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ANTHONY B. ATKINSON
and
JOHN MICKLEWRIGHT

European University Institute, Florence

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European University Institute
Badia Fiesolana
I-50016 San Domenico (FI)
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ECONOMIC TRANSFORMATION IN EASTERN EUROPE

AND THE DISTRIBUTION OF INCOME

Anthony B. Atkinson, London School of Economics

John Micklewright, European University Institute, Florence,
and Queen Mary and Westfield College, London

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ABSTRACT

The distributional consequences of the economic transformation taking place in Eastern Europe have received little attention to date. The first section of the paper examines why this might be so; it considers some of the arguments for relegating distributional issues to a minor role and, conversely, counter-arguments why these issues may be of concern. Behind much of this discussion lies a view of the degree of equality in Eastern Europe prior to economic reform and this forms the subject of the remainder of the paper. Section 2 discusses the availability, quality, and meaning of income data collected under the Communist regimes; the comparability of such data with those available in the West is discussed. Section 3 concentrates on documenting the degree of earnings dispersion in Poland, Hungary, Czechoslovakia and the USSR and its changes over the post-war period. The situation is compared with that in Britain. The analysis brings out the diversity between Eastern European countries and shows that little weight can be attached to statements about "the" level of earnings dispersion under Communism.

Introduction

It is everyone's hope that the present economic and political reforms in Eastern Europe will lead to marked rises in the standard of living in those countries. This in turn may narrow the gap in incomes between Eastern and Western Europe. The 1989 ILO World Labour Report shows estimated GDP per capita in the "industrialised centrally planned economies" (the Eastern European countries, including the USSR), to be little more than a quarter of that in "industrialised market economies" (ILO, 1989, Figure 1.1). At the same time, it seems clear that the reforms will do much more than change average incomes in the countries concerned - they will also change the distribution of income. The transition to a market economy will benefit some groups more than others. It is the distributional aspects of the economic transformation that are the concern of this paper.

The distributional consequences of change in Eastern Europe have not received a great deal of attention. Indeed it is notable how little they have featured in both popular and academic discussion. The focus is largely on other concerns, such as macro-economic imbalance or whether public sector ownership of enterprises will be less than 50% in 5 years time. In the first section of the paper we examine some of the reasons why distributional objectives may have been relegated to a minor role and, conversely, some of the reasons why the distributional consequences of economic reform may be of concern. In this, as in other respects, the debate about Eastern Europe has a wider significance, raising issues which are important throughout Europe.

In examining the distributional issues, one recurring consideration is the state of distribution pre-1990. Behind a number of the arguments which we discuss in Section 1 lies a view about how unequal were countries in Eastern Europe under the Communist regimes, and often a comparison with that found in the West. Certain of the distributional arguments are explicitly dynamic, being concerned for example with the improvement of the position of the least advantaged *relative to the starting point* in 1990. It is for this reason that we have concentrated on describing the position *before reform* regarding the distribution of income in Eastern Europe and the USSR. This is a subject about which a great deal has been written but we found relatively few surveys which brought together material covering a number of countries.¹

The assessment of the distribution poses a range of problems, which we discuss in Section 2 under the heading of "Availability and Comparability". These problems lead some commentators to conclude that little or nothing can be said. In other cases, the problems are ignored and strong conclusions drawn about relative inequality in East and West. In this section we urge an intermediate course, recognising explicitly the obstacles to a quantitative assessment, but seeking nonetheless to make progress.

The most fully documented area is that of the distribution of *earnings* and it is on this that we concentrate when we come to examine the empirical data. The available evidence about the distribution of earnings is the subject of Section 3.² Our survey is not comprehensive and we limit our attention to four

countries: Czechoslovakia, Hungary, Poland, and the USSR. In each case, we attempt to describe the base from which the transformation began, and the trends over time since 1956. A comparison is made with the Western country with which we are most familiar - Great Britain - but it should be stressed that there is considerable diversity across countries and that Britain cannot necessarily be taken as representative.

The final section draws together some of the main conclusions.

1. The Role of Distributional Issues

This section is concerned with the role played by distributional issues in the debate about economic transformation. Whatever the choices that are made in Eastern Europe, it is in our view important to understand the *structure of the argument* by which these choices could be justified. Irrespective of whether one agrees or disagrees with the low priority apparently being attached to the distribution of income, it is desirable that there should be clarity about the underlying reasoning and that the implications of different positions should be fully articulated.

The relative neglect of distributional issues in the current debate about economic reform could - in theory - be justified in several ways. These justifications are based essentially on ethical premises but some also involve a view about matters of empirical fact. In what follows, we identify three sets of arguments as to why distributional objectives should receive low priority, and describe some of their strengths and weaknesses.

(It should be noted that these are *potential* arguments; it is not our intention to seek to document actual debates.)

Process not Outcome

The first argument views the *process* rather than the consequences as the criterion by which economic and social organisation is to be judged. The introduction of a market economy is seen as justification in itself of the reform. To the extent that this leads to inequality, such inequality has no ethical consequences. Different incomes are justifiable because they are generated by a process of free exchange. Providing that the initial point of departure is regarded as "fair", then no question need be asked regarding the outcome. This proviso is, however, important and has obvious implications for such matters as the terms on which state assets are disposed or the treatment after reform of wealth acquired previously by illegal activity. It means that concerns of equity are not dismissed, but removed to another plane. Distributional performance is to be judged, not by criteria such as the well-being of the bottom 25%, but by fairness at the starting line. It is evident that this line of justification is inconsistent with the view that distributional concerns can be postponed to a later stage in the reform.

The argument just described sees the starting conditions as being determined by the new regime. As such, it would be independent of the pre-1990 situation. However, it seems almost inevitable that the initial position of the market economy will be influenced by the pre-1990 set of entitlements. It is not as though the market economy is being established by persons newly

arrived in a previously unpopulated land, where the initial distribution of assets is yet to be determined. In practice, the slate cannot be wiped completely clean. If this is so, then the state of distribution under the Communist regime is of relevance.

A variant on the Process not Outcome argument sees the Eastern European societies, prior to 1990, as characterised by inequalities as serious as those in the West. (As we discuss below, there were of course significant differences *within* Eastern Europe - just as there are between Western countries.) The transition to a market economy will, on this view, have no great effect on the distribution of outcomes.³ What it *will* affect is the composition of the different income groups. The top 10% may still get 25% of total income, but they are different people. The normative judgment is then made that, whereas under Communism such advantage was unjustified, under the market system it may be justified by appeal to notions such as "desert". It is again not the degree of inequality but the legitimacy of the process which is the central concern.

These arguments framed in terms of the legitimacy of free markets may of course be questioned, particularly on the grounds that the outcomes may call into doubt the legitimacy of the political process. The political liberalisation accompanying, or preceding, economic liberalisation means that political as well as economic behaviour has to be considered. The distributional outcome of the market process may not be of direct concern, but may have indirect consequences. A sharp worsening of inequality could be a major destabilising factor, prejudicing aspects of the political reforms. This has long been recognised:

"We maintain that if a state is to avoid the greatest plague of all - I mean civil war, though civil disintegration would be a better term - extreme poverty and wealth must not be allowed to arise in any section of the citizen-body, because both lead to both these disasters. That is why the legislator must now announce the acceptable limits of wealth and poverty. (Plato, quoted in Cowell (1977), p 26).

Liberty has Priority

A second, different, line of argument accepts that distribution may be of concern but argues that inequality is an inevitable consequence of moving to a market economy and that there exist no effective policies to redistribute income that are consistent with individual liberties. This view accepts that inequality under Communism may have been lower than in the West, but argues that this was only achieved by excessive involvement of the state. Measures such as limitations on the mobility of labour have been necessary to compress wage differentials. If such state intervention is unacceptable, then we may expect differentials to widen as part of the reform process, since it would only be bringing Eastern Europe in line with other European countries. On this basis, any rise in inequality is regarded as a "catching up" process.

With the retreat of the state from an interventionist role in the economy, it has - on this argument - given up the principal instruments with which to influence the distribution. The state may be concerned about the extent of inequality or poverty but the prior constraints on its actions mean that redistributive policy is "ineffective". There is a

lexicographic ordering of objectives, with individual liberties taking priority, and the pursuit of equity being circumscribed as to the type of policy that may be used. Whether this precludes any effective redistribution is in part an empirical matter. The differences across countries in their welfare states, for example between Scandinavia, West Germany and the US (see Esping-Andersen and Micklewright, 1990), suggest that there is room for choice about the extent of redistribution. Nor is it evident that giving primacy to individual liberties precludes other forms of social action. An unregulated market is not the only alternative to state control. There exist other forms of economic organisation which can combine distributional advantages (especially in limiting the inequalities associated with private ownership of capital) with freedom in the labour market.

Efficiency Costs

A third argument is that redistribution, while possibly desirable in principle, has too high a cost in terms of economic efficiency. As a consequence, the interests of all are best served by giving priority to improving overall economic performance. If average incomes were to rise in, say, Poland by over 50% by the end of the decade then should we worry if the larger cake were to be rather more unequally divided? If all groups derive some gain, the transition would be a Pareto improvement, and would be regarded as justified according to all welfarist social welfare functions including one focussed on the least advantaged. The bottom 10% for example may have a smaller share of total income, but in real terms they are better off, not

least because goods not previously available can be purchased on the market. Put more bluntly, on this view poverty was widespread under Communism and would be reduced by the all-round prosperity of the market economy and the elimination of shortages. On this basis, any redistribution of a given total income can be postponed until the country is richer - or for ever.

In considering this argument, it is necessary to separate the costs of redistribution as carried out prior to 1990 from the costs of redistribution in a market economy. It is the latter that now have to be discussed, and the experience of Western economies is inconclusive as to such matters as the disincentives associated with the provision of social security (see Danziger, Haveman and Plotnick, 1981, Atkinson, 1987, and Sandmo, 1990). In contrast to the previous argument, it seems likely in this case that there will be an interior solution, with there being disagreement about *how much* redistribution rather than about its existence. In concrete terms, there may be agreement about the need for a "safety net", but disagreement about its level and the conditions under which it is administered.

This argument is often cast in dynamic terms. In a growing economy, the gains from higher GDP per capita will "trickle down" to the lowest income groups, so that all will benefit in real terms. Kornai has recently provided a dynamic reformulation of the Rawlsian distributive principle along these lines:

"a distribution system is fair only if it ensures continuous improvement in the material situation of the least well-off strata of society in the long run" (1990, p 124).

The experience of Western countries suggests that there is no guarantee that such a criterion will be met. In the UK the official figures show that average real incomes rose by 23.1% between 1979 and 1987 but the ninety-fifth percentile (5% up from the bottom) is shown as increasing by only 0.1%.⁴ The failure of the bottom income groups to share in rising real incomes was attributable in part to increased unemployment and in part to the reduced levels and coverage of social security benefits.

Moreover, the position of the least advantaged cannot be assessed independently of incomes elsewhere in the society. The ability of the least well-off to attain a specified level of consumption depends on the range of goods available on the market, which in turn depends on the general level of incomes. If there are fixed costs of production, and monopolistic competition, there may only be a restricted range of products on the market. With a general increase in incomes, it may no longer be possible to find goods of the required qualities (for example, cheap cuts of meat) or in the required quantities (for example, small-sized packets). Availability may therefore be an issue in market as well as Communist economies. What is more, consumption should be seen as concerned, not with goods as such, but with consumption activities or capabilities (Sen, 1983). The goods required to achieve a specified level of activity may depend on the living standards of others in society. These considerations indicate that the position of the least well-off cannot be viewed in isolation from what is happening to the more fortunate.

Conclusion

In this section we have considered a selection of the arguments and examined their underlying structure. This has, we hope, served to clarify certain features - whether for example distributional issues arise only at the outset (Process not Outcome) or only when the country is richer (Efficiency Costs). Which of these arguments and counter-arguments one finds convincing is of course a matter for judgment, but, as we have tried to indicate, it depends also on an assessment of such matters as the costs and effectiveness of redistribution.

The aspect on which we focus here is the role of differing views about the existing distribution under Communism. Not all forms of the argument invoke such a comparison, but it enters in a number of ways. In the case of the first set of arguments - Process not Outcome - the pre-1990 distribution may impinge on the initial conditions, and a comparison with the conditions under the previous regime may well influence political reactions and hence the democratic legitimacy of the new governments. In the case of the second set of arguments - Liberty has Priority - the comparison of distributions across regimes provides some evidence about the extent to which different outcomes can be achieved under different forms of organisation. Finally, the "trickle down" argument invites a comparison with the pre-1990 situation, which provides a benchmark against which the dynamic gains to the least well-off are to be judged.

2 Data: Availability and Comparability

To the outsider, the first of these - availability - may seem to pose the most insuperable problems when seeking to assess the extent of inequality in Communist countries. This impression seems to be borne out, in the case of the Soviet Union, by statements like

"published statistics on the distribution of earnings in the Soviet Union are almost nonexistent" (McAuley, 1979, p 218).

or

"They clearly dispose of innumerable surveys and a rich store of data, but scarcely any absolute figure has ever been published." (Wiles, 1974, p 1).

or

"The average wage in 1986 was 195.5 rubles a month. But what share of the population receives this amount? How many receive more? How many receive less? In vain did we try to learn this." (Dmitriev, 1989, p 60).

or

"Concerning income inequality in the USSR, the Soviet government apparently prefers to withhold rather than to release information." (Bergson, 1984, p 1091).

Bergson goes on to say that Western scholars have nonetheless been able to make illuminating deductions, a celebrated example being the reconstruction of the Soviet earnings distribution by Wiles and Markowski (1971) from a graph published with no scale.

On closer inspection, the situation regarding the availability of income data in Eastern European countries is considerably more complex, and in many respects more encouraging, than the quotations above may suggest. First, the

availability of data in the USSR has improved over recent years. Notably, there have been published in the annual statistical handbook (Narodnoe Khoziaistvo SSSR, 1988, p 79) official figures for the distribution of earnings, not only for a recent year but retrospectively for a number of years back to 1956.⁵ Official figures are also given in the same source for the distribution of per capita household income.

Secondly, the USSR is not representative of the situation in all countries in the region; the Central Statistical Offices of a number of Eastern European countries have an impressive record of publications. Evidence about the distribution of earnings in Poland has been collected and published since 1955 (Vielrose, 1978, p 229). The basic table is indeed published in English (Poland Statistical Data 1988). Like that for Hungary and Czechoslovakia it has been given regularly in the Annual Statistical Abstract. Information may also be found about the distribution of household income in the official statistical publications (that for Hungary being published as well in English and Russian). The Polish data are based on Household Budget Surveys carried out on a continuous basis by the Central Statistical Office; the Hungarian income data are derived from a regular population income survey which has been conducted since 1963. Not surprisingly, earnings data are usually available for more years than income data: for example the Hungarian household income survey is held only every 5 years but the earnings survey is now held every 2 years (there is in addition a household budget survey, also held every 2 years).

It is indeed important to keep a sense of perspective about availability, as the example of the United Kingdom illustrates. The regular collection of statistics on the earnings distribution (the New Earnings Survey) only began in 1970, or 15 years after Poland. Government statistics are published on the distribution of income, but they have had a chequered history. Estimates of the overall distribution were made throughout the 1950s and 1960s, but in 1970 the Government decided to cease producing these estimates, on the grounds of "the increasing amount of estimation required". The re-introduction of the series 5 years later came only after a new Government allocated more resources to this area of official statistics. But this in turn was reversed by the Thatcher Government, the regular construction of income distribution statistics being discontinued and the estimates being produced only every 3 years (so that the most recent available in the Autumn of 1990 are for 1984/5). As this illustrates, political factors play a role in the availability of statistics in market as well as Communist countries.

Comparability

The comparison of distributional data across countries raises many issues; here we focus on those that seem most important in the present context.⁶

The first difficulty arises from what can be different approaches in East and West to the collection of statistics and the fact that these may have different implications for the reliability of statistics. All statistical sources are deficient and the implications of the deficiencies will vary with the

methods adopted. In some Eastern European countries the point of departure for both income and earnings data collection has been the enterprise, and in these countries the household surveys are typically based on the employer as the point of contact.⁷ This means that those employed in the private sector, for example, are excluded from the Polish household surveys, as are the army, the police and the nomenklatura. The coverage of the family budget surveys in the USSR was described in 1989 as follows:

"Not all branches, regions, and republics are as yet represented in the selection. To be sure, not 62,000 but 90,000 families have been studied since 1988. Included for the first time are science and art, trade, public catering, material-technical supply, and the management apparatus, the absence of which unquestionably impoverished the picture. Regional coverage will also be expanded. Republics and regions where it is difficult to organise counters and that at the same time have 'spoiled the picture' will be included" (Boldyreva, 1989, p 91).

Writing on the quality of these data, Shenfield (1983) describes them as "very unreliable" and argues that they should be avoided.

The relation between the state and its citizens will affect the quality of statistical data. Response rates to the Polish household survey are said to have fallen (below 50%) during the period of Martial Law. On the other hand, the accuracy of earnings data supplied by the households in Poland and in Hungary is checked against employer records - a check which is not applied in Great Britain.

The differences in statistical methods between East and West should not however be exaggerated, and it has to be remembered

that the situation in Eastern Europe varies from country to country. In contrast to the methodology described in the USSR, Hungarian surveys have adopted the dwelling, and not the workplace, as the sampling unit. The definition of the household follows United Nations Census Recommendations. The response rate to the most recent quinquennial income survey, referring to 1987, was over 90%, and the estimated per capita average income in the last five surveys has been within 4-6% of that indicated by macro-level statistics.⁸

It is evident that valid inferences about the relative income distribution in different countries can only be based on a careful comparison of the sources and their shortcomings, and of the methods applied to deal with the latter. The value of this kind of work is illustrated by a study conducted by the statistical offices of Hungary and the Netherlands which was able to achieve a high degree of harmonisation in the analysis of micro-data on incomes in the two countries (Bruinooge et al, 1990).

In considering such a comparison, it should be remembered that it is not just *differences* in methods that may cause problems. It is also the case that statistical deficiencies which are *common* to East and West may have different implications on account of the social and economic differences. For example, household budget surveys exclude the homeless, an omission which is likely to be quantitatively more important in some countries than others. Inadequate coverage of income from the underground economy may have a different effect on the estimated distribution of income. The omission from income data of capital gains is

more significant in Western countries with substantial private ownership of capital and land. On the other hand, at a time of rapid changes in consumer prices in Eastern Europe, the appreciation of consumer durables may have a quantitatively large effect.⁹

Interpretation

Once the results have been obtained, there are issues of interpretation. If the objective is to compare the distribution of different economic systems, then allowance must be made for other relevant differences. The most obvious is the stage of development. Bergson (1984, p 1073) notes that he is comparing the USSR and relatively advanced Western countries, whereas those with per capita GDP closer to that of the USSR might have higher income inequality. We ourselves in Section 3 compare the earnings distribution with that in Britain, whereas a better choice might be a country at a lower level of development. One study which treats such differences explicitly is that of Pryor (1973).¹⁰

Problems of interpretation arise when considering changes over time within a country. Statistics which captured reality with reasonable accuracy at one date may not be sufficiently flexible to map the evolution of the economy. The importance of dynamics is evident in Eastern Europe. Sources of income are changing, with private sector activity becoming more important and with the emergence of new forms of income such as private pensions or other transfers. The disappearance of certain forms of income to the previously privileged may be accompanied by the

emergence of new forms of elite remuneration, particularly given the potentially greater importance of income taxation.

Perhaps the most obvious problem of interpretation in the present context concerns the meaning of money income in economies where there are substantial shortages, where rationing mechanisms operate in a way that has significant distributional consequences, and where there is substantial subsidisation of consumer prices.

If goods are not available, or can only be obtained by queueing, then the distribution of cash income does not correspond to the distribution of standards of living. As put by Kordos:

"the real incomes index has a different meaning in the environment of a strong economic imbalance which dominated in Poland in the eighties than in the balanced economy. In the environment of a strong economic imbalance it provides information on the potential not actual purchasing power of the population" (1990, p 5).

Or, put more directly,

"With prices below clearing levels, money income ceases to be the sole determinant of capacity to acquire goods; to a degree, fortitude in searching out supplies and standing in queues, and plain luck, become consequential" (Bergson, 1984, p 1058).

Where goods are rationed, this is likely to lead to a secondary market. In this situation, it may be possible to calculate real income, but the appropriate price index is one based on the effective rather than official price. This is particularly important during a transition to a market economy, where the

movement in the official price index may over-state the effective rise in prices.

Rationing could be, as in war-time, *relatively egalitarian*, with goods and services made available socially on a uniform basis. However, it has been argued that in the USSR

"the 'quality' of services provided from social funds varies greatly. While free benefits are available to everyone, where is the guarantee that a worker will receive the same medical care in his raion polyclinic that a minister receives in his departmental polyclinic?" (Dmitriev, 1989, p 60).

When this is taken into account, the equalising effect may be less.

Moreover, shortages have also been accompanied by a "notable variety of discriminatory marketing practices" (Bergson, 1984, p 1058, referring to the USSR), including restricted shops supplying selected groups of consumers. Goods may also be distributed through the workplace. This may apply to access to holiday homes, sports and other leisure facilities, and even to foodstuffs. The "quality" of the enterprise that one works for may be an important determinant of living standards independently of the level of earnings.

The distributional effects of shortages are likely to be significant but very difficult to assess, although some attempts have been made to allow for the privileged position of the elite. More susceptible to quantification is the impact of consumer subsidies. In Hungary in 1988 these represented some 5% of GDP, with production subsidies another 10%. A study of the incidence of consumer and housing subsidies showed that, overall, these had

only a moderate equalising impact on the distribution of income, but that there were considerable differences between the effects of housing and non-housing subsidies (Abel, 1990). The distributional consequences of the removal of subsidies will depend on which are reduced. We should also remember that subsidies (and price controls) also occur in Western economies: parallel to fixed low-interest loans in Hungary is the tax-relief on mortgage interest in Britain.

Conclusions

The difficulties discussed above have evident implications for the comparisons of earnings and income distributions. It cannot be doubted that they call into question the validity of the exercise, and some people may be inclined to give up at this point. However, for those who attach importance to the question of distribution, the only satisfactory response is to allocate more statistical and analytical resources to the resolution of these difficulties, or the evaluation of their consequences. The development of methods for comparing distributional outcomes is important not just for the historical question of comparing Communism and capitalism. The comparison of the post-1990 distribution with that prevailing under the Communist regime is going to raise many of the same problems as the comparison of East and West pre-1990.

3 Distribution of Earnings

Labour markets in the economies of Eastern Europe have been the subject of considerable attention from Western writers,

although there is substantial variation in views taken of their functioning:

"Some [Western writers] treat the labour market in socialist countries as identical to the corresponding institution in developed capitalist countries: others think that employees in socialist countries work in bureaucratic organisations for a fixed wage and that laws restrict their free choice of workplace" (Gabor and Galasi, 1981, p.41).

It is not our purpose to discuss the operation of labour markets under central planning in any detail. Rather we restrict ourselves to some general features of pay determination under state socialism and a number of broad features of Eastern European labour markets which may be expected to affect the distribution of earnings.

Pay in Communist countries is often said to be determined by the maxim "to each according to his work". This could mean a variety of things, but a common view is stated by Phelps Brown in his work on the structure of pay in both East and West; "it is no part of the Soviet philosophy of pay under socialism to give equal pay for unequal work" (1977, p 43). He notes that wage differentials have for pragmatic reasons been set with regard to incentives to invest in human capital, to enter occupations with unpleasant conditions, to bear responsibility, to work hard on the job, and to move to industries or areas selected for an expansion of employment.¹¹

Certain industries and occupations have had favoured status and, in particular, white-collar workers have received distinctly lower rewards in relative terms than their counterparts in the West (Phelps Brown, 1977).

In drawing attention to the general principles of pay determination under Communism, we are not suggesting that wages in the countries we are considering are entirely under central direction. Enterprises have a degree of flexibility and the payment of bonuses dependent on results is a common practice. Wage policy is constrained by a significant degree of mobility between enterprises, with high rates of turnover due to voluntary quits. But there are major features of the economy - in addition to the state ownership of enterprises - which allowed a wages policy to be pursued. These include (although it is important to bear in mind that the countries exhibit considerable diversity and that different features had differing importance at different dates):

- restrictions on geographical labour mobility, through such measures as internal passports and residence permits,
- a structure of industrial employment in which large enterprises are dominant,
- the existence of official minimum wages, and of "equal pay for equal work" for men and women.

These factors are likely to have influenced the structure of earnings, as did the existence of "guaranteed jobs" and very low unemployment, and the high level of female participation, most of it in full-time work. If low productivity workers are employed, rather than unemployed, this may lead to the distribution of earnings being more dispersed. If more women are employed, and they tend to be in lower-paid jobs, then this may again lead to greater dispersion of earnings (although less inequality of household incomes). The dominance of large

enterprises, on the other hand, may have led to greater uniformity of wages. Equal pay and minimum wages may be expected to have reduced the dispersion.

Comparison of Earnings Distributions

The empirical comparison of earnings owes a great deal to the study by Lydall (1968), in which he painstakingly assembled evidence for a wide range of countries. To facilitate comparisons across countries, he defined a "Standard Distribution", which related to

The earnings of adult males, in all occupations, in all industries except farming, in all areas, working full-time and for the full period. Earnings are defined to be money income from employment before tax or other deductions (see Lydall, 1968, p 60).

In many cases data were not available on precisely this basis and Lydall made approximate adjustments.¹² He summarised the results in terms of the level of earnings at specified percentiles expressed as a percentage of the median: P_i denotes the earnings of the i -th percentile from the top relative to the median expressed as a percentage (so $P_{50} = 100$). In Table 1, we show the results for European countries and the United States obtained by Lydall. Most of the evidence relates to the period around 1960.

Table 1 Summary of Earnings Distribution Around 1960

	P ₇₅	P ₁₀	P ₅
Czechoslovakia 1964	85	145	165
Hungary 1964	83	155	180
Denmark 1956	82	160	200
UK, 1960-1	80	162	200
Sweden 1959	78	165	200
Yugoslavia 1963	80	166	200
Poland 1960	76	170	200
West Germany 1957	77	165	205
Belgium 1964	82	164	206
United States 1959	75	167	206
Austria 1957	80	170	210
Spain 1964	75	180	220
Finland 1960	73	200	250
France 1963	73	205	280

Source: Lydall, 1968, Table 5.5

The least unequally distributed earnings distributions are those in Czechoslovakia and Hungary, which appear distinctly different from the Western European countries. Poland is among the group of Western countries with less inequality, such as Denmark and Sweden and, at that time, the UK. Lydall also refers to the "few straws" of evidence about the USSR post-1934 and concludes that

"we may guess that the dispersion of all employee incomes in the Soviet Union is somewhat greater than in Hungary and less - on a pre-tax basis - than in the United States or most of Western Europe; but the dispersion of manual workers' earnings may well be greater than in western Europe" (1968, p 162).

This referred to the position around 1960. In Table 2, we assemble the evidence available for 1987 (or 1986) for the USSR, Poland, Hungary, and Czechoslovakia, taking the same percentiles as before but adding P₉₀ in view of the particular importance of what happens at the bottom of the scale (and P₂₅). As far as possible we have followed the Lydall Standard Distribution (see notes to the tables), but with the difference that we have taken

the distribution for all workers (male and female), rather than simply male workers. The figures are not therefore directly comparable with those in Table 1; and we would expect there to be greater dispersion on this account. As a point of reference, we have shown also the distribution for Great Britain.

Table 2 Summary of Earnings Distribution in 1986-7
All workers (male and female), working full-time.

	P ₉₀	P ₇₅	P ₁₀	P ₅
Czechoslovakia 1987	62.1	76.9	127.3	153.7
Hungary 1986	60.2	76.8	128.7	164.3
Poland* 1987	61.3	77.3	129.2	168.8
Great Britain 1987	56.6	73.5	135.3	180.8
USSR 1986	54.6	72.2	135.9	183.4

Note: * earnings net of payroll tax.

Sources:

Czechoslovakia: Vecernik, 1990, Figure 3 (original figures kindly supplied by author), percentiles obtained by linear interpolation. Covers all full-time workers in state sector, departing from Standard Distribution in including state agricultural workers (but excluding agricultural co-operatives) and in excluding non-agricultural workers outside the state sector.

Hungary: Statistical Yearbook (English-Russian edition) 1986, Table 4.13. The percentiles have been interpolated log-linearly. Covers full-time workers in socialist sector and departs from Standard Distribution in excluding the private sector, the Army and the police.

Great Britain: New Earnings Survey (NES). P₉₀, P₇₅, and P₁₀ obtained from NES (1990, Table 17); P₅ interpolated log-linearly from NES (1987, Table 34). Covers full-time adult workers (defined as those paid at adult rates), whose pay was not affected by absence, departing from Standard Distribution in covering agriculture.

Poland: Rocznik Statystyczny 1988, Table 6(223), where P₂₅ and P₇₅ have been log-linearly interpolated. Covers full-time workers in socialised sector, departing from the Standard Distribution in excluding the Army, police and some other minor groups (Vielrose, 1978, p 229). Departs from Standard Distribution in that earnings are net of payroll tax.

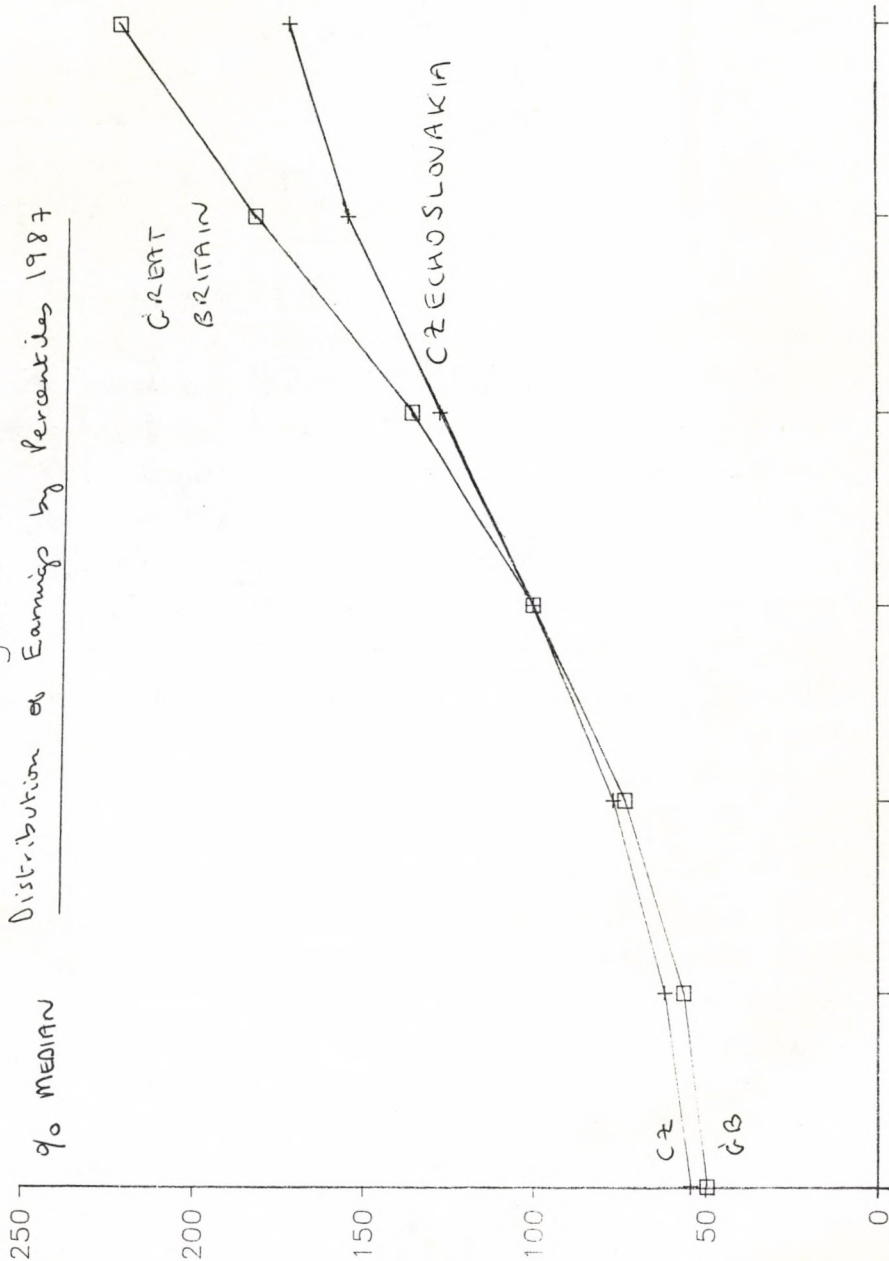
USSR: The USSR in Figures for 1988, p 59 (original source Narodnoe Khoziaistvo SSSR, 1988, p 79). The percentiles have been interpolated log-linearly. Covers all state employees and restricted to full-time full-month workers but departs from Standard Distribution in including agricultural workers (but excluding those on collective farms).

What does the evidence show for the Communist countries? In considering the figures in Table 2, it should be borne in mind that they are not fully comparable. The fact that the earnings data for Poland are after payroll tax is marked in the table, but there are also differences in the coverage (see the notes to the table). There are undoubtedly other respects, such as the treatment of part-time workers, in which the figures may not be comparable.

With this qualification, we may conclude that the position in the latter part of the 1980s was not very different from that described by Lydall. The degree of dispersion appears to be least in Czechoslovakia, followed by Hungary. If we take the decile ratio P_{10}/P_{90} as a measure of spread, then this has a value of 2.48 in Czechoslovakia and 2.73 in Hungary. These may be contrasted with a figure of 3.19 for Great Britain. The distributions in Great Britain and Czechoslovakia are compared in more detail in Figure 1 (taken from the same sources as Table 2).

The decile ratio for Poland is similar to that in Hungary (2.75), but when we allow for the payroll tax this suggests that Poland was closer to Great Britain. Indeed, if we deduct the National Insurance contributions and income tax paid (for a single person) from the earnings in Britain, then the decile ratio falls to a value similar to that in Poland. Finally, the information for the Soviet Union, more solidly based than that available when Lydall wrote, suggests a degree of dispersion not dissimilar to that in Great Britain: the decile ratio is indeed rather higher (3.36).

Figure 1
Distribution of Earnings by Percentiles 1987



The figures for 1986-7 bear out the earlier finding that there is considerable diversity *within* the group of Communist countries considered. According to Table 2, Czechoslovakia and Hungary were as different from the USSR as they were from Britain.

Trends over Time

Changes within countries in the distribution of earnings are of particular interest. In Figures 2 and 3 we show the movement of the decile ratio, P_{10}/P_{90} , over the period since 1956 (Figure 2) and, in more detail, since 1970 (Figure 3). Again there are a number of reasons why the figures are not comparable, in this case across time. Some of the most important are covered in the notes to the Sources, but reference should be made here to the growth over time of second jobs and unofficial employment.

We begin with the Soviet Union, in which case the estimates for earlier years involve a considerable degree of judgment. Bearing this qualification in mind, we may draw the conclusion that between 1956 and 1968 there has been a "marked reduction in earnings inequality in the Soviet Union" (McAuley, 1979, p 213), but that since that date the trend has, if anything, been in the opposite direction. The factors lying behind the changes in earnings dispersion over time in the USSR have been examined by McAuley, who notes that

"significant changes in the dispersion of earnings seem to coincide with the major innovations of state wage policy" (1979, p 223).

He refers to the re-organisation of the wage structure over the period 1956-1965 and the substantial increase in the minimum

Figure 2
Decile ratio

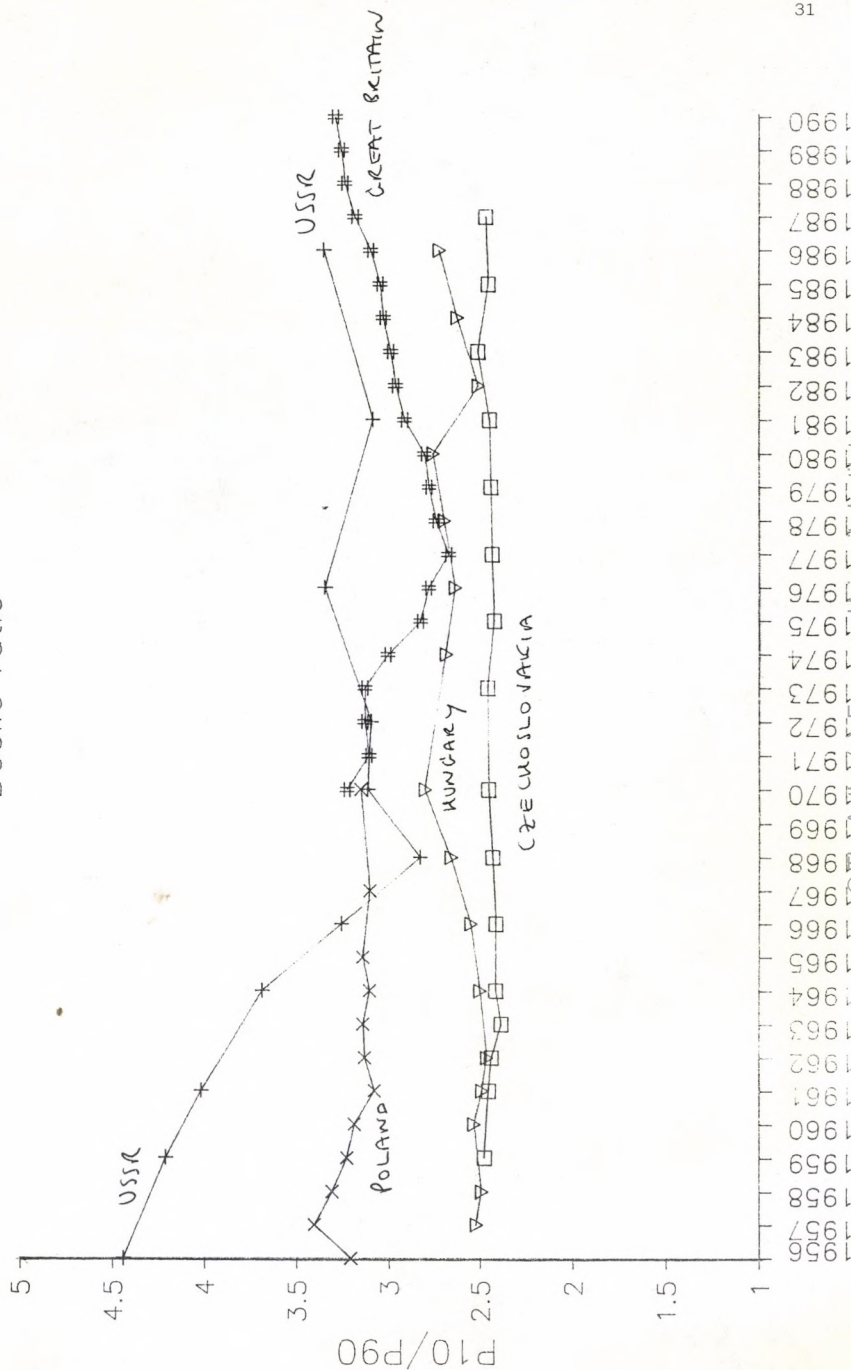
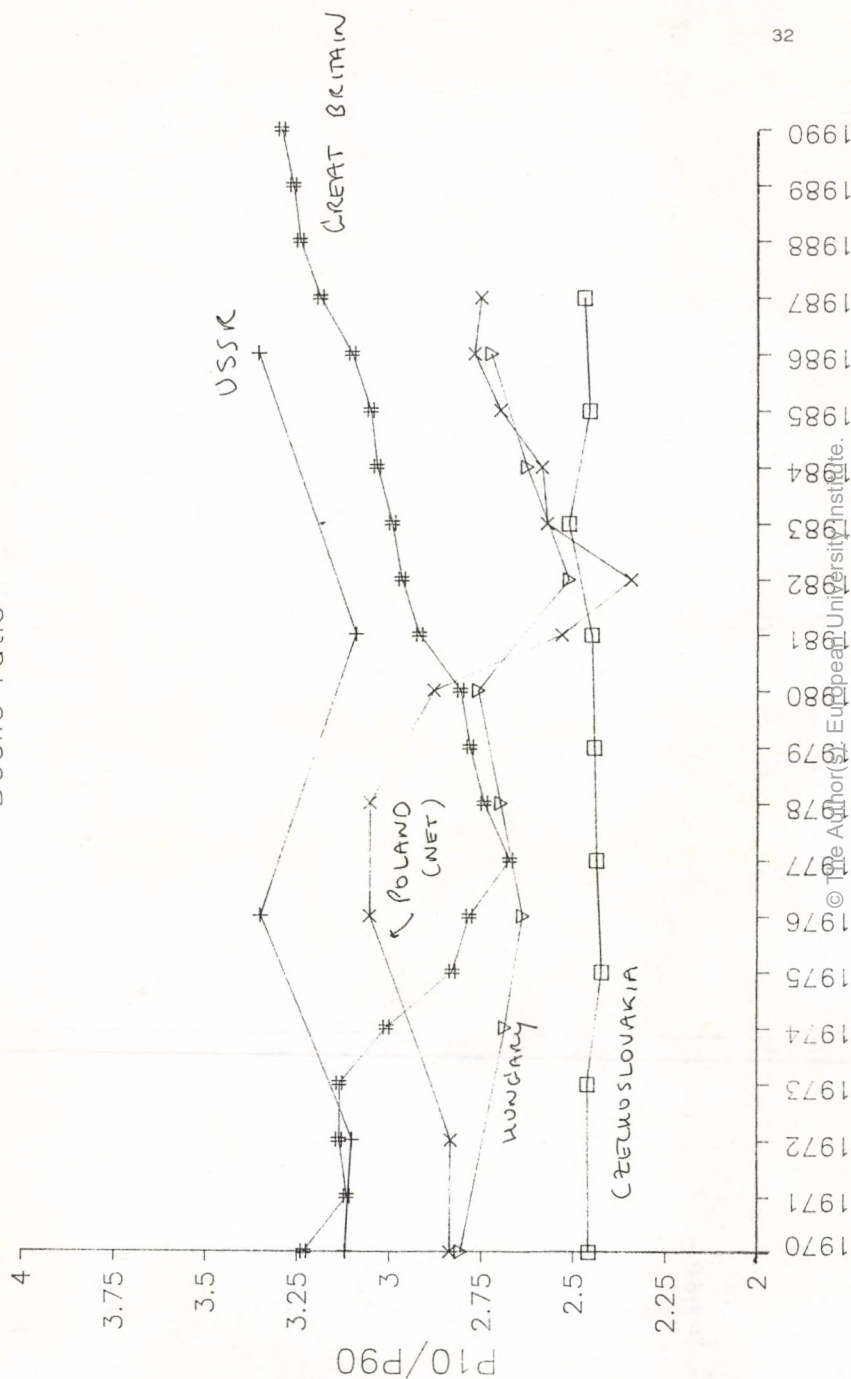


Figure 3
Decile ratio



wage. The minimum wage was raised in 1968 (the announcement was made on the eve of the fiftieth anniversary of the Revolution), leading to a sharp contraction in wage scales (Chapman, 1983). The 1970s saw a further round of wage reform. This was protracted and, as has been emphasised by Chapman (1983), in interpreting the figures it is important to bear in mind the timing of wage changes: the rise in the decile ratio in 1976 reflected the fact that the wage reform was incomplete. The completion of the reform brought the decile ratio in 1981 back to a level comparable with that in the early 1970s (although not the 1968 level). Between 1981 and 1986 the decile ratio increased, and this reflected the fact that more recent wage reform has aimed at widening differentials (Oxenstierna, 1990, p 242). It may be noted that the minimum wage has fallen from 49% of average wages in 1970 to 32% in 1988 (Sziraczki, Table 1).

The situation in the USSR may be contrasted with that in Czechoslovakia, where the decile ratio was remarkably stable over a 30 year period. This stability may be considered surprising in view of the campaign for "de-levelling" in the 1960s (Phelps Brown, 1977, p 48 and Myant, 1989, Chapter 6) and the declaration by the 1968 Party Action Programme that wage levelling was an obstacle to growth.

Czechoslovakia is indeed the only of the five countries for which the statistics indicate stability. In Great Britain, between 1970 (when the series starts) and 1977 there was a distinct fall in the decile ratio in Britain. This was associated in part with the improvement of the relative earnings position of women (it was over this period that the Equal Pay

legislation was implemented), but there was also a reduction in dispersion for male workers: the decile ratio fell from 2.46 in 1970 to 2.32 in 1977. Since the late 1970s there has been a distinct upward trend in the decile ratio, only a small part of which is accounted for by the change in definition of adult workers in 1983. Over the 1980s, inequality of earnings has increased significantly in Britain: the decile ratio for all workers has risen from 3.0 in 1983 to 3.3 in 1990.

In the case of Hungary, Flakierski (1986) identifies the period from the mid-1960s to the early 1970s as one when the dispersion of earnings increased and 1974-1980 as one when dispersion declined. From Figure 2 it may be seen that there was a rise in the decile ratio up to 1970, followed by a decline from 1970 to 1976. There is then a break in the comparability of the series (see the notes to Figures 2 and 3). The figures for the 1980s indicate an upward trend. The decile ratio for 1988 is not shown in the diagram, but there was a sharp increase (to a value of over 3). This reflects to a considerable extent the grossing-up of "first economy" earnings which accompanied the introduction of the progressive personal income tax in 1988, but there remains evidence of a continuing trend towards increased earnings inequality in the second half of the 1980s.

In the case of Poland, the distribution of gross earnings is shown up to 1970 in Figure 2 and the distribution of net earnings from 1970 is shown in Figure 3. After a fall in the late 1950s, there is little trend in the decile ratio from 1961 to 1970. But from 1972 to 1978 there was a detectable increase in dispersion. This was followed in 1980-1 by a significant

improvement in the position of the lowest decile and a reduction in differentials at the top. This may in part reflect problems with the data:

"the spectacular drop in relative dispersion of earnings between 1980 and 1982 claimed by the official statistics is probably exaggerated, because the official statistical data in this period of turmoil are particularly unreliable" (Flakierski, 1986, p 72).

But he also says that

"there is no doubt that even the partial implementation of Solidarity's wage and incomes policy has reduced inequalities" (1986, p 72).

Since then the dispersion has tended to increase again, and the position in 1987 is little different from that in 1972.

The distributions described above refer to cash earnings, but, as we have discussed in Section 2,

"the dispersion of actual earnings is determined not only and not mainly by money wages, but, in addition to [moonlighting], by special benefits deriving from the state and the ability to obtain scarce goods and services due to "connections" and position" (Flakierski, 1986, p 78).

Flakierski goes on to refer to vacation houses, foreign currency, subsidies for car and housing. These differences may extend quite a long way down the earnings scale, with for example non-manual workers being more likely to benefit than manual workers. At the same time, it is probably the upper percentiles of the distribution who derive particular advantage from these sources: P_1 is more affected than P_{10} . Morrisson quotes estimates for the size of the "privileged" population varying from 0.2% to 1.5% in the USSR and of 0.7% in Poland (1984, p 125). We have also to

bear in mind the existence of "fringe benefits" in Western countries, a description which may give a misleading impression of their quantitative importance. In the UK the Royal Commission on the Distribution of Income and Wealth found that

"there is little doubt that if account were taken of employee benefits, working conditions and other aspects of employment, the dispersion of the earnings distribution would be increased. The effect within the top one per cent of employees must be particularly marked." (1979, p 233).

Conclusions

It is conceivable that factors of the kind described in the previous paragraph could change the entire picture. If they do not, then two conclusions seem to emerge. The first is that there have been systematic differences between Eastern European countries in the distribution of earnings, and that it would be a mistake to treat them as a homogeneous bloc - just as it would be misleading to take Britain as representative of OECD countries. Secondly, the pattern of changes over time in the earnings distribution have also differed considerably across countries, differences which may be the result of differing history but may reflect differing policy priorities. Thirdly, an element common to four of the five countries (the exception is Czechoslovakia) is the apparent rise in earnings inequality over the 1980s.

Sources for Figures 2 and 3:

Czechoslovakia: Vecernik, 1990, Figure 3 (original figures kindly supplied by author), percentiles obtained by linear interpolation.

Hungary: Statisztikai Évkönyv (SE) or Statistical Yearbook (English-Russian edition), denoted by SY. 1957 from SE, 1957, Table 16; 1958, SE, Table 20; 1960 and 1966, SY, 1966, Table 9; 1961, 1962, 1964 and 1968, SY, 1968, Table 15; 1970, SY, 1971, Table 15. 1972, 1974 and 1976 from Flakierski (1986, Table 1). 1978 and 1980 from SY, 1982, Table 5.10; 1982 and 1984 from SY, 1984, Table 5.13; 1986 from SY, 1986, Table 4.13. The figures up to 1976 relate to the state sector; the figures from 1978 relate to the socialised sector. The estimates for 1970 by Michal (1978, Table 8.8) show a decile ratio of 2.70 for the state sector and 2.76 for the socialised sector. The percentiles have been interpolated log-linearly.

Great Britain: New Earnings Survey (NES), 1970, Table 2 (Basis D); 1971, Table 7; 1972, Table 8; 1973, Table 8; 1974, Table 19; 1975, Table 19; 1976 Table 19; 1977, Table 19; 1978, Table 19; 1979, Table 19; 1980, Table 19; 1981, Table 19; 1982, Table 34; 1983-1990 from 1990, Table 17, p A17.1. The figures from 1983 refer to workers paid at adult rates; those before 1983 relate to men aged 21 and over and women aged 18 and over. In all years the statistics relate to those whose pay was not affected by absence. The percentiles for 1970-1983 are interpolated log-linearly.

Poland: 1956-60 from Rocznik Statystyczny (RS) 1961, p 373; 1961-5 from RS 1967, p 550 and 1972, p 559; 1967 and 1970 (gross) from RS, 1972, p 559; 1970 (net) and 1972 from RS, 1974, p 167; 1976 from RS, 1980, p 112. In these cases the decile ratios are obtained by log-linear interpolation. 1976 from RS, 1984, Table 7(209); 1978-1984 from RS, 1985, Table 9(224); 1985-7 from RS, 1988, p 162. The figures up to 1970 are gross of payroll tax; figures after 1970 are net of payroll tax. The difference made in 1970 may be seen from the two estimates given: the decile ratio was 3.04 before tax and 2.77 after tax.

USSR: The decile ratios for 1956, 1959, 1961, 1964, 1966, 1968, 1972 and 1976 are from Ellman (1980, p 670), the original source being the work of N E Rabkina and N M Rimashevskaja. The ratio for 1970 is from McAuley (1979, Table 9.4). The ratios for 1981 and 1986 are obtained from the source described in the note to Table 2.

Concluding Comments

Our review in Section 1 of arguments about the role of distributional concerns suggested that these have in part been influenced by beliefs about the degree of inequality under Communism and the starting point for economic transformation. Evidence about the pre-1990 earnings distribution in Eastern Europe and the USSR, reviewed in Section 3, may be relevant in several ways. It may help us assess the impact of the previous regimes in compressing wage differentials; it may provide a standard to judge dynamic fairness; the pre-1990 situation influences the initial conditions for a market economy. In practical terms, a firm base of information regarding the pre-1990 distribution is required if there is to be any assessment as to how far reform in Eastern Europe does in fact affect the degree of inequality.

We have emphasised in Section 2 the difficulties in making distributional comparisons and need for the careful assessment of statistical sources and methods. It is also essential to go beyond earnings to consider the wider picture relating to total net incomes. Nevertheless, we believe that the results assembled in this paper are of some value, particularly in bringing out the diversity between different Eastern European countries. The degree of earnings dispersion appears to be substantially less in Czechoslovakia, followed by Hungary, with Poland having an intermediate position between these countries and the USSR - where earnings dispersion measured by the decile ratio in 1986 was in fact higher than in Great Britain. This means that little weight can be attached to statements about "the" level of

earnings dispersion under Communism. Over time, the earnings distribution has moved differently in each of the countries and, although the 1980s are characterised by a rising trend in dispersion in Hungary, Poland and the USSR, this is not apparent in the statistics of Czechoslovakia.

The figures reported here show a rising degree of earnings inequality in Britain over the 1980s; the same finding has been reported for other OECD countries (Green et al, 1990). If this is a matter for concern, then Western economists need to examine the relationship with the institutions of the labour market and the impact of public policy. In this examination, there may be lessons to be learned from the experience of other economic systems. There is a natural tendency for Western economists to see the experience of their countries as providing lessons for Eastern Europe in the process of transformation. But one should not lose sight of the lessons that the West can learn from Eastern Europe. The changes in Eastern Europe should lead Western economists to ask questions about their own societies concerning the nature of social objectives, the past performance, and the direction of current trends.

1. Important exceptions, on which we have drawn in what follows, are the study of earnings in different countries by Lydall (1968), of earnings and incomes by Wiles and Markowski (1971) and Wiles (1974) and Pryor (1973), of earnings and incomes in socialist countries by Michal (1973 and 1978), of income distribution by Morrisson (1984), and the study of earnings and income in Hungary and Poland by Flakierski (1986).

2. We plan to cover the distribution of household income, and the incidence of poverty, in a subsequent paper.

3. The view is sometimes expressed that inequality is a "natural" feature of the human condition and that changes in economic organisation make no difference.

4. This refers to the figures for income after deducting housing costs (Atkinson, 1990, p 4).

5. The data are presented in terms of the same rouble classes for each year which makes those for 1956 of limited use, since 70% fall in the lowest range. A recent description of the sources of earnings data in the USSR is given by Braithwaite and Heleniak (1989).

6. Cross-country comparisons are a mine-field. At the same time, progress is being made, as exemplified by the Luxembourg Income Study (LIS), which by assembling income survey micro-data has brought international comparisons to a new level. And the data coming on stream will give information relevant to East-West comparisons, with a survey for Poland already available, and surveys from Hungary and Czechoslovakia due to be accessible in 1991.

7. "Workers are selected according to the production-branch principle. The family's characteristics are secondary" (Boldyreva, 1989, p 92), referring to the USSR.

8. We are grateful to O Elteto of the Hungarian Central Statistical Office for this information.

9. The distributional consequences of consumer durable price rises are described by Saenko and Mal'ginova:

"if we imagine that the population consists of two groups - those who had the corresponding elements of property and those who did not - ... when prices rise, the first group realizes its entire gain from the increase in the value of these elements of property, while the second realizes only higher costs. Therefore, *ceteris paribus*, the differentiation of the population according to level of well-being intensifies" (1989, p 76).

It should be noted that the prices of some durables may fall in the transition to a market economy as a result of import liberalisation.

10. A further potential factor is the *size* of the countries compared, a matter discussed by Wiles:

"The U.S.S.R. is a very big country, so surely it is bound to show more inequality on that ground alone? Surely the amount of social and fiscal effort required to keep a country equal rises as its size increases?" (1974, p 53).

Pryor (1973, Appendix B-9) does find a significant relationship with population size.

11. Other accounts of the determination of pay in centrally-planned economies include Adam (1984), ILO (1987) and Oxenstierna (1990).

12. For example, the Polish data were for all workers, not just men. On the basis of the ratio of the percentiles for manual workers (which were given for men separately), Lydall adjusted the estimate for all workers by the appropriate factor: in the case of P_s reducing it from 210 to 200.

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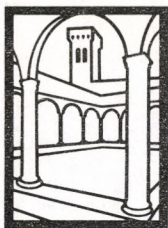
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