

## THE DISTRIBUTIONAL CONSEQUENCES DURING THE EARLY STAGES OF RUSSIA'S TRANSITION

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We consider the distributional consequences at a national level in Russia during the initial phase of market reforms between the mid-1980s and the early 1990s. Although the incomes of many individuals changed favourably under the reforms during this period, average real household per capita income declined between 1985 and 1992. In particular during the first year of major reform in 1992 households at the lower end of the income distribution seemed to incur the largest fall in income. As a consequence there was a rise in measured income inequality. The Gini coefficient, estimated by various researchers to have been around 27 percent between the late 1960s and early 1990s, we estimate to have increased to 32.2 percent by the end of 1992. We also estimate that poverty increased with 18.5 percent of the population on incomes lying below the official subsistence level at the end of 1992.

### 1. INTRODUCTION

The transition towards a market economy in Russia began in earnest in January 1992 following the liberalization of wages and prices initiated by Yegor Gaidar. At the same time the Russian Government began to implement a privatization programme. Against this backdrop real GDP fell by an estimated 19 percent in 1992, following contractions of 3.6 percent in 1990 and 13 percent in 1991.<sup>1</sup> Such dramatic changes in the macroeconomy have been accompanied by marked shifts in the distribution of income. In this paper we assess at a national level some of the distributional consequences of the Russian transition programme during the first phase of the reform process.

The transition to a market economy reveals that the populations in former planned economies (FPE) like Russia are prepared, at least in the short term, to sacrifice some equity for greater efficiency. The initial impact of reforms typically amplify inequality through a widening in the income distribution. Incomes at the lower end are adversely affected because of reduced government expenditures, the withdrawal of subsidies, and rising unemployment; and incomes at the upper end of the distribution tend to grow rapidly because of the unleashing of new opportunities. In addition, the liberalization of prices and the introduction of constraints on nominal wage growth can lead to absolute falls in income levels for some groups. The effect of changes in the income distribution cannot be

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<sup>1</sup>The figures for 1990 and 1991 refer to net material product and are found in EBRD (1993) p. 110 and IMF (1994). The GDP data are based on official statistics and there is reason to suspect that these data overestimate the decline in Russian output. This issue is discussed in OECD (1995) Chapter I.

ignored within the context of transition because of the importance attached to political legitimacy, (Dewatripont and Roland, 1992).

The impact on the sustainability of reforms therefore hinges critically on the success or otherwise of ongoing reforms. The popularity of the reform programme in Russia and other FPE will be influenced to some degree by popular perceptions about changes in income distribution. It has been shown in a theoretical framework how the popularity of different economic systems (prices, quantity rationing, etc.) is influenced by the degree of income inequality (Polterovich, 1993). The economy in Russia prior to the major price reforms of 1992 exhibited a combination of systems for allocating goods and services. There were queues with black markets (e.g. motor vehicles, consumer durables), rationing where resale was difficult (e.g. medical care, telephone lines) and rationing with speculation (e.g. basic consumer necessities such as bread, milk and eggs).

Polterovich shows that consumers on low incomes (e.g. students and pensioners) will typically prefer some sort of rationing or queueing scheme to a free market allocation. This is because they have relatively low opportunity costs of waiting and the chance of obtaining some fraction of goods under a rationing or queueing system can enhance their incomes through speculative activities. For this reason systems permitting speculation or involving black markets are often preferred by the poor to other, more price driven, allocation procedures. By contrast, those on high incomes will often prefer market allocations to rationing and speculation or queueing with black markets. Although this theoretical approach is static in nature, its conclusions suggest that if, at the beginning of the market reform period, the fraction of poor in the population rises, this may increase the pressure to moderate the pace of future reform.

Two notable events took place in Russia in 1993 which can be used to gauge public opinion *vis-à-vis* the economic and political reforms. A referendum in April 1993 showed that there was support for the reform programme. However, at the end of 1993 parliamentary elections resulted in a significant level of support for anti-reformist politicians. These "opinion polls" suggest that the population generally support the broad goal of establishing a market economy, but that some of the harsh economic consequences, such as rising income inequality and poverty, have given rise to criticisms about the way the market reforms have been introduced.<sup>2</sup>

After many years of apparent relative stability the distribution of income in Russia widened markedly in 1992. Our estimates, based on official data, show that the Gini coefficient increased by 18.4 percent in 1992, from 27.2 percent in 1991 to 32.2 percent by December 1992. Other measures of income inequality that we compute show how this has been accompanied by a worsening of the position of those at the lower end of the distribution, mainly comprising pensioner households. By the end of 1992 an estimated 40 percent of pensioners (around 8 million) were receiving monthly benefits falling below half the official monthly subsistence income level.

The political responses to the imposition of market reforms generally, and the responses to evolving distributional changes in particular, play an important

<sup>2</sup>This view is also echoed in an OECD report (OECD, 1995).

role in steering the direction of transition in Russia and other FPE (Roland, 1992). For a sample of 64 countries between 1960–85 it has been shown that rising income inequality can fuel social discontent and political instability (Alesina and Perotti, 1992). The surge in nationalist and anti-reform sentiment which occurred during 1993, and the continuing political instability in Russia would seem, in part, to derive their roots out of the swift changes in the distribution and absolute levels of income at the beginning of the 1990s.

Of course, in a situation where major systemic reform occurs it is always likely to be the case that many will suffer *en route* to the preferred economic state. It is during such transition processes that opposition politicians find it easy to garner support. However, it should be emphasized that widening income inequalities typically arising in FPE during the course of economic transition are not necessarily socially sub-optimal. Indeed, it may well be the case that income inequality needs to increase in order to stimulate incentives, (Shapiro and Stiglitz, 1984).<sup>3</sup>

The rest of the paper is organized as follows. In Section 2 we summarize briefly the principal economic developments that took place in 1992 and early 1993. In Section 3 we highlight the absolute effects of these reforms. In Section 4 we present our estimates, and some other researchers estimates based on pre-1992 data, on the impact of the reforms on the distribution of incomes. In Section 5 we conclude.

## 2. AN OVERVIEW OF THE 1992 REFORMS

In this section we concentrate on those aspects of the reform programme that have directly affected household and individuals' incomes. The most critical policy was the price and wage liberalization of January 2, 1992 which led to the removal of most of the federal regulations governing prices and allowed enterprises much greater discretion to set prices. Some rules and regulations remained in force at the beginning of 1992, with the prices of bread, milk, vodka, baby products, communications, energy and transport being subject to price ceilings. These regulations were specifically targeted egalitarian measures. In March 1992, however, the Federal Government abolished all remaining federal controls on consumer goods and subsidies on these goods were withdrawn. Nevertheless, energy, transportation and communications prices remained under controls at the retail level. However, there continued to be many regulations imposed at a local level, the most significant being subsidized housing. The freeing of prices resulted in consumer prices rising by a multiple of 26 in 1992. The monthly inflation rate was 245 percent in January 1992 and then hovered around 20 percent over the remaining months of 1992, being at its lowest during the summer months.

The freeing of many consumer prices was also accompanied by the freeing of wages. To prevent a wage-price spiral a payroll inflation tax (PIT) was implemented. Wage payments exceeding four times the minimum wage were not deductible for tax purposes and were subject to a profit tax of 32 percent. In 1993 the

<sup>3</sup>An excessive widening in the income distribution can, however, undermine the political legitimacy of reforms (Dewatripont and Roland, 1992).

rate of the PIT was revised to 50 percent for wages exceeding eight times the minimum wage.

Combined with the wage and price liberalization a reform of the tax system commenced. Value added tax (VAT) was introduced at a rate of 28 percent, replacing the old turnover tax, and new export and excise taxes were introduced. VAT was applied to a broad range of goods and services. On February 3, 1992 VAT was reduced to 15 percent on controlled goods such as bread, milk, salt and vegetable oil, and was abolished on canteen meals. This followed discontent, expressed by some, about the apparent severity the price reforms were having on the welfare of low income households. In January 1993 the standard rate of VAT was reduced to 20 percent and a lower rate of 10 percent was introduced on foodstuffs and children's goods.

### 3. THE ABSOLUTE EFFECTS OF THE 1992 REFORMS

The effect on incomes of the reforms outlined in Section 2 was dramatic. In Figure 1 we plot the average monthly household per capita real income estimates (expressed in December 1990 roubles) for the lower decile, median and upper decile households, and survey data for the average monthly pension and data on the minimum pension.

Percentage changes in the data displayed in Figure 1 over different periods and for the different categories are shown in Table 1. Each of the categories shows an overall increase in incomes over the period 1985–91, with growth most striking for those in the lowest decile at 55.9 percent. This reflects the fact that the majority of households in the lowest decile comprised pensioners, who obtained a 60.6 percent increase over this period. The compound annual growth rate for the lowest decile over 1985–91 was over 7 percent, far exceeding growth in the economy; real net material product over this period had an annual average growth rate of 0.1 percent (Commission of the European Communities, 1990, Table 1 and EBRD, 1993, p. 110). The data in Table 1 show that in absolute terms those at the lower end of the income distribution did well in the 1985–91 period relative to those in the upper end of the distribution.

Changes in incomes over the first full year of major reform seems to have gone some way to reversing the above movements. It is those in the upper part of the distribution who do well over the year 1992, incurring the lowest percentage falls in incomes over the 1991 (12)–92 (12) period. Those in the lowest decile, however, suffered the largest percentage fall in income in 1992, equalling 51.8 percent.

The position of those groups at the bottom of the income distribution, especially pensioners, has been of considerable concern. Between the end of 1991 and 1992 the minimum pension declined by 64.7 percent and the average pension by 49.5 percent. These figures exceed the decline in monthly median household per capita income, which was 41.3 percent. It can be seen in Figure 1 that pension income in 1992 was significantly below the value in 1985.<sup>4</sup>

<sup>4</sup>Without additional data it is difficult to examine variation across pensioner households. Atkinson and Micklewright (1992, Table 8.3, p. 238) show how there was considerable inequality across pensioner households in monthly pensions in the U.S.S.R. in July 1987.



Figure 1

*Note:* The data used to generate the above estimates of the lower decile, median and upper decile come from distributions of per capita household income statistics derived from surveys undertaken by Goskomstat. The Appendix A.1 describes in brief the survey design. The data were manipulated using INEQ, full details of which are given in the notes accompanying Table 4 below. The distributional data were obtained from a variety of sources. The income statistics came from Russian Economic Trends (1992, Volume 1, Number 2, Table A.9, Volume 1, Number 3, Tables A.9, A.10); Russian Economic Trends (1993, Volume 2, Number 2, Tables 15, 18, and 20); Alexeev and Gaddy (1993, Tables 1, 2A, and 2B); and Atkinson and Micklewright (1992, Tables UI1 and UI2). Multiple sourcing of the data ensured that the distributions used were consistent. The price index used to deflate the income values obtained from Russian Economic Trends (1993, Volume 2, Number 1, Tables A18 and A19), Russian Economic Trends (1992, Volume 1, Number 2, Tables A8, A20) and Russian Economic Trends (1992, Volume 1, Number 3, Tables A8, A19). The U.S.S.R. RPI is used for data prior to 1990, and the more reliable Russian consumer price index is used on data from December 1990 onwards. The data for 1992 are based on a weighted average of data for the months of January, February, March, August, and December. Linear interpolation was used for the missing months. Finally, the horizontal axis between 1985 and 1988, and 1988 and 1990, (this applies also to Figure 2 below), contain trends representing underlying data.

The final column in Table 1 shows that every group suffered a decline in real income over the period 1985–92 (12). Those at the median and minimum pension experiencing the biggest decline, and the upper and lower deciles falling by about the same amount.

### 3.1. Poverty

In Table 2 we present estimates of the percentage of the population experiencing poverty. The definition of poverty employed is that which was used by the official Russian authorities. The notes accompanying Table 2 describe the method and assumptions used for calculating the income point below which incomes are

TABLE 1  
PERCENTAGE CHANGES IN HOUSEHOLD AND PENSIONER MONTHLY PER CAPITA INCOMES  
EVALUATED AT DECEMBER 1990 ROUBLES

Category	1985-91	1992	1991 (12)-92 (12)	1985-92 (12)
Upper Decile	8.6	59.5	-32.5	-26.6
Median	9.5	24.9	-41.3	-37.1
Lower Decile	55.9	9.2	-51.8	-24.9
Average Pension	33.0	20.1	-49.5	-32.8
Minimum Pension	60.6	-13.4	-64.7	-43.4

*Note:* The figures are derived from the data used to compute the values displayed in Figure 1. The figures for 1992 are based on the change occurring between January and December. The figures in the brackets to the right of the years denote the month, a convention used throughout.

TABLE 2  
PERCENTAGE OF POPULATION IN RUSSIA WITH PER CAPITA MONTHLY INCOME BELOW THE  
STATE SPECIFIED ESTIMATED "PHYSIOLOGICAL MINIMA" MONTHLY INCOME

Year/Month	1989	1990	1991	1992 (1)	1992 (8)	1992 (12)
Physiological minimum monthly income	75	81.8	192	594	1939	2584
Percentage of population	5.0	5.1	9.9	26.2	31.5	18.5

*Note:* We have taken 75 roubles, as shown in Atkinson and Micklewright (1992, Table 8.4, p. 241), to represent the minimum subsistence monthly income in 1989. The figures for 1990 and 1991 are equivalent to 75 roubles in 1989. The minimum subsistence incomes for 1992 are derived from Russian Economic Trends (1993, Volume 2, Number 1, Tables 21) and Russian Economic Trends (1992, Volume 1, Number 3, Table 12), all of which are officially recalculated estimates of the minimum subsistence income level. The calculation is based on estimating the cost of a "healthy" daily diet of 2,800 kilocalories. It is assumed that low income individuals spend 80 percent of their income on food. The cost figure for the diet of 2,800 daily kilocalories is multiplied by 1.25 to arrive at the minimum subsistence income level, (Russian Economic Trends, 1993, Volume 2, Number 1, p. 32; Atkinson and Micklewright, 1992, pp. 191-192). Thus in 1989 to buy the "healthy" daily diet required 60 roubles a month. We compute the percentage of the population in poverty by looking at the distributions we estimate using the data and procedures described in Table 4.

said to be in poverty. Adopting this convention for measuring poverty we estimate that the extent of poverty rose from 5 percent of the population in 1990 to 9.9 percent of the population in 1991. A contributory factor behind this change, which occurred before the major reforms of 1992, was the incomplete price reform of April 1991. This price reform was not accompanied by any serious attempt at targeting welfare benefits. In 1992 the extent of poverty is estimated to have increased sharply, reaching a maximum 31.5 percent of the population in August. The reason for the dramatic increase in poverty, albeit temporary, follows from the cumulative effects of price liberalization which resulted in much higher price increases than expected, and the lagging behind of social and wage payments. In particular, many individuals on fixed non-indexed incomes like pensioners suffered sharp income falls. Of course, measuring poverty on a month by month basis is likely to overstate the extent of suffering because individuals use savings to smooth a volatile income stream. Nevertheless, the hike in the price index would have reduced the real value of bank accounts in many households.

TABLE 3  
 MINIMUM AND AVERAGE PENSIONS AS A PROPORTION OF THE  
 OFFICIAL SUBSISTENCE MONTHLY INCOME LEVEL FOR TWO  
 MONTHS IN 1992

Month	Minimum Pension Over Subsistence Income	Average Pension Over Subsistence Income
August	68.1	93.0
December	48.3	85.9

*Note:* Pension data obtained from Russian Economic Trends (1993, Volume 2, Number 1, Table 15). Other data as described in the notes accompanying Table 2.

Following the liberalization of prices it can be seen that pensioners were particularly affected. Table 3 shows that pensioners with incomes close to the minimum pension were in December 1992 at a level below half the official “physiological minimum” monthly income level estimated by the state.<sup>5</sup> Using the data presented by Atkinson and Micklewright (1992, Table 8.3, p. 238) on the distribution of pension income across recipients of pensions, this statistic suggests that almost all pensioners on collective farms were experiencing poverty. Even the average pension was insufficient to cover the minimum subsistence income, and in absolute terms it deteriorated in the latter part of 1992 despite targeted benefits. These data highlight vividly that many pensioners in 1992 experienced hardship.<sup>6</sup>

The increase in poverty as shown and defined in Table 2 was 370 percent between 1989 and December 1992. In terms of population size, by December 1992 this translates into an estimated 27.75 million of the population experiencing hardship in Russia. However, we should emphasize that the number of individuals estimated in poverty declined in the last few months of 1992.

#### 4. RELATIVE INCOME EFFECTS

In Table 4 we present estimates on the distribution of income before and after the initiation of the reforms in January 1992. Prior to the market reforms the distribution of income was relatively stable through time, with the Gini coefficient ranging between 24.5 and 27.2 over the period 1973–91. Nevertheless, Table 4 shows that there was a slight upward trend in inequality over this period. This is seen most clearly in the case of the Robin Hood and Hungarian measures.<sup>7</sup> It is interesting to note that the distribution of income in the former Soviet Union was

<sup>5</sup>The notes under Table 2 describe how the physiological minimum is calculated.

<sup>6</sup>At the time pensions were set by the Federal government and at the beginning of 1992 the minimum monthly pension in current prices was 342 roubles. It was increased in May to 900 roubles, and in November to 2,250 roubles. Between August and October a supplementary pension of 420 roubles was paid to all pensioners. In general pensioners receive payments in excess of the minimum pension, but it is estimated that around 40 percent (8 million) of pensioners at the beginning of 1993 were close to the minimum, (Russian Economic Trends, Volume 2, Number 1, 1993, p. 30).

<sup>7</sup>This trend was also shown at the U.S.S.R. level in Atkinson and Micklewright (1992, Table 5.4, p. 130 and Figure 5.8, p. 133).

TABLE 4  
INCOME DISTRIBUTION ESTIMATES FOR THE U.S.S.R. AND THE RUSSIAN FEDERATION  
(Individual distribution of household per capita income)

	U.S.S.R.				Russia							
	McAuley 1967	Ofer-Vinokur 1973	1980	1985	1988	1990	1991	1992 Jan	1992 Feb	1992 Mar	1992 Aug	1992 Dec
Monthly Income												
Median Roubles	56	83	101	115	146	168	345	793	1053	1392	2564	8032
Decile/Median												
P <sub>10</sub>	57.7	56	53	54	56	57.2	55.7	55.6	54.3	53.2	48.0	45.7
P <sub>90</sub>	176.9	178	174	177	145.7	171	180	172.9	158.8	166.3	183.4	207.3
P <sub>90</sub> /P <sub>10</sub>	3.1	3.15	3.25	3.30	3.32	2.99	3.24	3.11	2.93	3.13	3.82	4.54
Cumulative Share												
S <sub>10</sub>	—	3.5	4.0	3.9	4.3	3.6	3.8	4.3	3.3	3.9	2.2	2.9
S <sub>20</sub>	—	9.1	9.6	9.4	9.9	8.7	9.1	10.6	8.9	9.7	6.1	7.3
S <sub>30</sub>	—	15.7	16.3	16.1	16.7	14.6	15.2	17.9	15.6	16.6	10.8	12.8
S <sub>40</sub>	—	23.2	24.2	23.7	24.3	21.3	22.3	26.3	23.3	24.4	16.5	19.3
S <sub>50</sub>	—	31.8	32.9	32.2	32.9	28.8	30.2	35.7	31.8	33.1	23.2	27.1
S <sub>60</sub>	—	41.3	42.6	41.8	42.3	37.1	39.1	46.3	41.3	42.9	30.8	36.0
S <sub>70</sub>	—	51.8	53.5	53.6	52.6	46.4	49.1	58.2	51.9	53.9	39.7	46.4
S <sub>80</sub>	—	63.7	66.0	65.9	64.3	57.1	60.6	71.7	63.7	66.2	49.9	58.7
S <sub>90</sub>	—	78.0	80.5	80.4	78.7	69.3	74.2	87.4	77.1	80.4	74.2	73.8
Gini Coefficient	—	26.8	24.5	25.6	27.9	26.9	27.2	21.5	23.0	22.8	32.0	32.2
Robin Hood Index	—	18.7	17.4	18.2	17.7	21.9	20.9	14.3	16.4	17.0	32.5	23.9
Hungarian Inequality Measure	—	—	2.02	2.08	2.41	2.49	2.35	1.79	1.94	1.99	4.02	2.65

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$P_{10}$  denotes the income of the bottom decile relative to the median, expressed as a percentage.  $P_{90}/P_{10}$  is the decile ratio.

$S_{10}$  is the cumulative income share of the bottom decile.

The Gini coefficient is equal to half the expected absolute difference in incomes, relative to the mean, between any two individuals drawn at random from the population.

The Robin Hood Index measures the amount of income (expressed as a percentage) which has to be redistributed from those above the mean to bring about equal income.

The Hungarian Measure of Inequality is the ratio of the average income of those above the mean to the average income of those below the mean.

McAuley 1967 is reported in Table 3.1, p. 57 (McAuley, 1979), and the data used refers to the non-agricultural population.

Ofer and Vinokur 1977 is Table A1 (Ofer and Vinokur, 1980), and the data used refers to the European urban population.

The Family Budget Survey data as reported in Tables 1, 2A, and 2B, and minimum income level Table 3 (Alexeev and Gaddy A–G, 1993) are used for the estimates of Russia in 1988 and 1990, and Tables UI1 and UI2 (Atkinson and Micklewright A–M, 1992) were used for the estimates for the U.S.S.R. in 1980 and 1985. Russian Economic Trends contain data used for the other estimates, sources as in Figure 1. All the estimates shown in the Table, excluding those for 1967 and 1973, were calculated by the author according to the method described below.<sup>8</sup>

Our estimates are derived from data in grouped distributions. Interpolation is necessary within the groups and at the open interval at the upper end. In addition a lower bound on the distribution is applied. As in Atkinson and Micklewright (1992), we employed Frank Cowell's INEQ programme imposing a Paretian distribution for the upper interval, and for distributions within all the other intervals. The lower bounds imposed were chosen from Alexeev and Gaddy (1993, Table 3) and by using Russian Economic Trends. On the whole the estimates are not very sensitive to the choice of lower bound. INEQ employs the Newton–Raphson algorithm, see Section S.6, p. 279 (Atkinson and Micklewright, 1992) for further discussion and the INEQ manual available from Frank Cowell at the London School of Economics.

<sup>8</sup>The estimates of the Gini coefficient differ from those presented by Alexeev and Gaddy (1993, Table 3, p. 29) because of the use of a different estimation procedure. In their paper they used a minimum Kolmogorov–Smirnov estimator to fit a lognormal curve, constrained by exogenously supplied means and minima. Alexeev and Gaddy's estimates of the Gini coefficient for various years since 1980 are as follows: 1980 (29.0), 1985 (28.4), 1988 (29.0), 1989 (27.5) and 1990 (28.1). Our estimates for 1980 and 1985, however, produce the same statistics as derived by Atkinson and Micklewright (1992, Table 5.1, p. 112, Table 5.4, p. 130, and Tables UI1, UI2). This is not surprising as we have employed the same techniques as used in Atkinson and Micklewright (1992).

only slightly more equal than that in the U.K., which in 1985 had a Gini coefficient estimated at 29.7, (Atkinson and Micklewright, 1992, Table 5.1, p. 112).

The data for 1992 show considerable movement in the distribution of income. The income of the lowest decile relative to the median declined by 18 percent, whereas the income of the highest decile relative to the median increased by 20 percent, indicative of a considerable widening in the income distribution. The decile ratio increased from 3.11 in January to 4.54 in December, and the Robin Hood Index increased by 14 percent from 20.9 in 1991 to 23.9 in December 1992. These indicate that the share of income going to those on incomes above the mean rose appreciably. This trend is also confirmed by the Hungarian Measure of Inequality, rising from 2.35 to 2.65 over the same period. The data confirm



Figure 2

*Note:* The data were generated as described in the notes accompanying Figure 1 and Table 4. The Gini coefficient for 1992 is a weighted average of the values computed for the months January (21.5), February (23.0), March (22.8), August (32.0), and December (32.2).<sup>9</sup> The value of the Gini coefficient for the years are as follows: 1980 (24.5), 1985 (25.6), 1988 (27.9), 1990 (26.9), 1991 (27.2), and 1992 (28.1). The end of year Gini coefficient denotes the value for December (32.2).

<sup>9</sup>In historical terms the Gini coefficients for January, February and March are relatively low. This is probably explained by two factors. First, the compression of incomes due to shorter working hours as enterprises cut back production and therefore more workers would have been in receipt of just the basic salary. Second, the failure on the part of the statistical office *Goskomstat* to include a representative sample of those individuals on high incomes. The latter problem is alluded to in Appendix A.1. For these reasons, perhaps, the Gini coefficient for 1992 is more likely to lie somewhere between the “average” Gini coefficient for 1992 shown in Figure 2, and the December 1992 value shown in Figure 2.

that income inequality widened significantly over 1992, with the principal beneficiaries being those on incomes above the average. This is borne out by the increase in the Gini coefficient from 27.2 at the end of 1991 to 32.2 in December 1992, shown in Figure 2.

The rise in the Gini coefficient over 1992 was 18.4 percent. We compare this change with that estimated to have occurred in the U.K. over the 1980s. It is well documented that income became more unequally distributed in the U.K. during the 1980s, (Atkinson, 1991). The Gini coefficient in the U.K. was estimated to have increased by 18.5 percent between 1976 and 1986, from 23.8 to 28.2, (Jenkins, 1992). Thus it is estimated that Russia experienced a widening of its income distribution in one year equivalent in scale to that which occurred in the U.K. over a period of ten years. However, the scale of the reforms undertaken in Russia during the course of 1992 were considerably greater than those undertaken during any single year in the U.K. in the 1980s.<sup>10</sup>

## 5. CONCLUSION

The reforms introduced in Russia in 1992 were along the lines of a "Big Bang." This led to dramatic changes in many economic variables and to rapid movements in the distribution of income. We have examined at a national level some of these aspects and shown that; (i) absolute incomes fell for all groups investigated over the period 1985–92 (12), (ii) inequality widened during the course of the major reform year 1992, (iii) poverty increased, and (iv) pensioners especially suffered during 1992.

The widening of income inequality and the increase in poverty occurred at a particularly sensitive time. The unstable political climate of 1992 culminating in the parliamentary elections at the end of 1993 resulted in the ascendancy to office of many anti-reformers. Our estimates of poverty and income inequality would seem to suggest, in line with the theory of Polterovich (1993) and previous evidence and interpretation of Alexeev and Gaddy (1993), that support for anti-reformers derived from a growing constituency on relatively low incomes and suffering poverty.

We should emphasize that all of our estimates are based upon officially produced statistics. (Some account of the sampling methods used by *Goskomstat* is given in Appendix A.1.) Income from illegitimate sources therefore is typically excluded. This source of income, with regard to the distribution of income in Russia, has been argued to be of little significance, (Alexeev and Gaddy, pp. 32–33, 1993). Indeed, they argue that the underground economy is more likely to exacerbate income inequalities. However, it is possible that the level of poverty, as defined in Table 2 in our paper, may be overstated because of the omission of secondary or illegal income sources.<sup>11</sup> Due to the difficulties involved in obtaining

<sup>10</sup>OECD (1995, Ch. VI) estimates show that the income distribution in Russia widened further in 1993 and 1994 with Gini coefficients estimated at 37.0 and 42.1 respectively.

<sup>11</sup>Around 10 percent of total GDP, possibly distributed over 50 percent of the population, is estimated to constitute the scale of the underground economy income, (Commission of the European Communities, p. 162, 1990). Other calculations have put the income figure associated with the underground sector to be as high as 28 percent of personal income, (Alexeev and Gaddy, reported, estimate shown on p. 32, 1993).

ing reliable estimates of illegal incomes, and the more problematic task of allocating these incomes across households, we have chosen to work with the official data alone.<sup>12</sup> On the other hand, certain very high income individuals are likely to be omitted from the sample frame and therefore any estimate of inequality using such data would be biased downwards.<sup>13</sup>

Our work provides an insight into the effect that major systemic reform has had on income and the changes in the degree of poverty in Russia. It should be emphasized that the relatively short time span examined prevents us from speculating about longer-term trends.<sup>14</sup> Further research using newer and more detailed data should shed light on trends and compositional effects. It would be especially interesting to know how much inequality and poverty Russia is likely to sustain in equilibrium during the first extended period of reform. Finally, it is worth repeating the view that a rise in income inequality in Russia over the period examined need not be bad from a social welfare perspective. Indeed, to ensure that Russia transforms into a successful market economy, increased income inequalities may be desirable. However, political legitimacy constrains the degree to which the distribution of income may widen in transition economies.

## APPENDIX

### A.1. *Income distribution data and other data*

The estimates and data presented on income distribution in the text derive from family budget surveys undertaken by *Goskomstat* and other government agencies in the former Soviet Union and the Russian Federation. A comprehensive analysis in English of the old surveys can be found in Shenfield (1984). The data are derived from the Family Budget Survey (FBS) which was a survey of families of persons employed in the state sector and of families of collective farmers. According to Shenfield (1983) about one-third of the sample was replaced every five years. This procedure is also discussed in Atkinson and Micklewright (1992, p. 266). By 1988 the number of families in the survey was 86,851, of which 47,320 were families in Russia. Of the Russian families 36,422 were worker/employee and 10,898 collective farm families.

The old surveys, which continued in some form until 1992, were unrepresentative in the following ways. First, families employed in the co-operative sector or private sectors and those not employed (e.g. students) were largely excluded. This goes a considerable way to explaining the peculiar behaviour in the income distribution statistics for those in the upper half of the distribution between 1985 and 1988. Secondly, old-age pensioners were originally excluded. The 1989 survey

<sup>12</sup>*Goskomstat*, together with assistance from agencies such as the World Bank, are working to improve income data statistics. In due course this should enable more detailed accounts of the income distribution in Russia.

<sup>13</sup>Our calculations are based on officially published data and exclude non-pecuniary benefits. Liberalization has been associated with an increased commercialization of social benefits and this may have been to the detriment of the less well off. Consequently our estimates may understate the actual widening in the income distribution. On the other hand, some might argue that it was the better off that benefited disproportionately from social benefits in the pre-market era.

<sup>14</sup>However, see Footnote 8.

had 2 percent pensioner households. In 1989 an estimated 15.5 percent of the total population of the U.S.S.R. were old-age pensioners. Thus pensioners have been under-represented in the surveys but attempts were being made in the late 1980s to rectify this imbalance.

The recent surveys (since 1992) have been much smaller in scale. *Goskomstat* indicates that around 1,600 families have been involved. Assistance from the World Bank is leading to much improved sampling design and by the end of 1992 the survey was regarded as a much improved representation. Much of the *Goskomstat* data we have used came from *Russian Economic Trends*, published by the *Centre of Economic Reform, Government of the Russian Federation*, with the assistance of the *Centre for Economic Performance*, London School of Economics.

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