0.08	0.08	0.06
Mixed, worker-farmers	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06
Pensioners, others	0.28	0.28	0.30	0.34	0.36	0.38	0.39	0.40
Self-employed	—	—	—	—	—	0.05	0.06	0.06

<i>Household head characteristics</i>										
Male, 18-30	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.11
Male, 31-60	0.58	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.58
Male, >60	0.13	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.13	0.13
Female, 18-30	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Female, 31-60	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Female, >60	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.08	0.08	0.08
Age	47.54	47.78	47.90	48.30	48.45	48.45	47.96	48.03	48.09	48.09
College degree	0.07	0.06	0.06	0.07	0.08	0.08	0.09	0.09	0.09	0.09
Some college	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
High school	0.20	0.19	0.20	0.21	0.23	0.23	0.24	0.24	0.24	0.26
Some high school	0.01	0.01	0.02	0.01	0.01	0.01	—	—	—	—
Basic vocational training	0.31	0.33	0.33	0.33	0.33	0.33	0.34	0.36	0.35	0.35
Primary school	0.34	0.34	0.32	0.32	0.30	0.30	0.28	0.26	0.25	0.25
Primary school not completed	0.07	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.02	0.02
<i>Number of observations (households)</i>										
1985	21,560	1989	29,366	1992	10,642	1995	31,874			
1986	25,475	1990	29,148	1993	31,966	1996	31,782			
1987	29,510	1991	28,632	1994	31,942	1997	31,659			
1988	29,287									

Note: The components of income and consumption are shown as (mean) shares of total income and consumption, respectively. Dashes indicate data are not available.

Starting in 1993, however, inequality began to rise and, by 1997, it was at a level significantly higher than the peak attained in 1989. It is important to note, however, that the increase in inequality even by 1997 is hardly dramatic. The increase of 0.020 in the Gini coefficient from 1988 (the year before the transition) to 1997 is smaller than the increase of 0.03 reported for the United States in the 1980s by Atkinson, Rainwater, and Smeeding (1995), or the increase from 0.326 to 0.361 reported for the United Kingdom from 1986 to 1991 in World Bank (1999, 2000).

Next, we examine inequality based on income net of transfers (table 5.4, second row).¹⁴ Interestingly, this reveals a very different picture. The Gini coefficient for income excluding transfers increased by 0.066 from 1988 to 1997, more than three times the increase in the Gini for overall income.

Table 5.4 also reports Gini coefficients for labor income for worker headed households only. These show that inequality in labor earnings increased substantially during the transition (i.e., by 0.046 points between 1988 and 1997), with much of the increase taking place in the early phase. Thus, we see that inequality in labor earnings grew substantially more than inequality in the overall income distribution.

Together, these results suggest that social transfers played a crucial role in inequality dynamics during the Polish transition. Specifically, they appear to have substantially mitigated the increase in income inequality that might otherwise have occurred, given the substantial increase in inequality in labor earnings. We examine the magnitude and targeting of social transfers in more detail later.

Gini coefficients for consumption inequality, based on either total or nondurables consumption, show a pattern similar to those for income inequality. Thus, to conserve space, we focus only on income inequality in much of the analysis that follows.

Next, we examine whether our main results are sensitive to the choice of inequality measure. The Gini coefficient is known to be particularly sensitive to changes around the median of the distribution. The coefficient of variation (and its monotonic transforms, one of which we use here) is more sensitive to changes at the high end of a distribution, while the mean logarithmic deviation is more sensitive to changes near the low end. We report these alternative inequality measures in the bottom rows of table 5.4, in order to determine if they tell a consistent story. In fact, they do. When we

Table 5.4
Poland: Measures of overall inequality

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
<i>Gini coefficients</i>													
Total income	0.252	0.254	0.246	0.256	0.263	0.250	0.235	0.230	0.248	0.262	0.255	0.265	0.276
Income excluding transfers	0.373	0.375	0.368	0.385	0.384	0.389	0.404	0.416	0.416	0.437	0.432	0.448	0.451
Nondurables consumption	0.196	0.200	0.205	0.211	0.219	0.209	0.208	0.205	0.222	0.228	0.222	0.227	0.235
Total consumption	0.230	0.234	0.239	0.244	0.258	0.241	0.233	0.227	0.247	0.254	0.247	0.262	0.271
<i>Gini coefficients for worker-headed households</i>													
Labor Income	0.237	0.243	0.240	0.252	0.262	0.268	0.278	0.289	0.285	0.292	0.288	0.295	0.298
<i>Half the square of the coefficient of variation</i>													
Total income	0.085	0.090	0.085	0.091	0.105	0.086	0.079	0.077	0.097	0.103	0.096	0.105	0.112
Income excluding transfers	0.184	0.190	0.186	0.203	0.210	0.207	0.230	0.244	0.265	0.281	0.278	0.294	0.306
<i>Mean log deviation</i>													
Total income	0.075	0.079	0.077	0.078	0.087	0.075	0.071	0.069	0.079	0.086	0.081	0.086	0.093
Income excluding transfers	0.224	0.214	0.213	0.221	0.244	0.247	0.268	0.278	0.404	0.357	0.333	0.317	0.444

Note: The inequality measures shown here are for the individual distributions of income and consumption. Household income and consumption are adjusted using the food share-based equivalence scale and allocated equally to individuals in the household. Income and consumption data for 1993-1997 are adjusted for the change in survey frequency.

use total income, both these measures of inequality also show an upward spike in 1989, followed by a decline in 1990–1992 to below the pretransition level, and a subsequent steady increase during 1993–1997 to a level modestly above that in the pretransition period.¹⁵

When we look at income net of transfers, both the coefficient of variation (CV) and mean logarithmic deviation show far greater increases in inequality over the transition period than for total income. This pattern is particularly interesting in the case of the CV measure, which is most sensitive to changes at the high end of the distribution. This result stems from the fact that transfers in Poland are focused not only at the low end of the income distribution but extend well into the high end. We give more details on the targeting of transfers below.

To summarize, we find no evidence to support the view, based on aggregate CSO statistics, of a sharp increase in total income inequality following the transition in Poland. For instance, OECD (1997), which uses the CSO aggregates, reports a Gini increase of 0.05 for Poland over the 1989–1996 period, while we find essentially no increase over the same period. Our results also differ markedly in terms of the timing of changes in inequality. The OECD-CSO figures imply that inequality grew tremendously from 1989 to 1993, and that it then stayed rather flat through 1996. Our results indicate that inequality actually fell from 1989–1992. But we find that inequality rose noticeably after 1993 and, especially, in 1996 and 1997. Thus, we find that most of the increase in inequality occurred several years after the big bang, and long after the OECD-CSO figures imply the increase had already ceased.

This difference in timing also has important implications for the interpretation of what occurred during the transition. The OECD-CSO figures for Poland, as well as the comparable figures for other transition economies (e.g., Milanovic 1999), are often interpreted as evidence that substantial increases in inequality are an inevitable concomitant of the process of transition to a market economy. Our results, however, indicate that the change in overall income inequality during the first six years of the transition in Poland was quite modest. Thus, these results suggest that changes in inequality during transition are not inevitable but, rather, may result from particular policy choices.

5.3.2 *Winners and Losers in the Transition*

We have found no evidence of an increase in overall income inequality in Poland in the immediate aftermath of the big bang, regardless of which of several inequality measures we consider. However, this does not mean that there were not winners and losers in the transition. We now turn to a discussion of how different groups fared in terms of relative income.

In Keane and Prasad (2002a), we report how median total income evolved for four types of households differentiated by main income source of the household head: workers, farmers, mixed worker-farmers, and pensioners. Pensioner-headed households had lower median total income than other groups during the 1985–1989 period, but their relative position improved dramatically after the big bang so as to bring their income up to levels that are comparable the other groups. The main impetus behind the improved relative position of pensioners was a substantial increase in pension availability and generosity that took place in 1991. As a result, we find that pensions contributed importantly to a reduction in inequality.¹⁶

In addition to the improved relative position of pensioners, other notable features of the transition were an improvement in the relative position of more educated workers¹⁷ and a deterioration in the relative position of more experienced (i.e., older) workers. In Keane and Prasad (2002b), we perform a detailed regression analysis of individual labor earnings data from the HBS. The results indicate that the earnings premium for a college degree relative to a primary school degree increased from 47 percent in 1987 to 102 percent in 1996. But the premium for labor market experience fell sharply in 1990, before recovering to pretransition levels after 1992.

The deterioration in experience premia in the immediate aftermath of the big bang is consistent with the notion of rapid obsolescence of firm- or industry-specific skills during a period of rapid technological change and industrial restructuring (see Svejnar 1996). This, combined with the increased generosity of pensions, explains the surge in the number of pensioner-headed households in 1991–1992 that is obvious in table 5.3. Indeed, self-selection into retirement probably accounts for the recovery in experience premia for older workers that occurred after 1992, since a large number of older workers, particularly in the 55–65 age bracket, retired in 1991–1992.

Specifically, the number of newly granted pensions increased from about 0.6 million per year in 1988–1989 to almost 1.4 million in 1991 (OECD 1998, 65).

Since older workers had the most to lose from the privatization or closure of existing state-owned firms, giving them the option of moving on to the pension rolls may have been a key factor in removing a potential political obstacle to enterprise restructuring and privatization. Furthermore, these early retirements may have contributed to the exceptional rise in labor productivity that occurred in Polish industrial enterprises after 1992 (EBRD 1997).

5.3.3 *The Targeting of Transfers*

Having discussed the role of transfers in mitigating the rise in overall income inequality during the transition, we now turn to a more detailed analysis of the targeting of transfers.

One simple way to analyze the equalizing role of transfers is to run nonparametric regressions of transfers on income net of transfers. We ran these regressions separately for each year. Figure 5.1 shows the results for 1991. In this figure, households are sorted

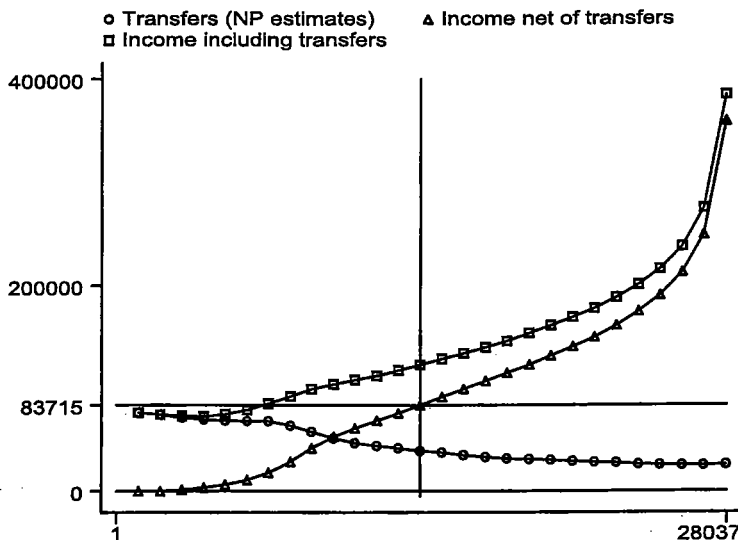


Figure 5.1
Households sorted by income net of transfers

along the X-axis in terms of their level of pretransfer income. The horizontal line shows median real household income net of transfers in 1991; the vertical line shows the observation at the median of the 1991 sample. The key point of this figure is that transfers are not heavily concentrated among households with low pretransfer income. Rather, there are substantial transfers even to households at and even above the median of the pretransfer income distribution.

This pattern is present not just in 1991, but in every year from 1985 to 1997. However, the targeting of transfers changed in important ways during the transition. As a way of summarizing these changes, figure 5.2 shows the fractions of total income accounted for by transfer income, at different percentile points of the pretransfer income distribution, for every year from 1985 to 1997. The key observation from this figure is that ratio of transfer income to total income increased significantly in the early years of transition, at virtually all points of the pretransfer income distribution. At the median, the average share of transfers in total income rose from approximately 20 percent in the pretransition period, to about 35 percent by 1992, before stabilizing at around 28 percent thereafter.

Clearly, these results suggest that transfers could have been better targeted if the goal was purely income support. However, since individuals in the middle class tend to have a significantly higher propensity to vote than individuals at lower income levels, the extension of transfers higher up into the income distribution that occurred in 1990–1992 may have been a mechanism for “buying” the social stability that characterized the transition period.

Also noteworthy is the importance of pensions as a transfer mechanism, and the extent to which transfers were targeted at older workers. We already noted in section 5.3.2 that pension expenditures and the size of the pension rolls increased enormously in the early years of the transition. As shown in table 5.5, total public pension expenditure as a percent of GDP rose from 8 percent in 1989–1990 to almost 15 percent by 1992. The HBS data show a similar pattern, with the share of total income accounted for by pensions rising from 16 percent in 1989 to 25 percent in 1992. The pension replacement rate (average pension as a ratio of average wage) rose from about 52 percent in 1988–1989 to 65 percent in 1991 and remained above 60 percent through 1997 (OECD 1998).

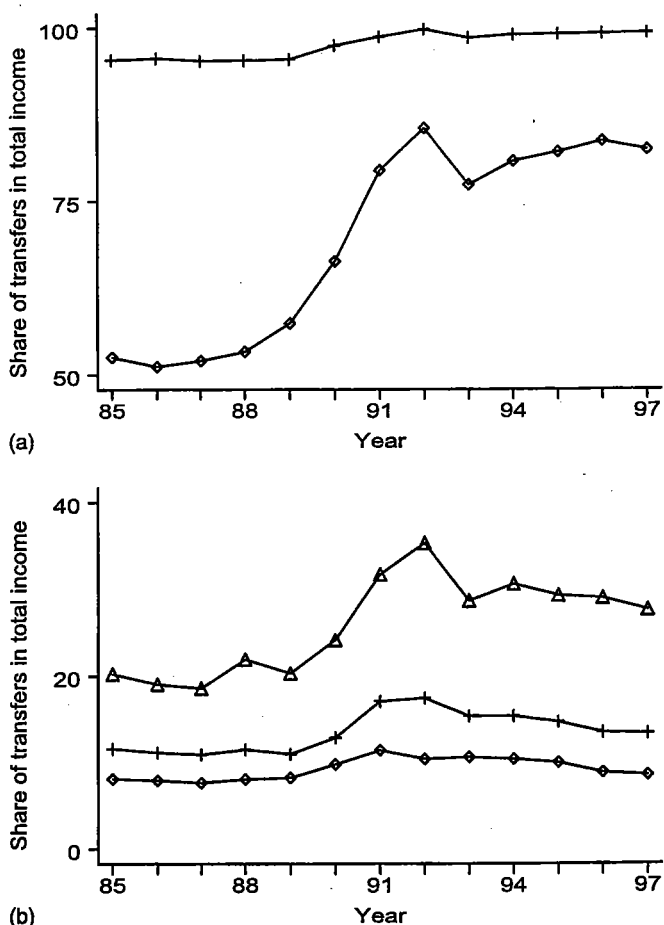


Figure 5.2

(a) Percentiles of pretransfer distribution: 10, 25; (b) Percentiles of pretransfer distribution: 50, 75, 90

The HBS data indicate that, among households headed by a male in the 55–65 age range, the share of pension income in total income rose from 26 percent in 1989 to 50 percent in 1992, remaining at around that level through 1997. For households headed by women in the 52–62 age range, this share rose from 34 percent in 1989 to 49 percent in 1992, before declining slightly to 45 percent by 1997.¹⁸ These figures show the importance of early retirement during the transition.

Table 5.5
Social transfers

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
<i>General government expenditures</i>										
(in percent of GDP)										
Cash transfers to individuals	9.4	11.2	10.6	17.3	19.9	20.4	20.2	19.7	18.7	19.4
Pensions	7.1	8.2	8.1	12.2	14.8	15.0	14.9	14.5	14.3	14.4
Unemployment benefits	0.0	0.0	0.2	1.2	1.7	1.2	1.2	1.2	1.1	1.0
Other benefits	2.3	3.0	2.3	3.9	3.4	4.2	4.1	4.0	3.3	4.0
<i>Mean cash transfers (HBS data)</i>										
Total transfers (avg. ratio to total income)	41154 (23.4)	41792 (21.8)	36254 (26.3)	44948 (32.2)	44694 (33.6)	43486 (31.6)	44171 (32.8)	44860 (32.7)	46786 (32.4)	48197 (31.3)
Pensions (avg. ratio to total income)	29857 (17.0)	30497 (15.9)	27307 (19.8)	33520 (24.0)	33346 (25.1)	33172 (24.1)	34672 (25.8)	36240 (26.4)	38008 (26.3)	40715 (26.4)
Other cash benefits (incl. UI) (avg. ratio to total income)	11280 (6.4)	11279 (5.9)	8927 (6.5)	11404 (8.2)	11323 (8.5)	10315 (7.5)	9498 (7.1)	8620 (6.3)	8777 (6.1)	7482 (4.9)
General government balance (in percent of GDP)	0.0	-7.4	3.1	-6.5	-6.7	-2.9	-3.0	-3.1	-3.4	-3.1
Real GDP (annual % change)	4.0	0.3	-11.6	-7.0	2.6	3.8	5.2	7.0	6.1	6.9

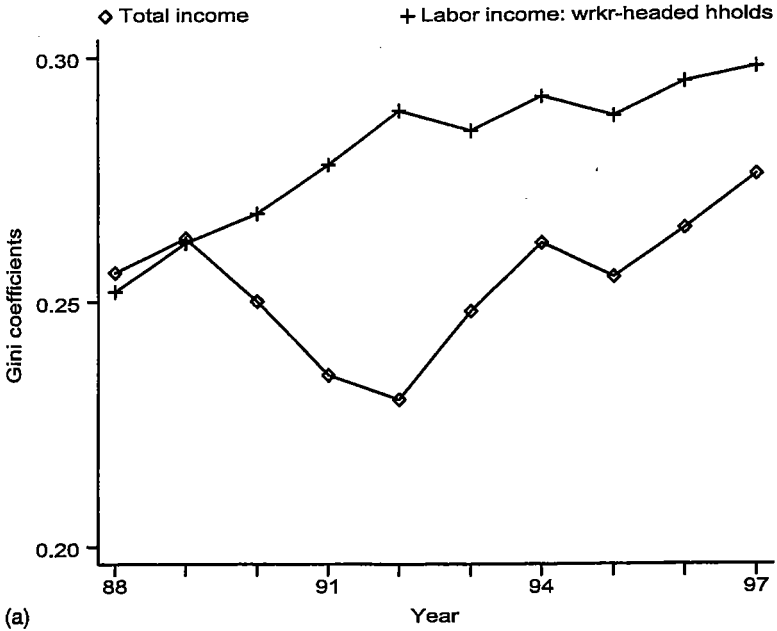
Note: The data on real GDP and government expenditures are taken from various IMF sources. The figures in the middle panel (mean transfers in HBS data) are expressed in terms of 1992Q4 prices.

5.3.4 *Summary*

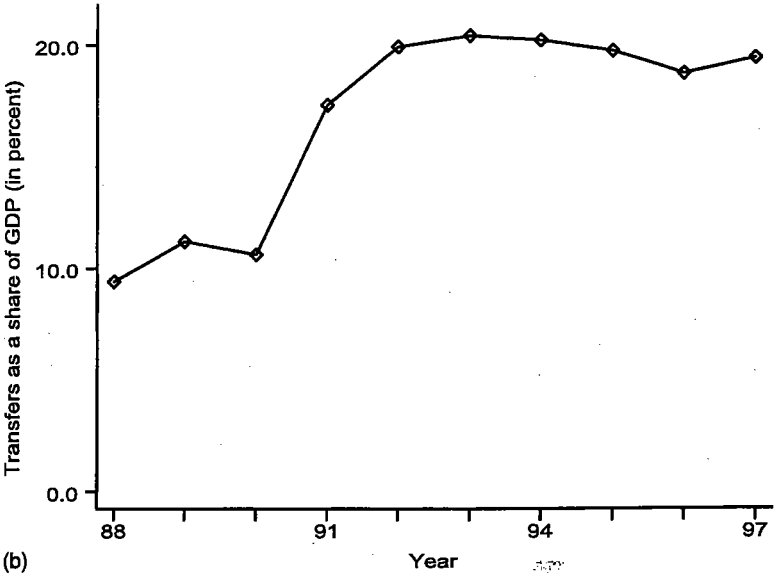
Our results suggest that social transfers, especially pensions, played an important role in the evolution of income inequality during the Polish transition. The broad patterns are summarized in figure 5.3. The top panel plots Gini coefficients for both total income and labor income (for worker-headed households). We see that inequality in labor income grew fairly steadily during the entire 1989–1997 period, but with most of the increase occurring during the early transition (1989–1992). Despite this, overall income inequality declined substantially in the early transition phase, and only began to rise in 1993. The bottom panel of figure 5.3 shows social transfers as a percent of GDP. The dramatic increase in transfers during the early transition period was sufficient to actually outweigh the effect of increased earnings inequality, leading to a decline in overall income inequality up through 1992. However, the growth of transfers was reined in beginning in 1993. And, from 1993 onward, inequality does grow substantially. By 1995, inequality had returned to the pretransition level, and it rose modestly above that level in 1996–1997.

Clearly, the growth in social transfers was crucial in dampening the rise in overall inequality during the early years of the Polish transition. Social transfers as a percent of GDP averaged 17.7 percent during 1990–1997, the highest level in any transition country. The mean level of transfers across the eighteen transition economies for which we could find data was substantially lower at 10.8 percent (see section 5.4). This at least partially explains the fact that Poland had the smallest increase in inequality during the transition.

In fact, Gomułka (1998) refers to a “Polish model” of transition, which is “distinguished by an exceptionally large volume of social transfers, especially ... pensions” that “helped to reduce the social cost of reform, but is inhibiting Poland’s ability to sustain rapid growth.” This theme—that the level of transfers in Poland will hinder future growth—has been sounded by many authors, including the International Monetary Fund (1994), World Bank (1995), and OECD (1997). But such dire predictions have yet to be borne out. In 1998–2000, Poland continued to experience strong growth, making it by far the best-performing transition economy in terms of cumulative growth during the transition. As we describe in sections 5.4



(a)



(b)

Figure 5.3
Gini coefficients

and 5.5, cross-country evidence, along with recent developments in growth theory, suggest the intriguing possibility that the high level of social transfers in Poland may in fact have been conducive to growth.

5.4 A Cross-Country Perspective on Transfers, Inequality and Growth

In our view, the evidence we provide on transfers and inequality in Poland is also relevant to the broader literature on inequality, redistribution, and growth. Here, we examine the relationship between social transfers, inequality, and growth across the Eastern bloc countries.

The top panel of figure 5.4 plots the relationship between transfers as a percent of GDP and inequality changes during the transition, as measured by changes in the Gini coefficient. The figure contains results for all fourteen countries for which we were able to obtain data on transfers as well as pre- and post-transition Gini coefficients.¹⁹ As expected, countries with higher levels of transfers typically had smaller increases in inequality. The countries with the highest levels of transfers—Poland, Hungary, and Slovenia—also had among the smallest inequality changes during transition.²⁰

The bottom panel of figure 5.4 plots the relationship between GDP growth and government transfers as a percent of GDP, for all eighteen countries for which we were able to obtain data on transfers and GDP. The X-axis shows cumulative GDP growth in the first eight years of transition for each country. The relationship is strongly positive, with a simple correlation of 0.67. Note that finding a positive correlation between transfers and growth is particularly surprising given the blatant denominator bias driving the correlation in the opposite direction (i.e., higher output growth increases the denominator of the transfer to GDP ratio).

These findings raise the intriguing possibility that policies that foster income equality may also be conducive to successful transition. In fact, the relationships among transfers, inequality, and growth that we find here for transition economies have also been reported by authors such as Perotti (1996) for a different but much larger sample of industrial and developing countries. This suggests, more generally, that policies that foster income equality may be conducive to growth.

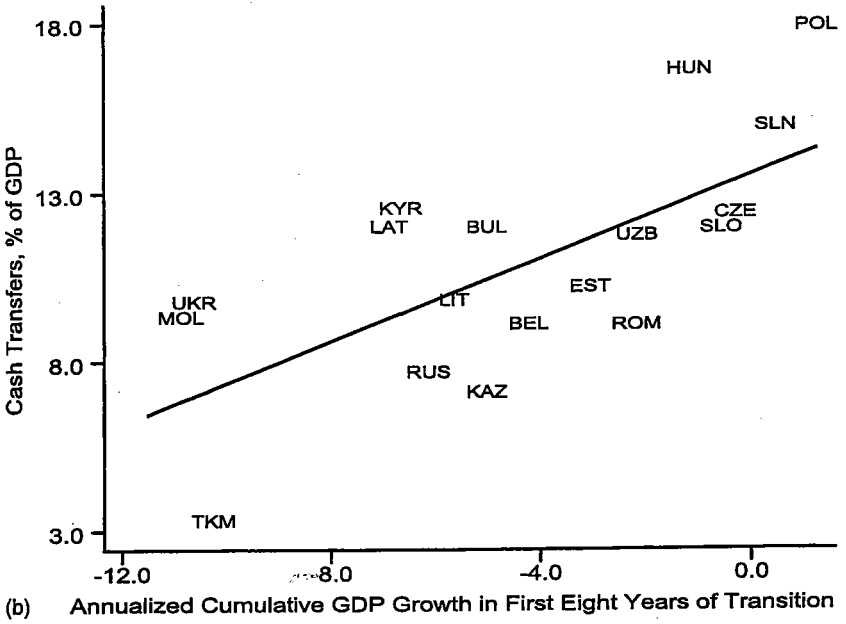
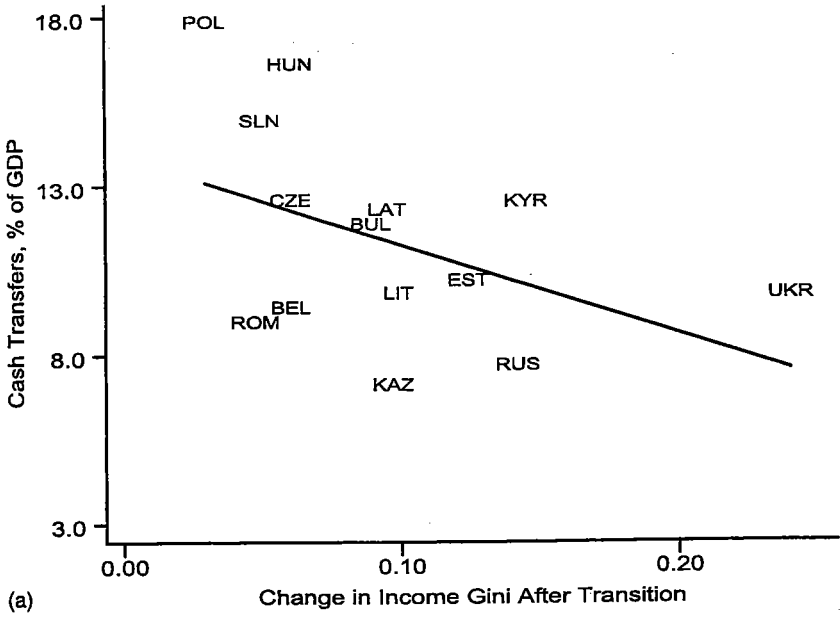


Figure 5.4
Transfers as share of GDP

Of course, the results we have reported only indicate a correlation rather than a causal relationship. It is possible that some omitted factor may actually account for good performance on both the inequality and growth dimensions. However, the patterns we have noted are at least not inconsistent with recent developments in growth theory that imply that redistribution to enhance equality may actually enhance rather than dampen growth.²¹ In the next section, we discuss these theories and relate them to the Polish case.

5.5 A Perspective from "New" Growth Theory

A traditional view of the relationship between inequality and growth is that a certain degree of income inequality is conducive to economic growth. The basic idea is that, in a country at a low level of development and with imperfect capital markets, wealth must be concentrated in the hands of a few so they can invest in physical and/or human capital. Kuznets (1955) presented evidence that appears consistent with this view. He found a hump-shaped relationship between inequality and per capita GNP, which he interpreted as evidence that inequality increases in the early stages of development and falls thereafter. It can be further argued that inequality may foster growth even in more advanced economies, provided liquidity constraints remain important, because only wealthy individuals can bear the sunk costs of starting industrial activities. Consistent with this view, Evans and Jovanovic (1989) provide some evidence that capital market constraints affect the decision to become an entrepreneur even in the United States, a country with highly developed capital markets.

But the relationship between growth and inequality has been reexamined by various authors in recent years (see the survey by Aghion, Caroli, and García-Peñalosa 1999). Some of this work has challenged the view that higher inequality is associated with higher rates of growth. Persson and Tabellini (1994), among others, present evidence indicating a negative correlation between inequality and growth.

Recent work in growth theory has rationalized a negative relation between inequality and growth by invoking either borrowing constraints or political economy considerations. For instance, Galor and Zeira (1993) turn on its head the argument that wealth concentration encourages growth when there are liquidity constraints. They pre-

sent a model with borrowing constraints in which individual productivity is a concave function of human capital and show that redistribution of wealth from the rich to the poor enhances growth because the poor have a higher marginal productivity of investment. Related results have been obtained by Banerjee and Newman (1993), Aghion and Bolton (1997), and Bénabou (1996).

Turning to the political economy models, Alesina and Rodrik (1994) show that income redistribution can enhance growth by reducing political support for taxation of capital. And Perotti (1996) finds empirical support for the view that redistribution can enhance growth by fostering sociopolitical stability. In a similar vein, Roland (1993) and Dewatripont and Roland (1996) argue that transfers can reduce the desire of potential economic losers to block reforms.

How are these models relevant to the Polish case? Clearly, these models do not imply that social transfers are themselves directly beneficial for growth, but rather that transfers affect growth through one of several mechanisms. In the Polish case, the plausible political economy mechanisms seem fairly obvious. Our analysis of winners and losers in the Polish transition suggests that older workers were quite adversely affected, due to declines in experience premia. However, these workers were cushioned by a substantial increase in the availability and generosity of pensions. This led many workers in their 1950s and early 1960s to take early retirement, at generous replacement rates. Furthermore, the mass retirements by older workers in the early phase of the transition had the added benefit that they facilitated enterprise restructuring. This helped Poland achieve better increases in labor productivity than most other transition economies, while at the same time securing the support of pensioners for market-oriented reforms.

The mechanism whereby social transfers mitigate borrowing constraints, thus making it possible for a broader segment of the population to invest in human capital, does not seem relevant to the Polish case. Too little time has passed since the start of the transition for a substantial increase in the stock of human capital (via new investment) to have taken place.

On the other hand, generous transfers may have helped reduce liquidity constraints on small-scale entrepreneurs and the self-employed. Both of these groups have played a key role in Poland's vibrant economic performance since 1990. Indeed, according to OECD (1998, 107), "Poland's recent growth performance rests on

a strong entrepreneurial basis, with many dynamic small and medium-sized enterprises (SMEs) and creations of new firms ... SMEs make up the bulk of Poland's 2.2 million registered non-agricultural enterprises ... almost 90 percent [are] micro-enterprises (employing 1 to 5 persons)." Indeed, Poland has seen greater growth in small-scale entrepreneurial activity than has any other transition country.

But evaluating the importance of mechanisms whereby transfers mitigate borrowing constraints on entrepreneurs is made difficult by the potential for intrafamily and intrahousehold transfers. Specifically, the person who receives a transfer may not be the person whose constraint is relaxed and who can therefore start or expand entrepreneurial activity. For example, a pension transfer to a retired older worker may in fact enable his or her children, who might otherwise have had to expend resources caring for the worker, to instead acquire capital. Thus, a simple test of whether transfer recipients were likely to become small-scale entrepreneurs would not shed light on the issue. Further research on mechanisms underlying the exceptional explosion of small-scale entrepreneurial activity in Poland is clearly needed.

5.6 Conclusions

Poland is perhaps the greatest success story of transition. It instituted drastic market-oriented reforms early in the transition process and has received relatively high marks for the extent of its subsequent market-oriented reforms (e.g., in the EBRD's annual *Transition Report*). Like other transition countries, Poland experienced a severe contraction of GDP in the first few years of transition (1990–1992). However, Poland subsequently experienced rapid growth, starting in 1993. Its GDP stood at 22 percent above the pretransition level in 1999, which is a substantially better performance than any other country in the former Eastern bloc.

Another positive aspect of the Polish transition is that it has resulted in very little increase in overall income inequality. This is in sharp contrast to most other transition countries, which have typically seen drastic increases in inequality. Our results indicate that Poland has experienced among the smallest (if not the smallest) increase in inequality of any transition country, and that measures

of inequality for Poland remain only modestly above those for the Scandinavian countries.

Our results further indicate that inequality in labor earnings did increase substantially during the Polish transition. However, a striking aspect of government policies during the early years of transition was a sharp increase in social transfers, from about 10 percent of GDP to roughly 20 percent. This is the highest level of transfers (as a share of GDP) of any transition country. We have argued that this increase in transfers substantially mitigated the increase in overall income inequality that might otherwise have resulted from increased earnings inequality.

From these patterns we draw one clear policy conclusion: The Polish experience makes clear that a substantial increase in income inequality is not a necessary concomitant of successful transition. Clearly, it is possible to use high levels of social transfers to maintain income equality, without hindering the transition process or choking off economic growth.

A more speculative hypothesis that is not inconsistent with our findings is that the generous social transfer policy pursued by Poland may have actually promoted the transition process and promoted growth. One mechanism through which social transfers could promote successful transition is by cushioning (or "buying off") groups that would have been most adversely affected by reforms.

For instance, older workers had the most to lose from the privatization or closure of state-owned firms and would have been most adversely affected by enterprise restructuring. But, early in the transition process, Poland substantially increased the availability and generosity of pensions.²² This induced large numbers of older workers to take early retirement. This may have facilitated transition both by removing potential opposition to reforms by a powerful interest group and by helping to reduce employment at enterprises to more efficient levels and promoting other aspects of enterprise restructuring.²³

More generally, we found that transfers in Poland have to a great extent been targeted at the middle class rather than just the poor. A number of authors have argued, on political economy grounds, that "the development of a solid, property-owning middle class is essential to the consolidation of capitalism" (Kornai 2000). For further

details on these type of arguments, we refer the reader to Havrylyshyn and Odling-Smee (2000), Easterly (2002), and Keane and Prasad (2001b).

Recent developments in growth theory stress another mechanism through which social transfers could promote growth. In environments characterized by liquidity constraints, a more equal income distribution increases the fraction of the population with the resources to engage in small-scale entrepreneurial activity. Thus, social transfers can lead to more equal income distribution, which in turn leads to more small-scale entrepreneurial activity, which in turn promotes growth. In Poland, which had almost 2 million private entrepreneurs by 1996, small-scale entrepreneurial activity has clearly been a key engine of growth—more so than in any other transition country. Further work is needed to determine the extent to which this exceptional explosion in entrepreneurial activity in Poland may be attributable to government transfer policies.

Of course, high social transfer payments do not come without significant costs. These could take the form of distortions induced by disincentives for employment (the result of a generous social safety net), distortions caused by taxation required to finance these transfers, and, more generally, the effects of government budget deficits on overall macroeconomic performance.

In the Polish case, the increase in social transfers during the early phase of the transition was accompanied by a substantial increase in the general government budget deficit (see the bottom panel of table 5.5). De Crombrugghe (1997), for instance, traces the “destabilization” of the Polish budget in 1991–1992 directly to the rise in transfer expenditures. By 1993 the growth in transfer expenditures (as a percent of GDP) had been halted, although pensions and other social benefits remained at a higher level than in the pretransition years.

Our view is that, at least in the early stages of transition, social transfers may have been crucial in setting the stage for rapid reforms, and that this benefit probably outweighed the direct short-term costs of a rising budget deficit. The Polish experience suggests that the prerequisites for this approach to work are a well-functioning set of transfer mechanisms and the commitment to implementing institutional and macroeconomic reforms at a rapid pace. Of course, a danger for the future is that generous social transfers, especially pensions, which in early transition were useful for cushioning older workers and facilitating enterprise restructur-

ing, will remain as entitlements long after their original purpose is no longer operative and become a long-term fiscal burden.

Notes

We thank the staff at the Polish Central Statistical Office, especially Wiesław Łagodziński and Jan Kordos, for assistance with the data. We also thank Krzysztof Przybyłowski and Barbara Kamińska for excellent translations of the survey instruments and Branko Milanovic for generously sharing his cross-country data with us. We received helpful comments on earlier drafts from Theo Eicher, Omer Moav, Stephan Klasen, an anonymous referee, and the participants of the 2001 and 2002 CESifo Growth and Inequality conferences. Financial support was provided by the National Council for Eurasian and East European Research. The views expressed in this chapter do not necessarily represent those of the IMF.

1. These indicators measure the progress made by transition countries in many areas of market-oriented reforms including enterprise privatization and reform; price and trade liberalization; and establishment of the rule of law, property rights, and well-functioning financial markets.
2. The reasons for this "transition recession," experienced by all transition economies, are controversial. Some authors stress the contraction of credit to state enterprises (see Calvo and Coricelli 1992), while others stress the aggregate demand contraction, due in part to the opening to import competition and the sharp contraction in exports to other former communist bloc countries (see Berg and Blanchard 1994).
3. Although the survey sample is designed to be representative of the underlying population, nonresponse rates tend to differ across demographic groups. This necessitates the use of sampling weights, although these weights had little effect on any of our main results.
4. Higher-order polynomial terms were insignificant in these regressions, which fit the time path of the idiosyncratic component of variance quite well.
5. One other important change that was made in the 1993 survey was an attempt to obtain a more representative sample of the self-employed. This group's size is believed to have increased markedly since the transition began, resulting in its underrepresentation in the HBS data during the period 1990–1992. However, as shown in Keane and Prasad (2002a), underrepresentation of the self-employed is likely to have led to only a marginal understatement of the extent of inequality in the early years of the transition.
6. It is possible to make some (but not all) of the necessary adjustments to income using information in the aggregate data on categories of income.
7. The aggregate consumption figures published by the Polish CSO, as well as by other former communist countries, often correspond to a measure of total outflows, including saving and repayment of loans. For farm households, consumption includes farm investment and purchases of supplies. An indication of the strange nature of the aggregate consumption data is provided by Milanovic (1998, 41), who reports that in 1993 the Gini for consumption is 0.31, which substantially exceeds the Gini of 0.28 for income. He also reports (33) that in 1993 the ratio of consumption to income is 1.30, an unreasonably high figure. Our access to the detailed micro data enables us to make

necessary adjustments to the categories that are included in consumption. We then find the more plausible results that consumption Ginis are smaller than income Ginis and that the aggregate consumption to income ratio falls in the 0.89 to 0.96 range during the 1985–1997 period.

8. At the time we began our study, the Polish CSO had never before released the HBS microdata. A long negotiation process by the first author during 1992–1993 led to its release. Subsequently, the microdata for the first half of 1993 was released to the World Bank and this data is used in World Bank (1995) and Milanovic (1998). More recently, the data for 1993–1996 have been obtained by researchers at the World Bank. As noted above, a subsample of the HBS is also now available in the through the Luxembourg Income Survey (LIS) for 1987, 1990 and 1992. Thus, no prior researchers have had access to the microdata for the entirety of the extended period that we examine.

9. The sample size falls in 1992 since half of the total sample in that year was used to test the new monthly survey. These monthly data from 1992 were considered unreliable and not made available to us.

10. For details on the estimation of the food share based equivalence scales, and for a comparison with other commonly used equivalence scales, see Keane and Prasad (2001a). We are aware of the potential problems associated with the use of food share-based equivalence scales. However, we were concerned about estimating a complete demand system under conditions when rationing of certain commodities was probably an issue in some years of our sample, but where we do not observe the rationing regimes.

11. Besides our own FS scale, we also used the OECD scale, the McClements scale (which is commonly used in Britain), and the simple per capita scale. Appendix Table B1 in Keane and Prasad (2001a) shows values of different equivalence scales for a representative set of household types.

12. We recomputed many of the results in this chapter using different equivalence scales. Although the levels of inequality were slightly affected by the choice of equivalence scale, patterns of the evolution of inequality over time were robust to this choice.

13. In all cases, we examine the distribution of individual income (or consumption), assigning to each individual the per equivalent income for the household in which the person resides.

14. Since transfers tend to be stable over time, the adjustment factors (used to adjust for the change in survey frequency in 1993–1996) for income net of transfers were nearly identical to those we computed for income including transfers.

15. In Keane and Prasad (2001a, 2002a), we show that similar results hold if one examines alternative inequality measures such as quantile ratios, quantile shares, or kernel density estimates of the income distribution.

16. A similar result is reported by Garner and Terrell (1998), who find that pensions substantially reduced inequality during the early transition years in the Czech and Slovak republics.

17. In Keane and Prasad (2002a), we report that changes in within-group inequality were very different across different groups. Within-group inequality actually fell

among farmer and mixed worker-farmer households during the transition, which, in addition to the roles of pensions and other social transfers, also helps to account for the rather small increase in overall income inequality. The Gini for household income for individuals in worker-headed households rose from 0.189 in 1988 to 0.248 in 1997. This increase of 0.059 is almost three times as great as the 0.020 increase in the Gini for the overall income distribution, and is consistent with the increase in labor income inequality noted earlier.

18. The typical retirement age in Poland is 65 for men and 62 for women. Among households with heads in the 45–55 age range and in lower age ranges, there was a small drop from 1989 to 1992 in the share of income from labor income, but this was mostly offset by an increase in other social benefits rather than pensions. Among households with heads aged 65 and older, pensions constitute 85–90 percent of total income, with labor income accounting for barely 2 percent.

19. The level of transfers is expressed as a percent of GDP and is the average, for each country, from the first year of its transition through 1997. The Gini coefficients are for per capita income and the change is the difference between the value of the coefficient four to five years into the transition and the value of this coefficient before transition. For data and sources, see Keane and Prasad (2002a).

20. Note that higher transfers do not necessarily imply more redistribution. An extreme example is provided by Commander and Lee (1998), who note that transfers in Russia have actually become regressive in the transition.

21. In Keane and Prasad (2002a), we provide a more detailed regression analysis of the relationship between inequality changes and growth in the transition economies. We find a negative relationship even after controlling for initial conditions (including the pretransition level of inequality) and measures of the extent of market-oriented reforms. Grun and Klasen (2001) report similar findings.

22. The Polish situation is considerably different from that in numerous other transition economies, where the real value of pensions and other transfers fell precipitously during transition (both in absolute terms and relative to average wages).

23. Fidrmuc (2000) presents an interesting empirical analysis of voting patterns in transition countries. He notes that various politically powerful groups—including unions and retirees—were more likely to vote for left-wing parties. Notwithstanding their political leanings, these were in fact the regimes that had enough political capital to institute significant reforms. The Polish experience can be seen as one where successive (relatively short-lived) governments during early transition used generous transfers to acquire such political capital and appease groups that had the most to lose, in the short run, from market-oriented reforms.

References

- Aghion, Philippe, and Olivier Blanchard. 1994. "On the Speed of Transition in Central Europe." *NBER Macroeconomics Annual* 9: 283–320.
- Aghion, Philippe, and Simon Commander. 1999. "On the Dynamics of Inequality in the Transition." *Economics of Transition* 7(2): 275–298.
- Aghion, Philippe, and Patrick Bolton. 1997. "A Trickle-Down Theory of Growth and Development with Debt Overhang." *Review of Economic Studies* 64(2): 151–162.

- Aghion, Philippe, Eva Caroli, and Cecilia García-Peñalosa. 1999. "Inequality and Economic Growth: The Perspective of the New Growth Theories." *Journal of Economic Perspectives* 37(4): 1615-1660.
- Alesina, Alberto, and Dani Rodrik. 1994. "Distributive Politics and Economic Growth." *Quarterly Journal of Economics* 109(2): 465-490.
- Atkinson, Anthony B., Lee Rainwater, and Timothy M. Smeeding. 1995. "Income Distribution in OECD Countries: Evidence from the Luxembourg Income Study." OECD Social Policy Studies No. 18. Paris: OECD.
- Banerjee, Abhijit, and Andrew F. Newman. 1993. "Occupational Choice and the Process of Development." *Journal of Political Economy* 101(2): 274-298.
- Bénabou, Roland. 1996. "Inequality and Growth." *NBER Macroeconomics Annual* 11: 11-74.
- Berg, Andrew, and Olivier Blanchard. 1994. "Stabilization and Transition: Poland 1990-1991." In *The Transition in Eastern Europe, Vol. 1: Country Studies*, ed. Olivier Blanchard, Kenneth Froot, and Jeffrey Sachs. Chicago: University of Chicago Press.
- Calvo, Guillermo A., and Fabrizio Coricelli. 1992. "Stabilizing a Previously Centrally Planned Economy: Poland 1990." *Economic Policy* 14: 176-226.
- Commander, Simon, and Une Lee. 1998. "How Does Public Policy Affect the Income Distribution? Evidence from Russia, 1992-1996." Manuscript, EBRD, London.
- de Crombrughe, Alain. 1997. "Wage and Pension Pressure on the Polish Budget." World Bank Policy Research Working Paper No. 1793.
- Dewatripont, Mathias, and Gérard Roland. 1996. "Transition as a Process of Large-Scale Institutional Change." *Economics of Transition* 4(1): 1-30.
- Engel, E. 1895. "Die Lebenskosten belgischer Arbeiter-Familien früher und jetzt." *Bulletin de l'Institut International de Statistique* 9: 1-129.
- Easterly, William. 2002. "The Middle Class Consensus and Economic Development." Working paper, World Bank.
- European Bank for Reconstruction and Development (EBRD). Various years. *Transition Report*.
- Evans, Davis S., and Boyan Jovanovic. 1989. "An Estimated Model of Entrepreneurial Choice under Liquidity Constraints." *Journal of Political Economy* 97(4): 808-827.
- Fidrmuc, Jan. 2000. "Political Support for Reforms: Economics of Voting in Transition Countries." *European Economic Review* 44: 1491-1513.
- Galor, Oded, and Joseph Zeira. 1993. "Income Distribution and Macroeconomics." *Review of Economic Studies* 60(1): 35-52.
- Garner, Thesia, and Katherine Terrell. 1998. "A Gini Decomposition of Inequality in the Czech and Slovak Republics during the Transition." *Economics of Transition* 6(1): 23-46.
- Gomułka, Stanisław. 1998. "The Polish Model of Transformation and Growth." *Economics of Transition* 6(1): 163-171.

- Grun, Carola, and Stephan Klasen. 2001. "Growth, Income Distribution and Well-Being in Transition Countries." *Economics of Transition* 9(2): 359–394.
- Havrylyshyn, Oleh, and John Odling-Smee. 2000. "Political Economy of Stalled Reforms." *Finance and Development* 37(3): 7–10.
- International Monetary Fund (IMF). 1994. "Poland: The Path to a Market Economy." Occasional Paper No. 113.
- Keane, Michael P., and Eswar S. Prasad. 2001a. "Consumption and Income Inequality during the Transition to a Market Economy: Poland, 1985–1992." *IMF Staff Papers* 47: 121–154.
- Keane, Michael P., and Eswar S. Prasad. 2001b. "Poland: Inequality, Transfers and Growth in Transition." *Finance and Development* 38(1): 50–53.
- Keane, Michael P., and Eswar S. Prasad. 2002a. "Inequality, Transfers and Growth: New Evidence from the Economic Transition in Poland." *Review of Economics and Statistics* 84(2): 324–341.
- Keane, Michael P., and Eswar S. Prasad. 2002b. "Changes in the Structure of Earnings during the Polish Transition." IMF Working Paper No. 02/135.
- Kornai, Janos. 2000. "Making the Transition to Private Ownership." *Finance and Development* 37(3): 12–13.
- Kuznets, Simon. 1955. "Economic Growth and Income Inequality." *American Economic Review* 45(1): 1–28.
- Milanovic, Branko. 1998. "Income, Inequality and Poverty during the Transition from Planned to Market Economy." World Bank Regional and Sectoral Studies, Washington, DC.
- Milanovic, Branko. 1999. "Explaining the Increase in Inequality during Transition." *Economics of Transition* 7(2): 299–341.
- OECD. 1997, 1998. "OECD Economic Surveys: Poland." Paris: OECD.
- Perotti, Roberto. 1996. "Growth, Income Distribution and Democracy: What the Data Say." *Journal of Economic Growth* 1: 149–187.
- Persson, Torsten, and Guido Tabellini. 1994. "Is Inequality Harmful for Growth?" *American Economic Review* 84(3): 600–621.
- Pinto, Brian, Marek Belka, and Stefan Krajewski. 1993. "Transforming State Enterprises in Poland: Evidence on Adjustment by Manufacturing Firms." *Brookings Papers on Economic Activity*, 213–270.
- Roland, Gerard. 1993. "The Political Economy of Restructuring and Privatization in Eastern Europe." *European Economic Review* 37(2–3): 533–540.
- Svejnar, Jan. 1996. "Enterprises and Workers in the Transition: Econometric Evidence." *American Economic Review Papers and Proceedings* 86(2): 123–127.
- World Bank. 1995. "Understanding Poverty in Poland." Country Study, World Bank, Washington, DC.
- World Bank. 1997–2000. "World Development Indicators." World Bank, Washington, DC.