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Labour Market Outcomes:

A Cross-National Study

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Income Distribution, Economic Systems and Transition

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Contents

1.	Introduction.....	1
2.	Income distribution in socialist countries.....	5
	2.1 <i>Labour income in market and socialist economies</i>	6
	2.2 <i>Data sources on income distribution under socialism</i>	11
	2.3 <i>The distribution of earnings in socialist labour markets</i>	16
	2.4 <i>Inequality of household incomes under socialism</i>	22
	2.5 <i>Benefits in kind, subsidies and “fringe” benefits</i>	32
3.	Distribution in transition – theory.....	36
	3.1 <i>Transitional adjustment and the distribution of earnings</i>	38
	3.2 <i>The scope for mitigating measures</i>	42
	3.3 <i>Wage controls and unemployment</i>	44
	3.4 <i>Reforming delivery of social services and collection of taxes</i>	45
	3.5 <i>Restitution</i>	46
4.	Distribution in transition – evidence.....	46
	4.1 <i>Data sources in transition</i>	49
	4.2 <i>The distribution of earnings in transition</i>	53
	4.3 <i>Inequality of household incomes in transition</i>	63
	4.4 <i>Interpreting the evidence</i>	70
5.	Conclusions.....	75
	Appendices.....	78

Abstract

We consider the differences in income distribution between market and planned economies in two ways. First, using benchmarks from the OECD area we review evidence from the countries of Central and Eastern Europe and the former Soviet Union during the socialist period. Second, we look at the transitions currently being made by the latter. In each case we review available data and the problems they present before considering in turn (i) the distribution of earnings of full-time employees, (ii) the distribution of individuals' per capita household incomes, and (iii) the ways in which the picture is altered by non-wage benefits from work, price subsidies and social incomes in kind. For the socialist period we are able to consider long series of data, often covering several decades, and we can thus show the changes in the picture of distribution under the socialist system. We also emphasize the diversity across the countries concerned. For the period of transition, itself incomplete, the series are inevitably shorter but we are able to avoid basing conclusions on evidence drawn from single years. The picture during transition, like that under socialism, is varied. Russia has experienced very sharp increases in measured inequality to well above the top of the OECD range. The Czech Republic, Hungary and Poland have seen more modest rises. We note the lack of a satisfactory analytic framework in the literature that encompasses enough features of the transition, a framework which would help interpretation of the evidence.

Keywords: income distribution, socialism, transition

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1. Introduction

Other chapters in this Handbook consider long runs of data for several countries. In a number of cases these reveal significant and essentially permanent shifts in the interpersonal inequality of earnings or income. Such shifts are sometimes associated with major events such as wars or revolutions. This chapter considers such an event – the collapse of communist central planning in Central and Eastern Europe – which is, as we show, having substantial effects on income inequality in several of the countries. We are not in a position to document fully the extent of the changes, as the process of transition is incomplete, let alone their durability. Nor do we consider poverty, although we refer to changes in national income which, together with increasing relative inequality, would imply very serious increases in the successor states of the Soviet Union and several other countries in the region.

While for some purposes our sample includes all fifteen post Soviet Republics of the former Soviet Union as well as Poland, Hungary, and former Czechoslovakia, we concentrate mainly on these three (or four after the separation of the Czech and Slovak Republics) and Russia (or earlier the

whole Soviet Union). We thus exclude China and Vietnam and take a narrower view of “transition” than one might of “emergence”.

The transitions of the formerly centrally planned economies into more conventional market economies have considerable implications for the distribution of income. Trading and middle-man activity is legal while private property ownership is also permitted. In the transition itself, market disequilibrium is likely to prevail – generating large positive (and negative) quasi-rents. Social institutions of redistribution and support through taxation and social services may break down or need to be radically recast. Keeping track of such a process, of which this chapter offers an account, is a major challenge. After some conceptual preliminaries we begin, however, in Section 2, with a reassessment of the starting point in the socialist economies relative to well-documented capitalist ones. This is not merely a recapitulation of what was already known but a reconsideration in the light of new data and analyses emerging from within the previously controlled and censored communities.

The process of transition now in train is, however, not only incompletely documented, but is so far from complete in itself that we cannot identify clearly what it is a transition to – nor is it likely to be easy to recognise when it is over. In as much as the transition is to a social market economy characteristic of Western Europe, one needs also to recognise that that represents a moving target. Not only have measures of earnings inequality changed under the impact of changing technology and competition from newly industrialising countries, but institutions and redistributive policies have also changed with privatization, pressure to reduce tax rates and the ageing of the population.

Within the transition economies themselves there was in many cases a sharp break as controlled prices and trading arrangements were swept away – on 1 January 1990 in Poland, 1 January 1992 in Russia and so on. It is very important to recognise that however clean that break, it never represented a shift from a socialist to a capitalist (or from a controlled to a market) *equilibrium*.

Through the 1980s macroeconomic disequilibria were intensifying throughout the COMECON area. In particular, excess demand, which was normal under central planning, increased, adding to monetary overhangs, black market premia on foreign exchange rates, and other indicators. These disequilibria increase the complexity of systems’ comparisons. How, for instance, should the accumulating stocks of private money balances be valued?

The disequilibrium, which varied in intensity across the region, being least in Czechoslovakia and least repressed in Hungary, did not disappear

immediately when prices were liberalised and stabilisation programmes adopted. Relative to what had gone before, the disequilibrium of the last days of communism was largely monetary (though with the usual fiscal roots). The liberalised economies faced not only stabilisation problems but also those of industrial and financial restructuring. This affected the labour market, and hence the distribution of earnings, at many levels. It seemed likely that patterns of participation by sex and age would tend to converge on Western patterns. The sectoral structure of economic activity was likely to shift radically away from heavy industry towards services. A new financial sector would be called for and the massive state enterprises were likely to be reorganized into smaller and more specialised units capable of competing internationally. Such a process of adjustment, with all its implications for the distribution of income, is bound to take time. The most that we can hope to do is to develop a framework for the analysis, recognising the key features of the varied starting points and range of possible, and shifting, destinations.

As various authors have shown, and is confirmed in Section 2 below, there was by no means a single “socialist” model distribution of income, even within the COMECON area on which we concentrate. Measured inequality was much less in Czechoslovakia, for instance, than in Russia. The extent and form of privileges for the nomenklatura elites varied markedly and presented different degrees of difficulty for the statistician. These variations tempted some commentators, who had focused on particular socialist states, to conclude either that they were much more, or much less, equal than those of Western Europe.

In market economies with pretensions to internal competition, we expect payments to factors and their owners to relate to the market valuation of the contribution of each input to output, the value of which is determined in a relatively free market. We then expect this distribution of pre-tax incomes to be translated into a distribution of post-tax and net real income by a tax/benefit system of social security contributions and benefits, and of direct and indirect taxation.

Many Western social security systems include elements, such as the British National Health Service, involving benefits in kind, but factor payments are overwhelmingly in money. This was much less true of socialist societies in which access to many social facilities, including housing, was, ostensibly at least, often linked to employment and the work-place. In both cases valuation of such benefits in kind is problematic. The scale of the problem, and its occurrence at the pre-tax rather than post-tax level, makes it a much bigger problem in the case of the socialist economies. Moreover, the problem accumulates since cost of provision, in which wages have been very

large, is a natural starting point for valuing the services which are themselves a component in labour compensation.

Not only was payment in cash supplemented by extra payment in kind but the cash itself did not give a simple command over goods – the supply of which to individuals was frequently subject to constrained availability at controlled prices. This raises a number of questions, many of which impinge primarily on the measurement of the price of a consumer goods basket. Obtaining rationed goods might involve extensive periods of queuing. How should that be regarded, as an input other than work-place time, or as a cost of consumption additional to the cash price of the goods in question? Such factors are important if there are privileged agents with access to shops in which goods are more readily available, who have to wait less long for consumer durables, or who have privileged access to education, health, foreign travel or other services, such as those of a dacha.

Moreover, out of equilibrium, when money wages might exceed the “price” of the basket of rations, how should the unspendable excess cash be valued? By reference to returns on savings deposits? The prospect of rations being increased at some future date? Or the price of goods on the black market?

Along with rationing and privileged access to goods and services goes an incentive to obtain goods beyond one's ration or access to privileges to which one is not entitled. This corruption and black market operation is relevant for two distinct reasons. First, if the black market is extensive enough it may supply a set of market prices and, in the extreme, the rationed quantities available at a lower official price become a per capita subsidy (a negative poll tax) if everyone enjoys the same rations. Second, corruption also means that officials may have significant income sources over and above their basic salaries as well as expenditures over and above those at officially controlled prices of some of their purchases. Of course, supplementary and second incomes from moonlighting or cultivation of gardens are not confined to senior officials but permeate many layers of different societies, including those in the West.

Partly for these reasons the adequacy of official data for a full picture varied even while socialist economies appeared to be sustainable. With the breakdown of these regimes the data problem has become worse, both as far as macro- and micro-economic data are concerned. For both, the new smaller private enterprises are important, and machinery for collecting statistical returns from them has taken time to build. Under central planning data on many things passed from enterprises to branch ministries – and the centre – as an administrative matter. For the new situation a very different procedure is necessary.

In the context of economic and systemic transformation it is obviously desirable to be able to track the changing pattern of distribution; all the

problems of static systems' comparisons of Section 2 are made even more difficult in the process of transition examined empirically in Section 4. Price jumps have big effects on real balances – should they be taken into account? Privatization involved the issuing of vouchers to citizens or to employees. How should these be valued and does their distribution constitute a part of household income? These, and many similar questions, while important in principle, are rendered less relevant in practice by the fact that change in the early 1990s was much more rapid than the establishment of procedures for tracking some of the consequences.

Section 3 picks up the conceptual theme with which Section 2 opens. Whereas the comparison of mature systems may rely on the concepts of static equilibrium analysis, the transition cannot. As a comparator, Section 3.1 considers the consequences of the rapid liberalisation of a previously seriously distorted market economy – by reference to a two sector model. This analysis highlights the importance of the ex post substitutability of capital and labour and also of the degrees of heterogeneity and mobility of the labour force. It is suggested that market-clearing real wages would be liable to fall severely in realistic cases and in practice that serious unemployment would emerge. The scope for mitigating these effects by policy intervention is discussed in Section 3.2, while actual policies adopted to control wages and in response to unemployment are reported in Section 3.3, social services and taxation in 3.4 and restitution in 3.5.

Section 4 picks up the data story from Section 2 with sub-sections on data sources (4.1), the distribution of individual earnings (4.2), inequality of household incomes (4.3), and the distributional impact of remaining subsidies, non-wage income from employment, and social expenditures in kind from the state (4.4). Section 5 concludes.

2. Income distribution in socialist countries

In a market economy we can, as already indicated, look at the distribution of earnings, of property income, of wealth, of benefits in kind (typically as part of the education and health systems), and of cash transfers by way of taxes paid and benefits received by way of old age pensions, sick pay, unemployment benefits etc. In Section 2.1 we present some conceptual issues relating to the measurement of original and final income in non-market economies and some features of the allocation of labour under socialism, before examining data sources, which turn out to be relatively plentiful, in Section 2.2. We then look in turn at evidence on the distribution of earnings (2.3) and of household incomes (2.4) in Central Europe and the former Soviet Union. The section concludes (2.5) by considering what the evidence implies about the distribution of economic welfare and how the picture is changed when consumer subsidies and income in kind are taken into account.

▪ **2.1 Labour income in market and socialist economies**

Typically the distribution of earnings is a dominant element in the overall distribution. Earnings differentials reflect variations in hours of work and in hourly rates (which may in part reflect differences in shift length). We also need to take account of deferred pay represented by contributions to occupational pension schemes. This is not an easy matter when pensions are related to terminal salaries rather than a return on contributions previously made. Pay differentials in market economies are generally taken to reflect differentials in education, training and skills captured in the concept of human capital. The value of any particular skill at a point in time being determined by the interaction of supply and demand. Changes in education systems and access to capital to finance periods of training will affect the effective supply of the more difficult-to-acquire skills.

All of these factors contribute to earnings inequalities by age, sex, marital and occupational status discussed by Neal and Rosen in Chapter 7. Accumulation and inheritance of real and financial assets contribute to the distribution of wealth. Using either actual or imputed returns to wealth means that one can combine labour and property income into a single income distribution. Whether this is preferable to presenting the joint distribution of earnings and wealth is questionable for several reasons. If actual property income is used it is liable to be misleading. £1 of dividend income on a low yielding growth stock is very different in security etc., from £1 of interest income from the bonds of a near bankrupt company. More systematically, few surveys take the effect of inflation on yields on property into account.

In one idealised model, investment in human capital might be driven by students themselves with access to good information and a ready supply of finance obtainable on the security of the human capital being acquired. This would allow returns to human capital to be equated with those on its other forms only if very high personal debt ratios were acceptable or if equity-type claims on human capital could be sold. Neither condition has ever come near to being met. (See Chapter 8 by Piketty).

If the conditions of market efficiency are to be met, then intervention is necessary to get the right education and training to the right people – intervention which may take externalities as well as private returns into account – an intervention which is, in principle, as plausible in a socialist as in a market economy. Russia in fact developed proportionately more specialist schools for young musicians, gymnasts and mathematicians than was typical of Western Europe.

In addition to rewards for cultivated human capital, there are, in market economies, rents earned by “stars”, not only in sports and entertainments but also in certain professions. Some such rents, as to the tallest basketball players, have a physical and objective basis in the number of points they can score. Even then the top scorer may earn a premium disproportionate to the

margin of points. In cultural areas there is no objective scale for the margin by which the “best” operatic tenor outperforms the second best. To some extent it is a matter of fashion and taste how far audiences regard one as a substitute for the other and what premiums they are prepared to pay to hear “the best” – or the best paid (see Rosen, 1981). Socialist economies were not immune from these pressures for three reasons: they were anxious not to appear too philistine, they needed to motivate performers, and they needed to prevent their emigrating in the course of foreign tours promoting the national culture of the socialist state.

In many socialist countries there was a formal structure of pay norms across industries with higher rewards for those involving muscle power, such as mining or heavy engineering, and much lower rewards for activities such as medicine or education which were physically less demanding – and often disproportionately employed women. Within hierarchies there was also a prescribed graduation based on qualifications, seniority and responsibility – applicable to fringe benefits as well as to basic pay – not very different from Western organizations of a comparable scale in the 1960s and 1970s. As has already been mentioned, although the arts, and sports (when not undertaken through the military), were not rated highly in the structure of industrial pay norms, there was flexibility to pay large differentials for internationally mobile stars or winners of Lenin prizes or other such distinctions.

On one view, labour allocation under socialism was quite different from that in a market economy. This view appears to be given support by the description of allocation of labour resources in urban China:

“Since 1957 the state labour bureaux have exercised a virtual monopoly over the allocation of urban labour. The scope for individual expression of preferences is very limited, even in the 1980s: job assignments are made normally without regard to the wishes of either employer or employee...The initial assignment to a job is very important: the first job is often the last...Without official consent – rarely granted – a change of employing unit is practically impossible.” (Knight and Song, 1990, p.9)

But our concern in this chapter is not with the form of socialism that emerged in China. In the case of the Soviet Union, Marnie notes similar rigid controls on labour allocation in the 1930s but she goes on to explain that the post-war period was very different:

“Although the Soviet literature never referred to a “labour market”, labour allocation was in fact predominantly achieved through market mechanisms. Since the mid 1950s workers in the Soviet Union have been free to quit their jobs at will. Only a small share of jobs are centrally allocated; otherwise employees are free to choose their job, skill, or profession, as well as the region where they work. ... and, although a state employment service has existed since the 1960s, it has never had a monopoly over the allocation of labour” (1992, pp.38-39).

This picture serves also as a reasonable description of the allocation of labour in many other Eastern European countries under socialism, although there was some notable variation within the region.¹ Yugoslavia's form of economic organization with worker managed firms is an obvious outlier. On this different view, the allocation of labour in these countries and in post-war USSR may be seen in terms of departures from a market allocation, rather than as a totally different system.

One significant difference was in the degree of centralised wage determination, but it was argued by various authors that in view of the relative freedom enjoyed by workers in their choice of job, the setting of differentials was in part concerned to provide incentives similar to those in a market economy, as noted above. For example, Phelps Brown (1977) reports that wage differentials were 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. The desire to overcome labour shortages, such as those for skilled labour, may have meant that wage differentials departed less than might be expected from those which would have characterised a market economy at the same level of development.

However, some departures there certainly were. Numerous authors have drawn attention to the differences in differentials by industry and occupation between economic system – influenced in part by the reward to muscle power that has just been noted. A good example, that illustrates the impact of change of system directly, is provided by movements in differentials by sector in Czechoslovakia between 1948 and 1953 associated with the Communist take-over. These are shown in Table 1. The favourable position under socialism of manual workers relative to non-manual workers that is implied by these sorts of figures was frequently documented in the literature.

Any reasonable account of the operation of labour markets under socialism would combine elements of the different views. And it is clear that the mix would vary between countries and across time. As a result, it is not surprising that simple conclusions about “the” distribution of earnings under socialism are elusive. The picture can be expected to vary substantially from country to country and between different periods – as it does in capitalist countries.

¹ The separation rate in manufacturing in the USSR in 1989 of about 18 per cent exceeded that in Japan, France, Italy, Sweden and the Netherlands, with voluntary quits being the single largest cause of separations (IMF et al., 1990, Volume II, Chart 2 and Table IV.6.5). The separation rate in Hungary in the mid-1980s exceeded 20 per cent (*Hungarian Statistical Yearbook*, 1987, Tables 4.4 and 4.8).

Table 1: *Earnings by sector in Czechoslovakia in 1948 and 1953 relative to the national average (per cent)*

	1948	1953
Manufacturing	92.7	108.0
Construction	101.2	115.2
Transport	109.4	110.3
Trade/catering	102.5	90.0
Health/Social Welfare	120.9	92.2
Education and Culture	124.7	90.0
Banking and Insurance	134.7	104.3

Source: Veèernßk (1991, p.238).

When looking at earnings inequality one has to decide on the relevant population. Is it those in employment or those who are seeking employment? And if so how should they be identified? Or should one consider the whole population – perhaps of “working age”? If one considers the population of working age, comparisons may be affected by relatively arbitrary differences in what constitutes “working age”. Even if this difference did not exist differences in participation rates can become very important. The socialist economies had much higher female participation rates at nearly all ages. This makes for a more equal personal distribution of income. Evaluating that difference, however, depends enormously on the explanation of the differential participation.

Conscripting housewives without providing care for their children could equalize income but not necessarily even the lowered level of welfare. Virtual conscription, for fear of being called a “parasite”, with child care of uncertain quality, leaves comparisons difficult to make. Is relatively low participation of mothers in much of Western Europe – though much higher than it was – due to inadequate access to childcare (by whatever criterion) or due to choice in an affluent society (though that is difficult to square with trends in societies said to be getting richer)? Similarly, variations in age-specific participation rates may reflect healthy investment in human capital or study as superior only to unemployment. Early retirement may be an affordable luxury or a statistical gimmick designed to reduce recorded unemployment.

Recorded unemployment was very much lower in all centrally planned economies even than the rates below 5 per cent achieved in the 1950s in much of the OECD area. Since 1975 rates in the West have been nearer to 10 per cent while rates in the COMECON area showed little change while that institution, and central planning, lasted. As many of the transition economies have specified Western European models as their goals, the transition seems

likely to be associated with manifold increases in recorded unemployment quite apart from the rises of rates into the high teens in the early disequilibrium stages of the transition process. Any profile of income inequality over the transition must take into account the higher incidence of unemployment and the adequacy, or otherwise, of unemployment compensation.

To some extent the contribution of open unemployment to income inequality may be associated with a decline of reported inequality of earnings among the employed if the latter included people on zero-hours or drawing minimum wages that were only 10 per cent of the average – as has been reported of the USSR. On the other hand, in several countries, particularly in Central Europe, the introduction and extension of market forces is increasing the inequality of earnings as incentive mechanisms play a growing rôle and as abnormal quasi-rents are earned on skills now in very short supply – supply which will presumably respond to the (temporary) reward.

In both market and planned economies, taxes, subsidies, transfers and benefits in kind mean that one has to distinguish between the distribution of gross or (“original”) income and that of net income, expenditure or consumption. Even if we are particularly concerned with the latter it may be interesting to know whether country A's more equal distribution of net income arises from greater original equality or more radical intervention. Unfortunately it is difficult to invoke this distinction especially when making comparisons across systems. Ideally, and consistently with the Diamond/Mirrlees (1971) prescription for production efficiency, there might be no taxes or subsidies impinging on pre-tax incomes. In practice there are many in all economies, from trade taxes on intermediate goods to excize duties levied at the wholesale stage or subsidies paid to “producers”.

Socialist economies typically made more interventions at this stage, including the effects of price and wage controls, which sometimes made explicit personal income taxes redundant. Thus it is likely that reported “original” incomes were more influenced by policy in socialist than in market economies so that the identified contributions of policy to the determination of the net distribution is likely to be understated. Socialism was in principle particularly inimical to private wealth holding and its passing between generations in the form of inheritance which is, potentially, an important influence on income distribution in several ways. Obviously inherited wealth is one source of property income. Parental income or wealth can be used to buy human capital for the next generation and parental influence may affect children's access to earning opportunities.

Direct intergenerational transfers were typically relatively small in socialist economies as accumulation of personal assets was less significant. The successful manager's dacha was not bought but occupied on employment related terms – more of an annuity than a freehold. The blocking of

significant monetary bequests may merely have increased the importance of parental influence in securing places in the right schools, universities, and enterprises. At times, preference for the children of workers and peasants may have limited or even eliminated the scope for parental influence but that does not seem to have been typical of Eastern Europe or the USSR since 1950.

▪ **2.2 Data sources on income distribution under socialism**

The newcomer to the empirical investigation of income distribution in socialist countries may be surprised by the amount of evidence that exists on the subject. Surely the state suppressed discussion of the extent of inequality, with the result that information on the distribution of earnings and of household incomes was not available?

Statements over the years by Western and Soviet writers alike bore witness to the lack of available information on the distribution of income in the USSR. For example, the discussant of a paper on Soviet income distribution that was presented at a 1964 meeting of the International Economic Association noted ironically that he wished the author could have given his readers some idea of the extent of the size distributions of earnings and household incomes (Marchal and Ducros, 1968, p.236). And in his 1984 survey article on income inequality under state socialism, Bergson concluded that “the Soviet government apparently prefers to withhold rather than to release information” (1984, p.1091). Can, then, the distribution of income in under socialism in Eastern Europe be investigated in any serious way?²

Data on the distribution of earnings and of household incomes *were* collected in the USSR in great quantities in the post-war period and in other communist countries too.³ The Soviet Family Budget Survey (FBS), with its origins in surveys of the 1920s, was in continuous operation in the post-war period, and by the break-up of the Union in 1991 had a sample of some 90,000 households. Regular enquiries into the distributions of earnings and household incomes in Czechoslovakia and Hungary began in the late 1950s or early 1960s.

The problem facing scholars of the USSR was the lack of *availability* of the data, the results from which were indeed systematically suppressed. Researchers were forced to work with what few scraps were available and in doing so displayed considerable powers of detection and ingenuity.⁴ Notable

² Following the convention in much of the literature on the socialist period, we use “Eastern Europe” to refer to all of Central and Eastern Europe and the former Soviet Union.

³ The situation in Poland, Hungary, Czechoslovakia and the USSR is documented in Atkinson and Micklewright (1992), which we draw on here, and a substantial amount of data for these countries is contained in an appendix to their book.

⁴ A good example is the reconstruction of the Soviet earnings distribution by Wiles and Markowski (1971) from a graph with no scale in a Russian language publication.

use was also made of surveys of Soviet emigrés in the 1970s (much of this work is collected together in Ofer and Vinokur, 1992).

It would be wrong, however, to suppose that the situation in the USSR was representative of that in all of the Soviet bloc. The statistical offices of several countries in Eastern Europe had a long tradition of publication as well as data collection. From at least the 1960s onwards, the Polish, Hungarian and Czechoslovak statistical yearbooks contained considerable information on the distribution of earnings and of household incomes. Statisticians in these countries published their results on occasion in international journals.⁵ Moreover, the period of *glasnost* saw a sharp change in Soviet publication policy, resulting in greatly increased availability of data for the USSR in the late 1980s.

A second preconception surrounding distributional data under state socialism is that the quality of available information was low. Using Britain as a yardstick, Atkinson and Micklewright summarize the data on the distribution of earnings in the Eastern European countries they cover as suggesting that “the similarities [with British data] are more striking than the differences” (1992, p.55). There were exclusions from the coverage of Eastern European sources, including the armed forces and, typically, full-time employees of the Communist Party. Those working in the private sector were often excluded – the numbers concerned varied greatly from country to country, being very small for example in Czechoslovakia but more important in Poland. Those in small enterprises were often excluded. Coverage of agricultural employment, an important sector in most countries, was typically far from complete. And the earnings data in most countries relate only to full-time workers and just to those working a full month.

These exclusions are important to note, but may be no worse than in Western countries. The French *Declarations Annuelles de Salaires* was estimated in 1982 to cover only three-quarters of all full-time workers due to a number of exclusions including employees in agriculture and state and local authorities (Bourit et al., 1983, p.29). The Portuguese *Quadros de Pessoal* excludes those working in public administration by design and about 15 per cent of firms fail to provide information (Cardoso, 1997, p.22). The German *IAB* data based on social security registers excludes civil servants (Steiner and Wagner, 1996). The British New Earnings Survey lacks data on about 15 per cent of full-time and a substantially higher fraction of part-time employees (Atkinson and Micklewright, 1992, p.53); one reason for this shortfall in coverage is the exclusion, as in the Eastern European countries, of many workers changing jobs around the time of the survey. The European Union earnings enquiry of 1995 had a host of exclusions (Eurostat, 1998), including persons working in small firms – a more important restriction than

⁵ The article in *Econometrica* by Éltető and Frigyes (1968) is one example.

in socialist countries given the different distribution of firm size in market economies.

The quality of data on household incomes in socialist countries is less straightforward to relate, with substantial variation from country to country and between different sources within country.⁶ The methodology of collecting household income data is more complicated than that of data on individual earnings. This is true whatever the prevailing economic system and it is salutary to consider the degree of success achieved by the British Family Expenditure Survey (FES), a long-running enquiry of high international standing. After allowance for the average level of non-response to the FES (just under 30 per cent at that time), the shortfall in income aggregates recorded in the survey for 1977 from those shown in the national accounts was 6 per cent for earnings, 9 per cent for social transfers, a quarter for self-employment income and occupational pensions, and as much as a half for investment income (Atkinson and Micklewright, 1983). The last two types of income should not figure prominently in socialist countries, and the example cautions against judging data collected under socialism against some unattainable ideal.

Survey coverage displayed considerable variation. Examples of good practice were provided by the Hungarian income survey, held every five years from 1963 to 1988, and the Czechoslovak microcensus, of which there were eight between 1958 and 1988. Sample design in these surveys followed standard international methodology of multi-stage sampling intended to give each household an equal probability of selection (with the sole exclusion in Czechoslovakia of households with a member in the armed forces or the police). Response to these surveys was very good, with rates of 97 per cent in Czechoslovakia in 1988 and 91 per cent in Hungary in 1983. Achieved sample sizes were large – 100,000 households in Czechoslovakia and 20,000 in Hungary.

The other end of the spectrum is represented by the USSR Family Budget Survey (FBS), to which we referred earlier. The operation of the survey was shrouded in mystery for many years but sufficient was known for it to be the subject of considerable criticism by Western and Soviet scholars alike. McAuley (1979) argued that “statistics from this source have been rejected by many, perhaps a majority, of Soviet economists and statisticians as worthless” (p. 51).

The sample design of the FBS was a major source of complaint, being “subject to a great many different biases, often severe and cumulative, [so that] the survey is highly unrepresentative of the population as a whole” (Shenfield, 1984, p.3). The survey had a quota sample of families of persons

⁶ A number of countries collected data on incomes through more than one survey. We give examples of the methodologies rather than trying to be comprehensive.

working in state enterprises and collective farms, the quotas over-representing heavy industry and under-representing the services. One implication of the survey design is that households had a probability of selection proportional to their number of workers in covered sectors. Some pensioner households were added to the sample in 1979 but it seems clear that pensioners remained under-represented (Atkinson and Micklewright, 1992, p.267). Once in the survey respondents were asked to participate indefinitely – the survey was a panel with no planned rotation, implying an ageing sample and a further loss of representativeness. The reasons for the sample design were partly ideological, with the quotas reflecting a bias towards the “productive sectors”. Shenfield (1984) notes too that the development of probabilistic survey sampling in the 1930s and 1940s, for example the work of Mahalanobis in India, never penetrated the USSR in the Stalin era.

The Polish budget survey was somewhere in the middle of the spectrum in terms of coverage, especially in its early years. Prior to 1973, the sample design had similarities to that of the Soviet FBS with the survey restricted to households of employees in the state sector, but in this year the survey changed to a territorial basis (a sampling frame of addresses rather than enterprises). However, households working in the private non-agricultural sector (about 10 per cent of the labour force in 1989) continued to be excluded. And response was well below the level of the Czechoslovak and Hungarian surveys mentioned earlier (no doubt in part due to the greater burden of participation in a budget survey), averaging 65 per cent at first interview during 1982-1989 and only 40 per cent or less prior to 1982 when rotation was introduced into the survey’s panel design (Atkinson and Micklewright, 1992, p.260, Kordos, 1996). By the 1980s the sample size was about 30,000 households.

The concern about quality of data on household incomes in socialist countries extends beyond the issue of survey coverage. Is the relationship between the state and its citizens one that encourages accurate reporting of incomes? In particular, the view is often expressed that Eastern European data covered only “official” income and that “second” or “hidden” economy income was missing from the data. This is a genuine concern in view of discussion of the size of the unofficial economy, especially towards the end of the 1980s. The growth of the second economy in Hungary was discussed by many authors. Official estimates put aggregate illegal income in the USSR at some 9 per cent of GDP in the late 1980s (*Vestnik statistiki*, 1990, no. 6). Other estimates were significantly higher. Estimates based on a sample of Soviet emigrés suggest that up to a third of the urban population’s income came from illegal sources, although the representativeness of the sample may be open to doubt (Grossman, 1987).

The questionnaires of household surveys in Eastern Europe typically allowed all forms of incomes to be reported but the success with which information on non-official income was collected is a matter for real debate. Under-reporting of this income is a serious qualification of the data collected. The success of statistical offices in capitalist countries in persuading respondents to reveal legally obtained income that has not been declared for income tax purposes may be an analogous problem.

Some aspects of the statistical offices' work were made easier by the nature of the socialist state. In all the surveys described above, earnings data provided by respondents were verified with their employers – something not possible in many non-socialist countries on grounds of confidentiality and a practice that has had to be abandoned in the transition. We have already noted the absence of some private income sources under socialism that appeared seriously under-represented in British data. The less complex systems under socialism of cash transfers from the state, aiding the work of survey statisticians, should also be noted, although the more developed systems of consumer price subsidies that in part substituted for cash transfers in turn raise issues of interpretation of the income data that we return to below.

Other aspects of data quality stem in part from the level of development of the socialist countries and in particular the importance of agriculture. Agriculture in the early 1980s accounted for 30 per cent of employment in Poland, 20 per cent in the USSR and Hungary and over 10 per cent in Czechoslovakia (ILO, 1984, p.89, and 1987, p.63). Notwithstanding collectivisation and the creation of state farms, many agricultural households consumed their own produce. The evidence suggests that “private plots” were often very important for non-agricultural households as well. Such consumption represents income and should be included in the calculations along with incomes in cash.

The USSR Family Budget Survey required respondents to continuously record consumption of their own produce in diaries, which were regularly monitored by interviewers. It is clear that monitoring of this type is very onerous for respondents but it is likely to be more accurate than collecting information by recall, which is the practice in many Western countries, for example in the Living Standards Measurement Study (LSMS) surveys sponsored by the World Bank. The Polish and Hungarian statistical offices followed different practices but clearly took the subject seriously (Atkinson and Micklewright, 1992, Sources and Methods). However, the Czechoslovak microcensus excluded this form of income.⁷

⁷ The dual price systems in socialist economies – a low official price at which goods have limited availability and a higher market-clearing price for private trade – had direct consequences for interpretation of income data, but it was also relevant for the valuation of income in kind. Practice differed across countries, and the system applied by the Polish and

To summarise, the data sources available in pre-reform Eastern Europe appear to have been mixed in quality – just as in capitalist countries. Data on the distribution of earnings compares favourably with Western sources while surveys on household incomes display considerable variation, the data from the former USSR being of much lower quality than those from several Central European countries.

▪ ***2.3 The distribution of earnings in socialist labour markets***

A number of authors over the years have looked in detail at the size distribution of earnings under socialism and at the comparison with that in capitalist countries. The field owes a great deal to the study by Lydall (1968), in which he carefully assembled evidence for a wide range of countries for the period around 1960. 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, working full-time and for the full period. Earnings were defined to be money income from employment before tax or other deductions (Lydall, 1968, p. 60).

The Eastern European countries covered by Lydall were Czechoslovakia, Hungary, Poland and Yugoslavia. These same countries (particularly the first three) were often the focus of later authors too and it must be acknowledged that extensive evidence on the distribution of earnings (or of household incomes) over time is hard to find for Albania, Bulgaria and Romania. Lydall found that the least unequally distributed earnings were those in Czechoslovakia and Hungary, which appeared distinctly different from the Western European countries. Yugoslavia and Poland found their place among the group of Western countries with less inequality, such as Denmark and Sweden and, at that time, the UK. The data of Lydall were analysed further by Pryor (1973), who made explicit allowance for other systematic reasons why earnings dispersion may be expected to vary across countries, in particular that earnings inequality declined with the level of development and increased with the size of population. Allowing for these, he concluded that there was on average a six percentage point difference in the Gini coefficient.

By contrast, Redor (1992), with more recent evidence, reached the conclusion that, comparing Western and Soviet-type economies:

“there appears to be no systemic difference between the earnings dispersions of wage earners as a whole. Although at the beginning of the 1980s the United States is the country with the highest earnings dispersion, both Western and Soviet-type economies occupy the ranks that follow.” (1992, p. 60).

Hungarian statistical offices seems reasonable. However, official state prices were used in the USSR budget survey, thus under-recording the income of agricultural households and others with private plots and as a result probably overstating income inequality.

The evidence regarding the Soviet Union, in particular, is rather mixed. Pryor's figures for 1959 show the fifth percentile (from the top) in the Soviet Union as earning more relative to the median than the corresponding group in the US, the UK and other Western European countries (except France). More recent evidence was summarised by Bergson as showing:

“a rather striking similarity in [earnings] inequality, as measured, between the USSR and Western countries. Inequality in the USSR fluctuates in the course of time, but only rarely does any particular percentile ratio fall outside the range delineated by corresponding measures for Western countries.” (1984, p. 1065).

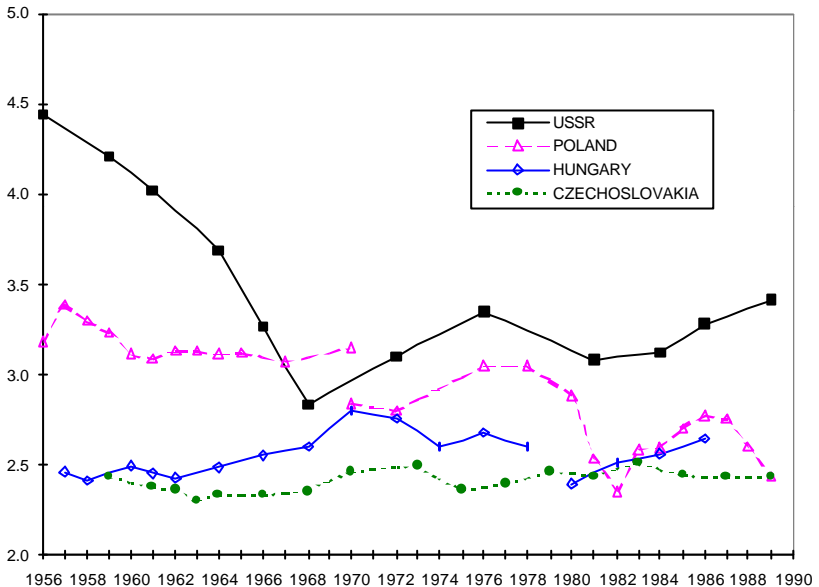
At the same time, he developed further the normalisation for differences in the stage of development and population size, and this led him to conclude that, allowing for such conditioning factors, “inequality in the USSR in the early seventies may have been somewhat low by western standards” (1984, p. 1092).⁸

It is clear, therefore, that there were indeed differences *between* socialist countries of the Soviet bloc and that earnings inequality may have changed over time. These observations were the starting point for the work by Atkinson and Micklewright (1992), on which we draw here, that tried to put together consistent time-series on earnings inequality in Czechoslovakia, Hungary, Poland and the USSR, up to the end of the socialist period. Following Lydall, they defined a standard distribution to help comparison across countries, but, unlike him, focused on men and women together and included where possible agricultural employment (but not self-employment); their figures refer to monthly earnings of full-time workers before deductions and including any bonuses (Atkinson and Micklewright, 1992, p.79).

Figure 1 shows the decile ratio (the ratio of the 90th to the 10th percentile) estimated by Atkinson and Micklewright for each of their four countries from the late 1950s to the late 1980s.⁹ A benchmark was provided by the authors for these series with the analogous figures for Great Britain (the UK excluding Northern Ireland) for 1968-1990. Like some of the Eastern European figures, the decile ratio in Britain displayed considerable variation over time, with a minimum value of 2.87 in 1977 and a maximum of 3.65 in 1968. The average value was 3.20.

⁸ Bergson's normalization follows the concept of the Kuznets curve, which is the subject of some debate – see Chapter 13 by Kanbur.

⁹ It should be noted that these estimates were made from grouped data (and not microdata), raising issues of interpolation.

Figure 1: *Gross monthly earnings of full-time workers: decline ratio, 1956-1989*

Source: Atkinson and Micklewright (1992), Tables CSE1, HE1, HE4, PE1, PE4, UE1, UE2.

Czechoslovakia stands out in its low level of earnings distribution and the impression from Figure 1 is of considerable stability. Over 1959-1990 the decile ratio varied between 2.30 and 2.53 – well beneath the range for Britain. As it was put by Veèern8k, “all the basic features of the structure of earnings inequality were established in the initial post-war period and firmly fixed for the future” (1991, p. 238). But he went on to say that the stability in the distribution hid changes in the returns to human capital, which declined sharply in the late 1970s and early 1980s, and a shift in the age-earnings profile in favour of older workers.

Next in the ranking comes Hungary, with a decile ratio above that for Czechoslovakia from the early 1960s onwards but still below the range for Britain. The figures for Poland display yet more variation, although in part this is associated with a change in the definition of the series in 1970. Prior to this year the decile ratio is at about the average level of that in Britain for 1968-1990. The later period saw some sharp changes, especially in the 1980s with the changing fortunes of the Solidarity trade union movement.

Top of the ranking comes the USSR. Only at the end of the 1960s does the decile ratio dip beneath 3.0 (associated with an increase in the minimum wage on the occasion of the 50th anniversary of the 1917 revolution) and for much of the period it is above the average British value. There is substantial variation, reflecting the mixed findings of earlier authors. And there was a steady increase in inequality in the 1980s, the decile ratio rising from 3.08 in 1981 to 3.41 in 1989.

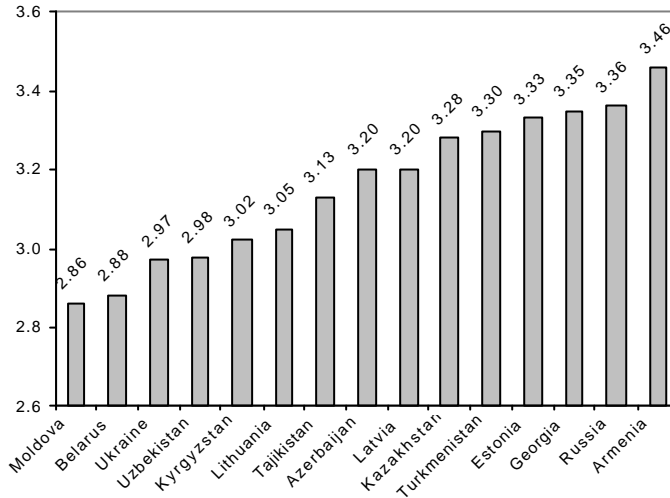
Two former socialist countries shown in Figure 1 split apart in the 1990s. Were the points of departure for the constituent republics similar in terms of earnings inequality? In the case of the two halves of the Czech and Slovak Federation the starting point was almost identical. The decile ratios for the two republics in 1989 were both 2.14 and the Gini coefficients both 0.20 (Atkinson and Micklewright, 1989, Table CSE5). Nor had there been differences of any size in the recent past – the overall degree of inequality in earnings had been similar for a long time (we will see below that the story was rather different for household incomes).

In the case of the USSR, the sheer size of the country leads one to expect that the picture may not have been as for the Czech and Slovak Federation. Wiles (1974) suggested that the Union was formed of “a group of egalitarian regions, the averages of which history has separated” (p.54). This would imply that inter-regional differences in earnings accounted for a substantial amount of the overall inequality and would help explain why the USSR comes top of the ranking in Figure 1. But it would also be the case that the starting points in terms of earnings inequality for the now independent states were fairly similar *and* that they were lower than for the USSR as a whole.

Average earnings certainly did vary by republic; as a percentage of those in Russia in 1989 average earnings varied from 69 per cent in Azerbaijan to 104 per cent in Estonia (Atkinson and Micklewright, 1992, Table UE4). Figure 2 sheds some light on intra-republic inequality, showing the decile ratio for each Soviet republic in 1986.

The range is substantial, from 2.86 in Moldova to 3.46 in Armenia, but it is difficult to detect clear regional groupings, with the exception that the three non-Russian Slav republics – Belarus, Ukraine and Moldova are at the bottom of the ranking. And although the variation is quite substantial, it is notable that even Moldova, with the lowest recorded dispersion, displays a greater degree of inequality than found in Czechoslovakia, Hungary or Poland at any point in the 1980s.

Figure 2: *Decile ratio of gross monthly earnings for full-time workers: Soviet republics, 1986*



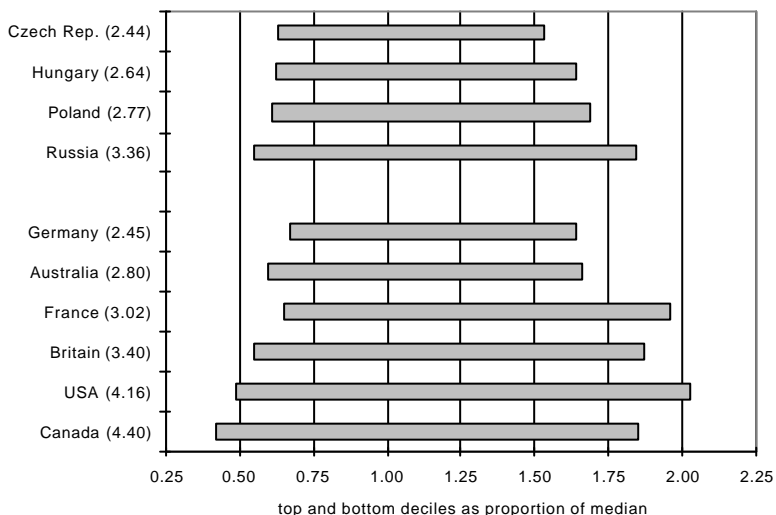
Source: Atkinson and Micklewright (1992), Table UE5.

To this point we have compared recent evidence from the Eastern European countries with that from Britain only. Figure 3 introduces several other Western countries into the comparison and in the case of the Eastern countries concentrates on those that will be the focus in Section 4 when we turn to the transition period of the 1990s.

The evidence on the other Western countries is again for gross earnings of all full-time workers, but in other respects it is not fully comparable either with Britain or with the Eastern European countries, referring, for example, in the case of Canada and France to annual earnings.¹⁰ The evidence for the Eastern European countries refers to 1986 or 1987, thus avoiding any changes in earnings inequality right at the end of the socialist period. The Western evidence refers in most cases to 1990.

¹⁰ We have eschewed data for a number of other OECD countries given in the same sources that were even more obviously not strictly comparable.

Figure 3: *Quantile ratios of earnings for full-time workers: East and West, end 1980s*



Notes: Decile ratio in brackets. Earnings are gross.

Sources: Hungary (1986), Poland (1986), Russia (1986) and Britain (1990): Atkinson and Micklewright (1992), Tables 4.1, UE5, BE1.

The diagram shows the top and bottom deciles relative to the median, with the decile ratios given in brackets after each country's name. As already implied by Figure 2, Russia displays a markedly higher degree of earnings inequality than the other Eastern European countries. Figure 3 shows that this greater inequality arose at both ends of the distribution, although more notably at the top. The low level of Czech inequality results, in particular, from a difference at the top – the bottom decile as a percentage of the median is virtually the same as in Hungary.

Among the Western countries, France and Germany have distributions that are more compressed at the bottom end than any of those in the Eastern countries. And the top decile in Germany as a percentage of the median is the same as that in Hungary, with the result that the overall degree of inequality as measured by the decile ratio is effectively the same as in the Czech

Republic.¹¹ Australia appears very similar to Poland, at both ends of the distribution. The overall degree of inequality in France is substantially less than that in Russia. Only the USA and Canada dominate Russia in terms of overall dispersion and in Canada even the top decile as a percentage of the median is the same as for Russia, the differences between the distributions appearing at the bottom. The shape of the distribution in Britain appears very similar to that in Russia.

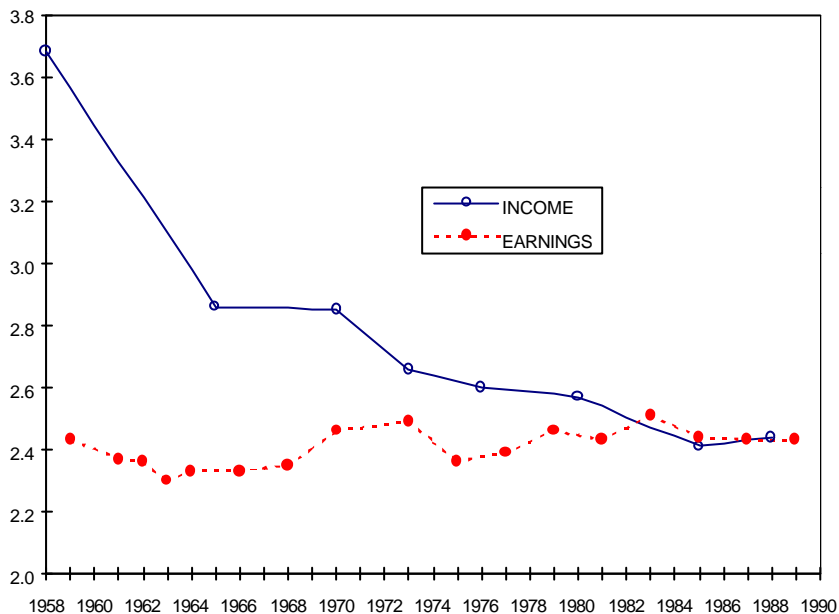
The comparison of the Eastern with the Western countries is undoubtedly sensitive to choice of year and to definitional issues. Nevertheless, the data in Figure 3 reflect the message coming from work of different scholars over the years. In the late socialist period, earnings inequality in several Central European countries for which data were most readily available was towards the lower end of the range in Western countries, but not outside it. And in the case of Russia (and, on the evidence of Figure 2, some other former Soviet republics too), earnings inequality was already at a level well up in the range found in Western countries.

▪ ***2.4 Inequality of household incomes under socialism***

The movement from evidence on inequality of earnings to that on household incomes involves a number of factors, and these may change the view obtained of the level of inequality under socialism compared to that under capitalism. It may also alter the picture of how inequality changed over time under socialism. This is illustrated by Figure 4, which shows the decile ratio for the distribution of individuals by household per capita income in Czechoslovakia for 1958-88, together with the ratio for earnings of employees that was the focus of the previous section. Measured inequality of household incomes declined notably over the period, particularly between 1958 and 1965. Whereas the decile ratio of per capita incomes was one and a half times that of earnings in 1958, the difference between the two had disappeared by the 1980s. Switching from the unit of the employee to that of the household and including other sources of income has changed the picture of stability in Czechoslovakia obtained from the earnings data for full-time workers.

¹¹ The German data refer only to full-year workers, which probably reduces the degree of inequality relative to that in the Eastern European sources. But the picture given of Germany as a country with earnings inequality at a level similar to that in the Eastern countries with low earnings dispersion bears out that found with earlier data by some other authors. Redor, for example, reports a decile ratio of 2.3 for Germany in 1978 (Redor, 1992, Table 3.2). The results comparing sources for the mid 1980s of Steiner and Wagner (1996) for the 80th and 20th percentiles indicate that earnings inequality is slightly lower in social security register data than in the household survey data used for Germany in Figure 4.

Figure 4: *Decile ratios for full time workers' earnings and for the individual distribution of per capita income: Czechoslovakia, 1958-1989*



Source: Atkinson and Micklewright (1992), Tables CSE1 and CSI1.

Under capitalism we would expect this movement to increase the measured degree of dispersion, due in particular to the presence of significant investment income, the existence of unemployment, and lower labour force participation rates than under socialism. None of this can be expected to be fully averaged out by moving to the unit of the household – indeed the opposite may be the case. Atkinson and Micklewright (1992) find that the move from earnings of employees to per capita income of individuals leads to a rise in the Gini coefficient in the UK in 1985 of four percentage points. In Hungary and the USSR in the mid 1980s, however, there was effectively no change, as in Czechoslovakia at this time, although Poland proves the exception to the rule where the Gini rose by three points, more or less as in the UK. Pyror (1973) concluded that the existence of property income raises the Gini coefficient in developed capitalist countries by between three and six percentage points compared to that under communism, although he went on to argue that this may not be the most important source of differences between the two systems. Some factors are common to both systems, notably

the presence of cash transfers, although the design and hence redistributive impact of these may not be the same (and of course varies under capitalism).

The suggestion is, therefore, that the move to household incomes may lead to more clear water between capitalism and socialism. As with the evidence on earnings of employees, however, writers over the years have differed in their conclusions about the degree of measured inequality in household incomes under the two systems.

Lydall (1979) concluded that there was little difference between the shape of the distribution of household incomes in the UK and that in Czechoslovakia, Hungary and Poland. Morrisson (1984) reached a similar conclusion in a comparison which included in addition Bulgaria, Yugoslavia and the USSR, as well as a number of other Western countries, although it should be noted that his estimates included an approximate adjustment for the non-monetary privileges of the elite under communism (but not capitalism). Using data mainly from the early or mid 1970s, Poland and the USSR were found by Morrisson to have a relatively higher degree of inequality with Gini coefficients of 0.31 in both cases, but more or less on a par with Canada (0.30) and the USA (0.34). (The figures refer to the individual distribution of per capita household income.) The Gini for Hungary was estimated to be 0.24, compared with 0.25 in both Sweden and the UK. Only Czechoslovakia, with a Gini of 0.22, was considered by Morrisson to stand out as having a more egalitarian income distribution than those in advanced Western countries. The ranking of the USSR accords with the conclusions of Bergson in his much-quoted survey of evidence about income inequality under Soviet socialism: "Income inequality in the USSR is commonly assumed to be less than that in the US. That is doubtless so, though not by so wide a margin as sometimes imagined" (1984, p.1073).

The view that there was less inequality in pre-reform Eastern Europe than in Western countries was supported by the results of Wiles (1978). Using data for the late 1960s and early 1970s, and the decile ratio of per capita income as his measure of dispersion, he ranked (in ascending order) Bulgaria, Poland, Hungary, the USSR and Czechoslovakia, all of them firmly behind (again in order) Sweden, West Germany, the UK, Italy, Canada and the USA. This finding was in line with the conclusion of Pryor (1973) that holding other things constant, including level of development, the Gini coefficient of "total income inequality is at least 0.10 less in the East than in the West" (p.88).

One reason for the differing views may be that the situation in the Eastern European countries changed over time so that the comparison depends on the particular year chosen. The distributions of the different components of household incomes may change, as may household formation. Figure 4 shows that the data from the late 1950s or the 1960s give a different picture of inequality of household incomes in Czechoslovakia than do the data from

the 1980s. We consider changes for other countries below and return also to the issue of comparison with the West using more recent data.

Before doing so, however, an important issue concerning adjustment of the data on household incomes needs to be made clear. The data on income distribution from communist countries typically refers to household incomes *per capita*. The per capita adjustment for differences in household size is one not often made in official publications of Western income distributions, where an adjustment that instead embodies some economies of scale is usually made. Wiles, in his article referred to above, points out that Western data are often expressed in terms of total household income unadjusted for differences in household size, implying infinite scale economies, noting also that the Western data often refer to the distribution of *households* and the Eastern data to the distribution of *individuals*, that is households weighted by their sizes. The appropriate adjustment is a matter for judgement and the per capita scale may be more appropriate for socialist societies on account of the lower fixed costs of a household due to subsidised prices of housing and fuel (Atkinson and Micklewright, 1992).

The sensitivity of results to the method of presenting the data is illustrated by the following estimates of the decile ratio for Hungary in 1987 and the UK in 1985:¹²

	Household distribution of total household income	Individual distribution of per capita income
Hungary	5.43	2.82
UK	5.09	3.86

Not only do the orders of magnitude of the two measures differ greatly, making vital the use of the same definition for comparisons, but the ranking of income inequality in the two countries differs on the two measures. Hungary appears more equal than the UK when using the definition of the distribution commonly used in the East, but less equal when using the definition commonly used in the West.¹³ Similar findings were noted by Bruinooog et al., (1990) in their comparison of income inequality in Hungary in 1982 with that in the Netherlands.¹⁴

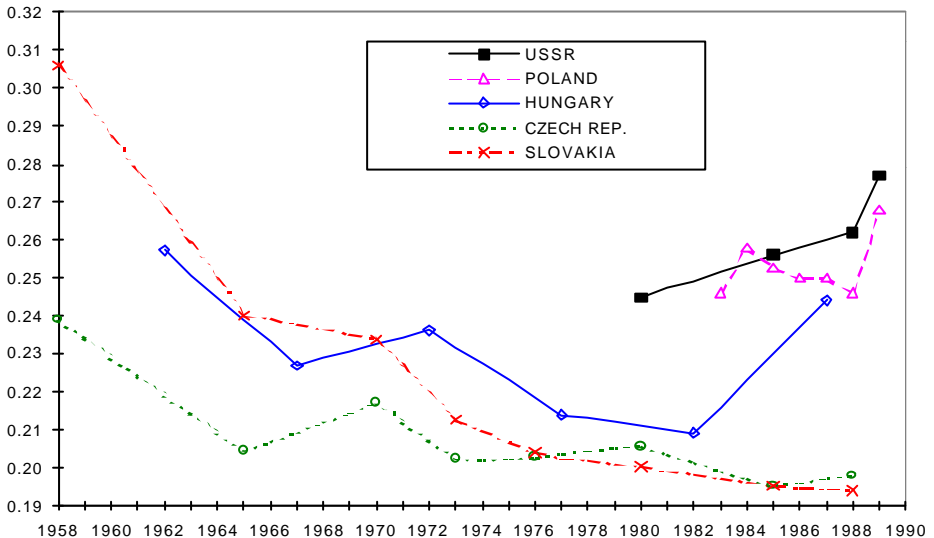
¹² The figures are taken from Atkinson and Micklewright (1992, Tables HI3 and BI3).

¹³ Note that an argument could be made for using different equivalent scales when making comparison between systems. If economies of scale in household size really do differ sharply between economic system then this could be taken into account when trying to produce comparable distributions of economic welfare.

¹⁴ The same issue arises for comparisons of targeting under socialism and capitalism. Milanovic (1995) considers the incidence of social benefits in cash and in kind under both

We now turn to changes over time in the distribution under socialism, looking at the same countries that were the focus in our discussion of earnings. Figure 5 shows the Gini coefficient for the individual distribution of per capita household income for Hungary, Poland and the USSR, and for Czechoslovakia, distinguishing in this instance between the Czech and Slovak republics.¹⁵

Figure 5: *Gini coefficient for the individual distribution of per capita household income, 1958-1989*



Source: Atkinson and Micklewright (1992), Tables H11, P11, U11, CS15 (results for 1964-85 for the Czech Republic and Slovakia calculated in the same way from data supplied by the former Federal Statistical Office.)

economic systems. The concentration of cash incomes on the lower part of the distribution appears far better in market economies than in socialist economies (Table 17-2). However, the data for the market economies refer to the distribution of total household income, unadjusted for differences in household size, while that for the socialist economies is for per capita income. In the same volume, Jarvis and Micklewright (1995) show that the incidence of family allowance in pre-reform Hungary differed sharply between these two distributions, being much less well concentrated on the poor when total household income is used. This would appear to suggest that Milanovic's finding would be even stronger if the distributions in market and socialist economies were defined in the same way, but it is pension expenditure that dominates the cash benefit figures and here the result could go the other way.

¹⁵ The Gini coefficient for Czechoslovakia as a whole is given for each year in Atkinson and Micklewright (1992, Table CS11).

The Polish and Soviet data refer only to the 1980s although the series for Hungary, like that for Czechoslovakia, covers three decades.¹⁶ The sources for the data were described in Section 2.2 and the warning made there about the source of the Soviet data, the Family Budget Survey, must be repeated here – this was a low quality source with a large question mark over its degree of representativeness.

The most striking feature of the diagram is the reduction in income inequality in Slovakia from the late 1950s to the late 1970s, the Gini coefficient falling by 0.1 – a very substantial change. The Gini in the Czech half of the Federation was nearly 7 per cent points below that in the Slovak half in 1958. At this time there were therefore sharp differences in income distribution between the two republics but by the mid 1970s recorded inequality was effectively the same. The reduction in intra-republic inequality in Czechoslovakia over 1958-88 was accompanied by a big catch-up in average income by Slovakia. The ratio of average per capita income between the two republics fell from 70 per cent in favour of the Czechs in 1958 to a differential of only 10 per cent from 1976 onwards (Atkinson and Micklewright, 1992, Table CSI4).

In the mid 1960s recorded inequality in Hungary was at about the level of that in Slovakia, and movements in the Gini at this time were similar to that in the Czech lands. By 1982 the Gini had fallen to 0.21, the same figure as for Czechoslovakia as a whole in 1980. The difference in experience between the two countries in the mid 1980s was striking. While inequality in Czechoslovakia was effectively unchanged, there was a sharp increase in Hungary, with the Gini coefficient rising by three and a half per cent points between 1982 and 1987. Rising inequality during this period in Hungary is consistent with the relaxation of central planning in the 1980s and we have seen earlier that earnings inequality increased at this time.¹⁷

The series for Poland starts only in 1983 so the impact of the Solidarity trade union in the early 1980s cannot be seen. The incomes policy package of Solidarity following the Gdansk Accord of 1980 was described by Flakierski as “one of the most egalitarian programmes ever defined in a socialist

¹⁶ The Soviet evidence for earlier years is sparse but includes the important work by McAuley (1979) for 1967, drawn on by several later authors including Bergson (1984) and Morisson (1984), and that of Ofer and Vinokur (1992) who used data collected from samples of emigrés in the early 1970s. Atkinson and Micklewright argue that the differences in sources and the uncertainty surrounding their use are too great to allow strong statements about trends in the USSR up to 1980, concluding that all one can say is that the degree of inequality displayed by the Family Budget Survey data for 1980 is “fairly similar” to that found in the earlier work (1992, p.131).

¹⁷ Éltető (1997) discusses in detail the changes in income distribution in Hungary over the 1970s and 1980s, comparing these with those for earnings. He notes that the correlation between an employee's earnings and the per capita income of his or her household was only 0.35 in 1977 and 1982, a reminder of the difference between the two income concepts.

country” (1991, p.96) but although a separate series for worker households shows a sharp drop in inequality between 1981 and 1982, there was a rise again in 1983 (Atkinson and Micklewright, 1992, Figure 5.7). Figure 5 shows that recorded inequality in the population as a whole at this time was clearly greater than in both Hungary and Czechoslovakia. With the exception of a jump in 1989, inequality in Poland during the period shown did not exhibit any great changes and the Gini in 1987 was effectively the same as that in Hungary.

Figure 5 shows inequality in the Soviet Union rising throughout the 1980s, starting from the same level in 1980 as displayed by Poland for 1983 – a Gini coefficient of just under 0.25. The value by 1989 was some three per cent points higher. The question mark over the Soviet data reduces any confidence that can be placed in the comparison of the level of inequality with that in the other countries, but the changes over time during the decade may be more robust to deficiencies in the source. Putting such concerns to one side, the evidence of Figure 5 is that inequality of household incomes in the USSR at the end of the 1980s was, like that of earnings, higher than in Hungary and Czechoslovakia.

Did socialism reduce regional disparities in incomes across the USSR as we have seen occurred in Czechoslovakia? And what was the degree of disparity in income *within* each republic at the time of the break-up of the Union? McAuley (1979) analysed changes in available data on average incomes by republic in the 1960s and concluded that there had been “little if any” (p.99) reduction in regional differences. Evidence for the 1980s is given by Atkinson and Micklewright who note that seven out of the eleven non-Baltic republics had failed to make any significant progress relative to Russia and that a number had fallen further behind, notably in Central Asia where the four core republics in 1988 had average per capita income of less than two-thirds of the Russian figure.

Questions concerning the differences within republics are harder to answer. The only data readily available are for the end of the 1980s and come once again from the Soviet budget survey, which had a small sample size in several republics (less than 1,500 households in five cases). With these caveats, some clear patterns emerge from results for 1989 given in Table 2.¹⁸ There was substantial variation in the degree of measured inequality in individual republics. The European Slavic republics of Ukraine and Belarus, and to a lesser extent Moldova, appear to have had less measured inequality

¹⁸ The value of the available information depends on the publication from which it is taken. In the Family Budget Survey report for 1989 used by Atkinson and Micklewright, the bottom range of the data for five republics contained a third or more of the distribution in each case. The estimates in Table 2 are based on more detailed data, although the top decile still lies in an open top interval for several republics.

in 1989, with Gini coefficients at about the same level as that shown in Figure 5 for Hungary in 1987.

Table 2: *Individual distribution of per capita household income in the Soviet republics, 1989*

	Gini	Decile Ratio
<i>Slav republics</i>		
Ukraine	0.23	2.7
Belarus	0.23	2.7
Moldova	0.25	3.1
Russia	0.27	3.1
<i>Baltic republics</i>		
Latvia	0.26	3.0
Lithuania	0.26	3.0
Estonia	0.28	3.2
<i>Caucasian republics</i>		
Armenia	0.25	3.1
Georgia	0.28	3.5
Azerbaijan	0.31	4.1
<i>Central Asian republics</i>		
Kyrgyzstan	0.27	3.5
Turkmenistan	0.28	3.5
Kazakhstan	0.28	3.5
Uzbekistan	0.28	3.5
Tajikistan	0.28	3.6

Source: Estimation using data in Atkinson and Micklewright (1992, Table UI3) with the bottom range split between 0-50 and 50-75 rubles drawing on a table from *Solsia'noe razvitiie SSSR 1989*, p119 (which by contrast combines higher ranges that are split in the source used by Atkinson and Micklewright). The Pareto assumption was used to interpolate within intervals and in the top interval.

The position of Ukraine and Belarus relative to the other republics reflects what was found earlier for earnings. The five Central Asian countries, on the other hand, all had Ginis that were four or five per cent points higher than for these two Slavic republics, which is a sizeable difference. The Baltic and

Caucasian republics had varied results (Azerbaijan appears to have been the most unequal republic in the Union). The Gini shown for Russia is very similar to that for the USSR as a whole.¹⁹

We finish by considering for the 1980s the question that many scholars had addressed for earlier years – whether measured inequality of income was lower in pre-reform Eastern Europe than in the OECD countries (as then defined). Our ability to answer this question is greatly enhanced by the work on income inequality in the OECD countries by Atkinson et al., (1995).

Their analysis, based on use of microdata sets in the Luxembourg Income Study (LIS), provides results under a variety of definitions – including the distribution by individuals with the per capita equivalence scale, the definition most commonly used in Eastern Europe. Table 3 compares the Gini coefficients given in Figure 5 with those for per capita income in 16 of the 24 countries that formed the OECD in the mid 1980s.

The comparison does not of course provide “the” answer to the question of how the distribution of income differed between socialism and capitalism. Income inequality has varied over time in the West, as well as in the East, and comparisons made in a different period could give a different picture – as the earlier literature reviewed above suggests. Rather, the comparison should be seen as showing how the starting point for the Eastern European countries when entering the transition process compared with the situation at that time in the OECD area.

Czechoslovakia and Hungary in the mid 1980s were just below the bottom of the OECD range. Poland and Russia were certainly above the most equal OECD country, Finland, but very much at the level of the other Nordic countries and Belgium. In all other OECD countries the Gini coefficient was higher than in the Eastern countries and in most cases by a sizeable margin. The means differ by 7 per cent points. The figure for the US was far higher than that for Russia, suggesting that the earlier comparisons of the US with the USSR for the 1970s by, for example, Bergson, were not a good guide to a Russo-American comparison for the 1980s.

¹⁹ The greater inequality in the Central Asian republics combined with their lower average incomes resulted in a far higher proportion of the population in this region below what had become by the end of the 1980s the conventional all-Union poverty line, a monthly income of 75 rubles per capita. The four core Central Asian republics all had a third or more of the population beneath this level, compared with only 5 per cent in Russia and 6 per cent in the Ukraine. It might be thought that much larger household sizes coupled with a per capita adjustment of incomes has much to do with this but Marnie and Micklewright (1994) show that even with the distribution of household size present in Ukraine, the proportion of households below the 75 ruble line in Uzbekistan, the largest Central Asian republic, would only have fallen in 1989 by a third, indicating that low total rather than per capita household incomes was the principal explanation.

Table 3: *Gini coefficients for the individual distribution of per capita income, Eastern Europe and OECD in the mid 1980s*

		0.20	Czechoslovakia
		0.21	Hungary
Finland	0.22		
Sweden	0.24		
		0.24	Russia
		0.25	Poland
Norway	0.25		
Belgium	0.25		
Luxembourg	0.27		
Germany	0.28		
Netherlands	0.28		
Canada	0.32		
Italy	0.32		
UK	0.32		
Australia	0.33		
France	0.33		
Portugal	0.33		
Ireland	0.36		
Switzerland	0.36		
USA	0.37		
mean OECD	0.30	0.23	mean E. Europe

Sources: Czechoslovakia (1985), Hungary (1982), Poland (1985): Atkinson and Micklewright (1992, Tables 5.1 and HI3); Russia (1985): estimates based on grouped data (nine ranges with top and bottom classes containing less than 10 per cent each) in *Argumenty i fakty*, no 20, 1990 (Pareto assumption used to interpolate within intervals and in the top interval); Figures for all OECD countries (1984-87) were estimated from the piece-wise linear (resulting in a slight under-estimate) Lorenz curves implied by the quantile shares given in Atkinson et al. (1995, Table 4.10), other than that for Portugal (1980/81) which was taken from (Rodrigues, 1993, Table 3).

Suppose that as a result of the transition process, an Eastern European country with a pre-reform income share of the bottom quintile given by the average of the figures for the four countries in the table – 10.7 per cent – were to move to a distribution of income with a share of the bottom quintile given by the OECD average – 8.1 per cent. (These shares are taken from the same sources as the Gini coefficients.) Average real income would need to rise by one third for the income of the bottom quintile to merely stand still in absolute terms.

▪ **2.5 Benefits in kind, subsidies and “fringe” benefits**

Was the distribution of households’ incomes in Eastern Europe under socialism a good guide to the distribution of their economic well-being? Can the data be interpreted in the same way as those from market economies when we take into account the existence of subsidised prices, rationing, non-wage remuneration from work, and social benefits in kind? These questions are of interest not only for the historical comparison of income distribution in Eastern Europe under socialism with that in Western countries, but also for establishing the starting point for the transition process for the former socialist countries and hence for interpreting changes in measured income inequality in the 1990s and beyond.

The problem facing the researcher was described by Bergson in the context of the USSR:

“In the appraisal of equity, incomes that are compared, while expressed in monetary terms, are supposed to represent commensurate differences in real incomes. Income, that is, should ideally be received in a monetary form, and be freely exchangeable for goods and services at established prices that are uniform for all households in any market area.” (Bergson, 1984, p1057).

The implications of departures from this ideal have been of frequent concern to those writing on the distribution of income under socialism. But at the same time, it must be remembered that, as Bergson went on to put it, “the ideal is hardly realised anywhere”. To return to the comparison at the end of the previous section, the quintile shares in OECD countries would also need adjustment. The main difference in type between economic system, as opposed to degree, concerns the availability of goods, although even here there have been periods in Western economies where queues have developed, especially in the housing market.

We begin with social benefits in kind, expenditure by the state on education and health. These are well developed in many market as well as socialist economies. At the end of the 1980s, expenditure by the state on education and health in Hungary, Poland, Czechoslovakia and Yugoslavia represented between 12 and 16 per cent of household income (Milanovic, 1995, Table 17-6). This compares to a range of 13 to 22 per cent (and a mean of 17 per cent) at the beginning of the 1980s in the seven OECD economies considered by Smeeding et al., (1993, Table 2).

The typical analysis of the distributional impact of social benefits in kind proceeds by imputing a share of total state expenditure to each household and then summarises the impact across the distribution of income with the device of the concentration curve (or coefficient). Putting aside the far from trivial question of how to value the state’s expenditure, at least two methodological issues arise.

First, the incidence of benefits in kind can be expected to be sensitive to the equivalence scale that is adopted when adjusting cash incomes for differences in households' needs. The per capita adjustment may be expected to put households with children further down the distribution than do other equivalence scales and, as a result, expenditure on education may appear more concentrated on the lower part of the distribution than would otherwise be the case. Milanovic (1995) for Eastern Europe and Smeeding et al., (1993) for OECD economies use different concepts of income and therefore their results cannot be directly compared: the former looks at incidence across the per capita income distribution while the latter considers incomes unadjusted for differences in household size.

Second, the issue arises of how to attribute the expenditure to households, especially in the case of health. Official calculations in the UK impute health expenditure to households on the basis of information from other sources on average usage of medical services by age and sex. This could be seen as attributing to each household the insurance premium that would be paid in a system of private provision. By contrast, calculations made in Hungary in the 1980s attributed health expenditure to households in survey data on the basis of their recorded usage of medical services in that same survey. This procedure is no doubt one reason why the Hungarian calculations display considerable dispersion of expenditure on social benefits *within* income groups (Atkinson and Micklewright, 1992, Figure 6.5).

The results of Milanovic (1995, Table 17-7) for Hungary, Poland, Czechoslovakia and Yugoslavia at the end of the 1980s all display negative concentration coefficients for education expenditure. Households in the lower part of the distribution receive more than their equal share of the benefit in kind, implying a strong equalizing effect.²⁰ This confirms the conclusions of earlier authors based on less detailed data. Morrisson (1984), for example, cites evidence from Hungary for the 1970s which suggested that the inclusion of in-kind social benefits reduced the Gini coefficient for household incomes by two per cent points, as in the UK, the US and France.²¹ Of course, as for cash incomes, the distribution of social benefits may change over time. (This issue is the focus of the analysis for the UK by Sefton, 1997.)

The distributional impact of consumer price subsidies in pre-reform Eastern Europe attracted a lot of attention. The size of the explicit consumption subsidies varied substantially across time and countries, as they

²⁰ It is notable, however, that the equalizing impact of education expenditure varies considerably with the level of education, expenditure on kindergarten and primary levels being much more concentrated on the lower part of the distribution than expenditure on secondary and vocational education.

²¹ In the case of education, a similarity in the incidence East and West is consistent with the view that educational access under socialism was characterised by some of the same social class differences as that under capitalism (UNICEF, 1988).

do in market economies. The same is true of producer subsidies from which of course consumers often derived indirect benefit. In 1988, consumer subsidies represented about 5 per cent of GDP in Hungary and 10 per cent in Poland, figures which represent a potential for considerable leverage on inequality. This may be compared with a figure for subsidies in Britain as a per cent of net household income of less than 4 per cent in the mid-1970s and only one per cent in the early 1990s.

Newbery (1995) reports on the work for Hungary in the mid-1970s by Szakolczai (1979), who argued that the then consumer price system had a poor redistributive effect; Newbery's conclusions using the same data are rather different: "production and consumption price distortions appear to have been remarkably effective at redistributing purchasing power" (pp.850-1). Analyses for Poland and Hungary in the late 1980s revealed that poorer households received a less than equal share of total state expenditure on consumer subsidies – the concentration coefficients were positive (Atkinson and Micklewright, 1992, Milanovic, 1995). (Newbery points out that policy on the use of the price system as a redistributive tool may well have been consciously changed over time.) But the distribution was less unequal than that of cash incomes, implying an equalizing effect. (This is the situation where the concentration curve is between the Lorenz curve and the line of equality). The picture for individual subsidies, however, varied considerably.

The valuation of subsidies in these analyses attributes state expenditure on the basis of observed consumption. (Newbery's methodology is an exception.) This contrasts with the appropriate theoretical concept, the equivalent variation of the price subsidy – the amount of income that would be required to keep the household at the same level of utility if the subsidy were to be abolished. But the standard illustration of the amount of the equivalent variation may need adjustment if subsidies go hand in hand with rationing, since a household's observed expenditures may represent a mix of purchases at a lower subsidised price and a higher market price (Atkinson and Micklewright, 1992, Cornes, 1995). Nor should analysis focus only on the effect of explicit subsidies, ignoring the impact of other forms of price regulation and indirect tax. When the state owns all sales outlets and stands to bail-out any in financial trouble, the distinction between a price control and a price subsidy is blurred. As was put by the IMF and others, "in an economy where practically all commodity and factor prices are administered, the economic concepts of subsidies and taxes can become so broad as almost to lose their meaning, insofar as administered prices, wages, interest rates and the exchange rate all deviate from market-clearing values" (IMF et al., 1991, vol 1, p267).

Housing was a good where subsidies varied considerably across the socialist countries, and where state intervention has also been common in market economies. In part this was linked to big variations in the pattern of

housing tenure. Bulgaria and Hungary, for example, were countries where owner-occupation was at a surprisingly high level by the end of the socialist period, although this does not imply that there were no housing subsidies for the households concerned – low interest mortgages from the state were a prominent feature. Three-quarters of the total housing stock at this time was occupied by owners in Hungary (Pudney, 1995) with the same figure found in urban areas in Bulgaria (Renaud, 1991).

By contrast, the Soviet Union “maintained the dominant features of a centrally planned housing system for the longest time and in their most traditional forms” (IMF et al., 1991, vol 3, p317) and this was associated with substantial over-crowding as indicated by standard measures. The state owned two-thirds of the housing stock, and almost 90 per cent in large cities such as Moscow and St Petersburg (Buckley and Gurenko, 1997). Levels of rent in the 1980s were still largely determined by regulations from the 1920s. This was an extreme case, but state sector rents in Bulgaria and in Czechoslovakia dated from the 1960s (Renaud, 1991).

In Hungary, subsidies to public-sector rents in the 1970s were estimated to have had a regressive impact, re-enforcing the picture of inequality obtained from cash incomes alone (Dániel, 1985) with the same true of all housing subsidies in 1989 (Dániel, 1997), including those to owner-occupiers (taking the value of subsidies as merely being the explicit expenditures in the state budget).²² In the USSR, by contrast, analysis based on data on Soviet emigrées referring to urban households in the 1970s showed rent subsidies reducing inequality (Alexeev, 1990), the upper-bound of the market-clearing price being estimated as the average rent per square metre in the data for accommodation rented – illegally – from private individuals.

The illicit sub-letting of public housing was a result of the housing shortages in the USSR. Places in the housing queues might be sold (again illicitly) with the result, according to Alexeev (1988), that the rent subsidy received by some high income households living in low-rent public housing represented in part a return on their investment. (Alexeev's results have subsequently been questioned by Buckley and Gurenko, 1998, who argue that income had little impact on housing demand at the end of the Soviet period.)

The existence of “fringe” benefits – non-wage benefits from work – in pre-reform Eastern Europe also received a lot of interest from writers concerned with inequality under socialism. Much of this focused on the rewards going to the nomenklatura – superior housing, cars, holiday homes, access to imported goods. At the same time, non-cash benefits were far from being limited to the elite. For example, many enterprises provided nurseries and

²² Dániel's earlier study attempted to allow for variations in quality as well as size of housing and employed a variety of different assumptions regarding valuation of the subsidy.

kindergartens that were highly subsidized, and, in some countries, housing. Enterprise provision of goods and services played an important role in a shortage economy. Where enterprises could obtain supplies of scarce consumer goods, through barter with other producers, they were able to give their workers access to goods that would otherwise have been unobtainable. Competition for scarce labour through cash wages that was restricted by centralised wage determination could occur instead through fringe benefits.

In the West, substantial fringe benefits are available to top managers in the private sector. This aspect of remuneration from work in market economies has received much less attention than has the nomenklatura's benefits in socialist economies. (See also Chapter 5 by Gottschalk and Smeeding.)

Access to goods in short supply that could not be obtained elsewhere at *any* price seems an important difference in non-wage benefits under socialism. The existence of severe shortages in consumer goods clearly varied across country and time. For example, while reports of shortages of many consumer goods in the USSR in the 1970s abound, most consumption goods seem to have been in reasonable supply in Hungary in the late 1980s. The distributional implications of shortages depends on how these shortages are overcome. Effective rationing could be highly egalitarian and even if secondary markets develop "the tendency towards dampening of real relative to monetary income differentials should be mitigated" (Bergson, 1984, p.1058) albeit not eliminated. However, queues may be subject to manipulation – not all buyers are treated equally in the face of shortages as the discussion of public housing and of non-wage benefits indicates.

Social benefits in kind, subsidies and fringe benefits certainly do alter the light in which income data under socialism should be viewed. The same is true for income data in market economies and in the case of social benefits in kind the light is probably altered in much the same way. Milanovic (1995) surmises that subsidies and fringe benefits broadly speaking cancel out in their impact on inequality under socialism, but that the latter dominate in market economies, with the result that the generally higher inequality of cash incomes in OECD economies understates the true comparison. The evidence is insufficient for any such general conclusion and the picture, as for cash incomes, undoubtedly varied across time and between countries. What is certainly true is that the impact on economic well-being of these factors is important and needs monitoring during the transition alongside changes in cash incomes.

3. Distribution in transition – theory

No aspect of transition is tightly defined. We have seen above that there were significant differences in the starting points of the socialist economies of Central and Eastern Europe. There is also no unique endpoint for transition

and there are several Western models between which there is room for choice but all of which also represent moving targets. The transition itself could also take many different forms as the experience of China and its regions demonstrate, as do the differences between Central Europe and the CIS. In this section we focus on several aspects of the transition relevant to the evolution of income distribution within the process itself.

While there are several theoretical models of, for instance, the reallocation of labour between sectors in a liberalised B but previously distorted B economy (see, for example, Flemming, 1993) and between a state owned- and a private-sector characterised by distinct wage setting processes (see, for example, Aghion and Blanchard, 1994) they generate little inequality, except through unemployment, as labour is, essentially, assumed homogeneous. The first approach concentrates on the effects of the relative price changes associated with liberalisation which the latter ignore to concentrate on the effects of privatization, which may itself be endogeneous. According to the first approach instantaneous changes in relative product prices have implications for both factor prices and resource allocation – which can be expected to evolve together. This process could be influenced by a variety of interventions including employment subsidies or transitional protection. It is also likely that any tendency for the market clearing real wage for some category of labour to fall sharply would set up interactions with either the old or the new structure of income support possibly including formal or informal minimum (real) wages.

Nearly all socialist economies (with the exception of Czechoslovakia) embarked on the process of transition with a substantial monetary overhang. Thus where prices were liberalised they jumped, sometimes by factors of two or three. To the extent that monetary overhangs had accumulated from a flow of excess demand under controlled prices, there was a danger of continuing inflation and a need for stabilisation policies. Both of these interacted, as did the price jump itself, with income determination and income support processes. Several countries experimented with taxes on wage increases while apparently high ratios of pension or other benefits to wages were eroded by rapid inflation and lags in uprating benefits.

Unemployment itself was a virtual novelty, challenging the administration to devise and implement procedures, criteria, and structures for delivering benefits. Socialist economies distributed many social services through places of work. With the prospect of declining participation, smaller enterprises and higher labour turnover, higher unemployment, as well as separation of the state from production, this becomes less appropriate. The transfer of these services from enterprises to, say, municipalities, is a major undertaking which is likely to impinge on the support and services supplied. The fiscal system also needs to be rebuilt with personal and corporate direct taxation as

well as the widespread adoption of Value Added Taxes often in incomplete forms (especially in the CIS).

Finally, the process of administrative reform has a number of implications for income distribution. It may be that the existence of abnormal quasi-rents would in any case bring protection racketeers into existence, certainly the incompleteness of liberalisation leaves underpaid bureaucrats in a position to make life difficult for new ventures unless they are paid off. Many aspects of the modern market economy are typically regulated whether financially, environmentally or in land use, not to mention by tax officers. It is not clear that either the bureaucrats of the former branch ministries or the staff of the communist enforcement agencies were very promising material for these *market* regulatory roles. Assuming that new structures have to be developed, it is quite possible that the transition from central planning to market regulation will not be monotonic but will involve a period in which there is not much central effort at control while there remain sufficient vestiges of the old controls for corruption of the nomenklatura as well as the criminality of the so-called “mafia”.

▪ ***3.1 Transitional adjustment and the distribution of earnings***

Some light on the consequences of rapid liberalisation of a heavily distorted centrally planned economy may be thrown by considering the effects of the rapid elimination of distortions in a (competitive) market economy. The parallel between the two situations is not very close for two reasons. First, the interventions under central planning included enterprise-specific ones with no obvious parallel in a market economy distorted by product-specific border or excise taxes or subsidies. Second, the distorted market economy has the market mechanisms and institutions in place to respond to changed price signals which may not be true of the formerly centrally planned economies.

What would happen if major distortions were eliminated overnight? Clearly, by assumption, relative prices would change radically at the enterprise level as well as at the consumer level. This will be true both of inputs, such as energy which was underpriced throughout COMECON, as well as of outputs. Thus value-added margins change sharply – some widening while others narrow. Resources should shift from sectors in which margins have narrowed to those in which they have widened. To the extent that this occurs, output at world prices will be increased thereby.

A number of commentators (see, for example, McKinnon, 1991, Hughes and Hare, 1992) argued that significant sectors of the centrally planned economies were subtracting value at world prices. These would find themselves facing negative value-added margins on liberalisation. If they could not change their input/output ratios very quickly, or change their product design or quality, the cessation of such activities would also raise

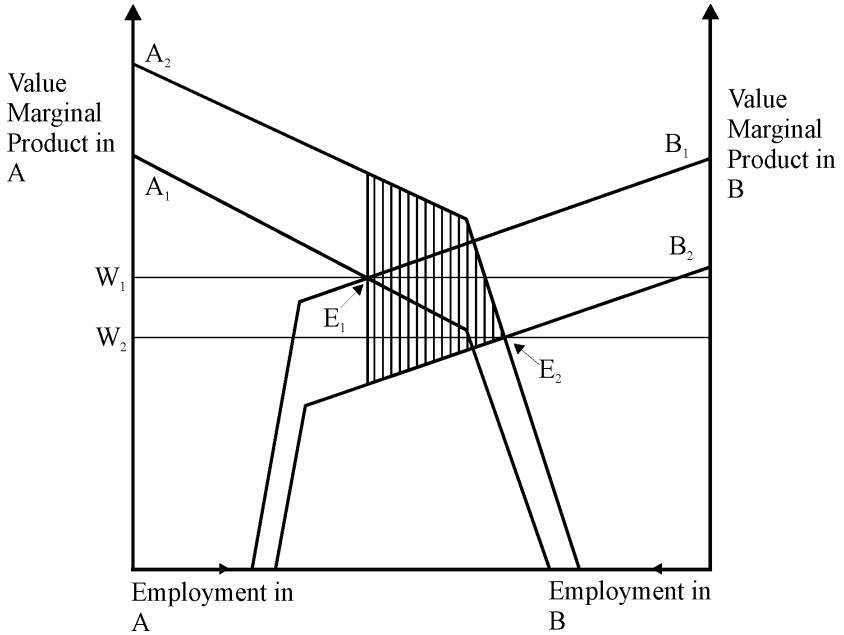
world price GDP at the same time as releasing labour and other inputs for use elsewhere. In the very short run the scope for redeploying that labour would depend on the technical nature and flexibility of the capital employed in the rest of the economy – particularly where value added margins were widest. If capital were flexible, labour could be redeployed promptly without its physical or, in an open economy, its value marginal product being seriously depressed. In this case world price GDP could rise considerably and immediately, and with it, possibly, the market-clearing real wage (at the same prices).

At the other, and arguably more realistic, extreme, opportunities for ex post substitution of labour for capital in the high value-added-margin sectors are virtually non-existent. Redeployed labour drives its marginal (physical) product down very rapidly before it has added much to world-price GDP. In this case the market-clearing real wage may fall sharply on liberalisation if labour is homogeneous and the market competitive, as in Figure 6A. If it is not, in the short run, there may be marked differentials unrelated to previous patterns and not strongly related to long-term steady state differentials under the new regime – see Table 4.

Table 4: *Impact of rapid liberalisation of a distorted market economy in which labour markets clear*

		Capital/Labour Substitutability (ex post)	
		High	Low
Labour	Homogeneous and Mobile	Market-clearing real wage tends to rise	Market-clearing real wage falls
		real wage dispersion remains low	
	Heterogeneous/ Immobile	Real wages tend to rise	Real wages tend to fall
		Real wage dispersion rises	Real wage dispersion tends to rise

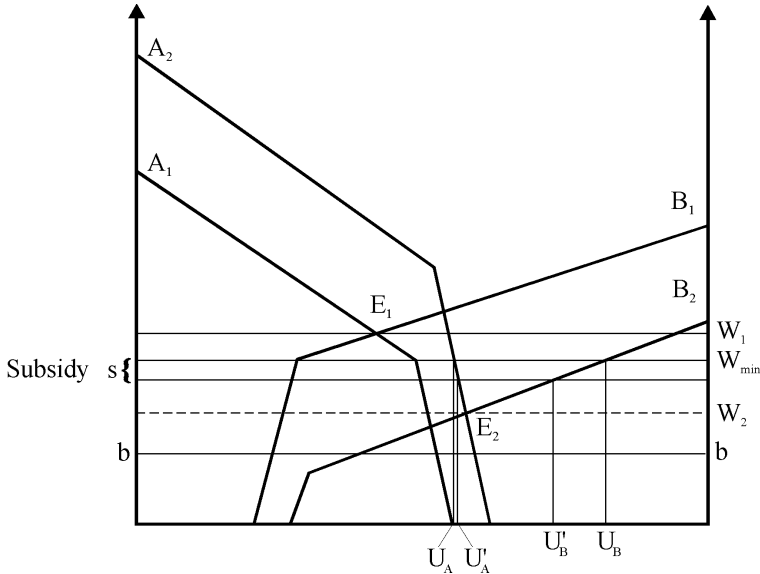
Figure 6A: *Two-sector model of the labour market with homogeneous labour*



Note for Figure 6A:

The bends in the functions A and B relate to capacity levels. (The steeper segments might be vertical at least over some ranges.) Up to that point additional employment is on older/inferior vintages of equipment – beyond it more labour is applied to that equipment. E_1 is the initial (distorted) equilibrium. If distortions are removed (and other repercussions allowed for example in the exchange rate) one curve rises, as $A_1 \rightarrow A_2$, and one falls, as $B_1 \rightarrow B_2$. If the shifts are large enough for the two flatter segments no longer to intersect, the new equilibrium at E_2 may be associated with a sharply reduced market clearing real wage (falling from W_1 to W_2). The shaded area is the addition to world price GDP as labour is redeployed from B to A.

Figure 6B



Note for Figure 6B:

Removal of the distortion shifts A and B as in Figure 6A. At E_2 the wage W_2 is lower than the minimum wage W_{\min} . This gives rise to unemployment $U_A - U_B$. An employment subsidy s , paid to employers and leaving employees' net real pay unchanged at W_{\min} , would raise output, reduce dole payments (at the rate b) and reduce unemployment from $U_A - U_B$ to $U'_A - U'_B$. Alternative effects of the subsidy on wages and earnings are considered in the text.

There may of course exist some sectors, such as certain services or subsistence agriculture, in which the physical product of labour does not fall significantly as numbers rise. The living standard thus afforded would then play an important, albeit transitional, role in determining the distribution of income. If the relevant level was low relative to prevailing norms, whether dictated by social convention, formal minimum wages or a reservation wage driven by social security benefits, those not employed in organized sectors would join the ranks of the unemployed or possibly of those recorded as non-participants – see Figure 6B. Apart from the value of their leisure or the fruits of gardening or other possibly “grey” activity, output falls in such cases relative to those in which subsistence sectors act as residual employers and a fortiori relative to those in which the market clearing real wage falls little if at all. The implications for income distribution depend crucially on the cash

income of the unemployed and non-participants. This might arise either under an explicit unemployment compensation scheme or under the terms of a more general social security safety net.

As has been stressed above, the process of transition is a dynamic process of resource reallocation as well as a politico-economic process of reform, restructuring and institution-building, of which the former is the more amenable to economic analysis. At the new structure of liberalised relative prices, abnormal quasi-rents will accrue to the owners of some types of physical plant and machinery and also to the owners of certain types of human capital. These abnormal returns should induce the expansion of the supplies of the relevant types of capital thus bidding down their abnormal temporary rentals.

If the labour market were to clear at a relatively low average real wage while world price GDP actually rose (by an amount represented by the shaded area in Figure 6A), there would clearly be a large increase in average profits and there might be a presumption that this shift in the factoral distribution of income would be favourable to investment. The investment would obviously tend to be concentrated in areas where returns were highest. How far this would extend to investment in any form of human capital would, as always, depend on the structure of the capital market and the appropriability of the returns. Low real earnings for most people would limit investment by households, while investment by profitable enterprises in training current or prospective employees might be deterred by their scope for migration to other employers. Limitation of investment in human capital to the children of workers themselves earning high quasi-rents would both slow down the process of adjustment and reinforce a cumulative deterioration in the distribution of income and wealth.

▪ ***3.2 The scope for mitigating measures***

The effect of the changed structure of value added margins on the distribution of earnings depends not only on the homogeneity or heterogeneity of labour skills but also on labour mobility between enterprises, industries and locations and also on the degree of competition in the market. Mobility was reduced in socialist states by the bureaucratic mechanisms for allocating accommodation – often linked to employing enterprises. The intensity of labour market competition immediately after liberalisation is very hard to assess although crucial for certain types of possible policy interventions.

Suppose that labour is homogeneous and labour market competition sufficiently intense to establish a single real wage. Suppose further that there were significant sectors subtracting value (at world prices) under the old regime, that capital is sector specific and has (ex post) virtually fixed coefficients and that there is no subsistence service or agricultural sector but

a social security system which establishes a de facto minimum reservation real wage. This is clearly a recipe for post-liberalisation unemployment as well as a uniformly low real wage. A tax on profits used to subsidise employment would make some additional positive value added activities financially viable. It would thus raise employment and real (world price) GDP. It would not raise wages since the factors determining the reservation wage are unchanged. As long as the subsidy was smaller than the social security payments previously made to the unemployed, net government revenue and/or investible profits would actually rise.

The process can be illustrated by the following example:

If employment is n , the minimum wage \underline{w} , the subsidy s and the dole (unemployment benefit) b , an increase (ds) in the pre-existing rate of subsidy (s) raises employment by dn , it raises output by dn times labour's marginal product ($\underline{w}-s$) (its net cost to employers). Thus output rises by $(\underline{w}-s)dn$ and household income by $(\underline{w}-b)dn$ and the total of profits plus government revenue minus dole payments (as the intramarginal subsidy boosts profits), by $(b-s)dn$, which is positive as long as $s < b < \underline{w}$.

Although the remarkably favourable effects of a profits-tax-financed employment subsidy in the model are sensitive to the subsidy's effect on the take-home pay of the marginal employee, it does not require perfect competition. It is shown in Appendix A that while labour sharing in the quasi rents raised by the subsidy and an effective minimum wage linked to average earnings make more demanding the conditions for incremental subsidisation to be so beneficial, it is by no means impossible that these conditions should be met.

In practice no transition economy implemented any such scheme, possibly because they were reluctant to take any risks with revenue at a time when raising revenue was seen as an essential element in a stabilisation package. In principle, if there were a single economy making the transition, many of the effects of a temporary employment subsidy could be achieved by a suitable structure of temporary protection.

For many of their client states, the international financial institutions recommend the tariffication of inherited distortions which should then be phased out over a number of years. B see John Williamson's "Washington Consensus" (Williamson, 1997). An exception was, however, made for the European transition economies for reasons that have never been clear.

A programme of this sort would, however, have confronted several problems:

- that of converting the often opaque distortions of central planning and state trading into equivalent transparent border taxes;
- that of the initial enthusiasm of the central European transition economies for free trade (Messerlin, 1992);

- the complication of there being several transition economies, trade between which should not have been distorted simply because each of them was unready for free trade with the West;
- the problem of making the timetable for phasing out the border taxes credible.

The last problem might be mitigated in several ways. The countries could have agreed amongst themselves in a trade treaty involving mutual commitments to phase out such transitional protection. Or its phasing out could have been a condition of World Bank or IMF assistance, or of access to EU markets under the Europe Agreements of the early 1990s. At that time the transition economies had very low formal tariffs. A declining ceiling could still have been imposed in a treaty and would have limited the scope for government concession to subsequent sectoral lobbying. The risk of such concession appears to have been underrated relative to those of an initially more protective regime initiated by government which might, by taking control and anticipating the lobbying pressure, have been better placed to resist it.

▪ **3.3 Wage controls and unemployment**

In practice, intervention in labour markets was directed more to the restraint of inflation than to the support of employment. Wages were in several countries subject to controls and in others to taxes (such as the *Popiwiek* in Poland) related to the rate of increase of nominal wage rates, enterprise wage bills or of average earnings. The latter offered an incentive to retain relatively low paid staff on the books to restrain the growth of the average. In Russia the excess of the average earnings over some multiple of the minimum wage was taxed as profits. This has the effect of converting the profits tax into a tax on value added (profits plus wages) less a per capita allowance per employee.

In Russia and other parts of the former Soviet Union, enterprises kept some employees on the books at the minimum wage which might be only 10-25 per cent of the average. There is some dispute as to how far this practice increased during the transition. It could be explained in several ways, in particular as reducing the taxation or as enabling those essentially unemployed to retain employment status which might be important to establish eligibility for a variety of social benefits (Standing, 1996).

The emergence of open unemployment called for administrative innovations to establish and operate unemployment benefit offices and labour exchanges. While the benefits scheme was operated consistently and fairly restrictively in the Czech Republic, a significant part of the fluctuation of registered unemployment in Poland in 1991-3 has been attributed to variations in the application of eligibility standards. Effective replacement

rates were also liable to wide variations with fluctuations in inflation rates and operating procedures. (See, for example, Boeri, 1994 and 1995, Burda, 1993 and 1995, Boeri and Edwards, 1998). One explanation offered initially for the continuing low level of open unemployment in Russia was that claims offices were so far apart as to be virtually inaccessible to many people (not only in rural areas).

▪ ***3.4 Reforming delivery of social services and collection of taxes***

Some of these issues should be modified as the role of enterprises in the provision of social services, always greater in the former Soviet Union than in Central Europe, diminishes, to be replaced (in practice often only partially) by a clearer and more transparent provision by agencies of central or local government. This switch is not easily achieved as the transfer of funds and responsibilities is difficult to synchronise across competing enterprises in different regions and sectors, and the agencies concerned may be unenthusiastic about their new role.

Of equal or greater import for the distribution of income is the direct tax system and also the system of indirect taxes and border taxes on consumer goods. On IMF and World Bank advice, Valued Added Taxation has been widely adopted in transition economies although the speed with which the reforms were claimed to have been introduced was such as to raise doubts as to the adequacy of the administrative machinery in fact in place. In Russia, in particular, there are grounds for doubting how quickly input tax was made recoverable as opposed to crude adjustments being made to cascading sales taxes.

While under central planning there were features of the pricing system that could be interpreted as commodity taxes (possibly at enterprise-specific rates) personal income taxes were even less well developed, particularly in the Soviet Union. Developing reporting, assessment and collection systems was not at all straightforward, as mentioned above. There are grounds for doubting the availability within the previous bureaucracy of personnel qualified for the collecting of taxes in a market economy. The scope for corruption is obvious and there is continuing evidence of failure to collect revenue in Russia and the rest of the CIS (EBRD, 1998). Such failures relative to approved budgets either lead to monetary financing and inflation or to public expenditure cuts often in the form of arrears of wages. As monetary controls have tightened, the problem of arrears and their impact, not well documented, on the distribution of income have increased.

▪ 3.5 *Restitution*

Appropriability is not a problem only in the case of returns to human capital, considered at the end of Section 3.1. In many transition economies property rights were initially ill-defined and difficult to enforce. Moreover protection racketeers might cream off quasi-rents and, if monopolistic, mafiosi discourage the adjustment process as the scope for their activities would be smaller in any long term equilibrium.

Another uncertainty about property rights in a number of Central European transition economies arose from the decision to return real property to its former owners (or their descendants).²³ Uncertainty as to who had the best claim was liable to deter any incumbent or claimant from improving or even maintaining the disputed assets. In such cases the property was often vested in the incumbent with other claimants being made eligible for monetary compensation for their former expropriation. Interests in property by those who had, for instance, lent on its security were nowhere recognised.

Given the alternative of distributing the value uniformly amongst citizens of what had, in the interim, become state property, it is clear that policies of restitution – often of estates to emigré aristocrats – do not make a positive contribution to the equality of distribution of income and wealth. Nor, being related only to expropriation and restitution to the living, is restitution focused on compensating the most acute victims of communism.

One argument used to justify restitution was that the new regimes were pledged to respect private property and could demonstrate that commitment most effectively by returning to its previous owners, or their descendants, property taken by communists. This is not a very convincing argument. If the re-establishment of private property is a unique event, its security under the new regime is not enhanced by restitution which is only relevant to the future to the extent that further expropriation is a possibility. At the same time restitution to emigré aristocrats in particular might have had the effect of alienating people from the new regime. The fact that restitution appears not to have been unpopular suggests that people either did not recognise the value of the assets in question, or were so alienated from the socialist regime they saw as having been the owners of the assets that they did not realise that what was being given back was, or could have been, theirs.

4. Distribution in transition – evidence

The annual *Transition Report* of the European Bank for Reconstruction and Development (EBRD) documents the changes in the Eastern European

²³ Restitution of land to indigenous peoples is an issue in several other regions such as the USA, Canada, Australia and New Zealand. This usually relates to underdeveloped land in government ownership although in some cases (e.g., Australia) it may have been leased to graziers.

economies. Some of these changes are shown in Table 5 in the form of unweighted average values for groups of countries. The first column gives the value in 1997 (the last year for which we have data on the distribution of earnings or incomes) of the EBRD's "transition index", which is intended to summarise countries' cumulative progress from a planned to a market economy. The index takes into account a variety of dimensions of transition, including price liberalisation, privatization, re-structuring, competition policy, and reform of financial institutions.

Table 5: *Indicators of transition*

	EBRD transition index	Private sector share of GDP, 1997 (%)	Change in real GDP, 1989-97 (%)	Average annual inflation, 1991-96 (%)	Average registered unemploy- ment, 1991- 96 (%)	Government expenditure as share of GDP, 1996 (%)
C.Europe	3.4	68	-1	34	10.6	46
SE Europe	2.7	59	-30	179	17.3	37
Baltics	3.2	67	-37	254	4.9	38
Western CIS	2.4	46	-50	775	1.3	38
Caucasus	2.4	50	-63	1926	3.1	19
Central Asia	2.2	41	-42	758	1.6	24

Note: Central Europe is the Czech Republic, Hungary, Poland, Slovakia and Slovenia; South East Europe is Albania, Bulgaria, FYR Macedonia and Romania; The Baltics are Estonia, Latvia and Lithuania; Western CIS is Belarus, Moldova, Russia and Ukraine; Caucasus is Armenia, Azerbaijan and Georgia; Central Asia is Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. The figures in the table are all unweighted averages of the data for each country.

Sources: EBRD (1997, Table 2.1) for the transition index and private sector share, EBRD (1998, Table 3.1 and country annexes) for GDP change and government expenditure share, and UNICEF (1998, Annex Tables 10.9, and 10.12) for inflation and unemployment.

The most advanced countries in 1997, in terms of the EBRD's judgement of progress in the transition, were those in Central Europe and the Baltics. All the countries in these two groups had a value of the transition index greater than 3.0 and on average the private sector accounted for over two-thirds of GDP. The four other groups of countries, three of which are formed by the countries of the Commonwealth of Independent States (CIS), had made less progress and retained higher public sector shares of output. The least progress of all had been made by the Central Asian republics, although the group average hides substantial variation (Kazakhstan and Kyrgyzstan

had values of the transition index and private sector shares of output at about the average level for South East Europe, while Tajikistan and Turkmenistan were well behind).²⁴

One expectation might be that inequality changes most in the countries which make the greatest progress away from the planned economy and where private activity accounts for the majority of output. To the extent that the state compressed the distribution of income pre-reform, surely a greater retreat of the state from the organization and control of economic activity will be associated with a larger rise in inequality?

Other factors suggest that any simple relationship between the extent of economic reform and the change in inequality will not be found. First, the withdrawal from direct organization of economic activity by the state does not necessarily imply an indifference to the distributional implications of a more liberalised economy. Governments may try to re-distribute income from those gaining to those losing as a result of economic liberalisation. Electoral pressure, a new constraint to the state's activity, may be one motive for this. A result of such re-distribution may be that inequality of gross earnings widens faster than the distribution of household incomes.

Second, a continued dominant role for the state does not mean that the governments in the countries concerned will follow the same distributional objectives as before. The evidence reviewed earlier from the pre-reform period demonstrated that substantial changes in the distribution of earnings and household incomes took place during the socialist period as governments altered their distributional stance. Such alterations may continue, both among democratically-elected governments and among those that are a continuation of the previous regime. Table 5 shows that the slow reformers saw the largest falls in output over 1989-97. (The extent to which this represents cause and effect is of course the subject of debate.) Groups within the population may differ sharply in their political leverage and hence in their ability to protect their living standards from the implications of these changes. For example, workers in energy industries, where output is now traded on world market prices, may be able to secure increases in their wages relative to the average. The huge rates of inflation shown in Table 5, experienced in particular by the slower reformers, will have permitted sharp changes in relative wage rates and in the relationship between state transfers and wages.²⁵ State transfers are an important element of government expenditure, which the last column in

²⁴ There is substantial variation in some other groups too, notably the Western CIS where Russia was at this time much further advanced than the other three. By 1998 Russia had slipped back on the transition index to the level of Ukraine, following government controls on the economy introduced during the financial crisis of that summer (EBRD, 1998, Chart 2.2).

²⁵ Inflation rates vary enormously within the groups of countries shown in Table 5 and the period chosen misses, for example, the hyper-inflation in Poland in 1990.

the table shows to vary substantially in terms of the share of GDP, and in particular to be much lower in the Caucasus and Central Asia than elsewhere.

A further complication is that the evidence on distributional changes refers to *measured* income inequality, as in the pre-reform period. Transition has seen a sharp reduction in consumer price subsidies, and on the evidence of the pre-reform period this will have had a regressive impact. Measured changes in the distribution of household incomes may provide a lower bound on changes in the distribution of economic welfare, and the importance of this may well vary across the groups of countries identified in Table 5, fast reformers cutting out subsidies more quickly. We consider some evidence on the distributional impact of remaining subsidies at the end of the section.

As in the discussion of the pre-reform period, we look first at evidence on changes in the distribution of earnings, before turning to household incomes. Throughout this discussion we consider only changes in *relative* incomes. The comparison of income growth with change in income inequality of course underlies much of the discussion of the change from planned to market economy, but it is too early to assess the consequences of incomplete transitions. (By 1997, measured output in only one country, Poland, exceeded the level achieved in 1989.) An investigation of this issue remains a task for the future.

▪ **4.1 Data sources in transition**

Transition towards a market economy and, in many cases, to a more open society has important consequences for available sources of distributional data and the interpretation to be put on them. The household budget survey of the former Socialist Republic of Salubria may continue in the now democratic, mixed-economy, Salubrian state – but this does not mean that the data are collected as before or that they can be interpreted in the same light. Or the Salubrian statistical office may abandon its previous survey methodology completely - the changes affect the use of the available data to judge the impact of transition on income inequality.

Some issues will be obvious from our earlier discussion of data from the pre-reform period, including the comparison made with sources in Western countries. Transition has seen sharp increases in the share of private activity, poorly covered by many pre-reform surveys. There are more small firms, which are often excluded from employer earnings enquiries; there are more self-employed, a group often not included in pre-reform budget surveys and whose income is hard to measure if now included. Unemployment has made household incomes more variable over the year with the result that annual income is harder to measure than before. Systems of social security benefits have become more complex, including increased use of means-testing, and as a result are more difficult to survey. The introduction of personal income tax may provide a disincentive to accurately report incomes to household

surveys. And a change in the relationship between the citizen and the state may of itself change willingness to co-operate with enquires by the state statistical office.

These changes should have reduced the quality of data that are collected. On the other hand, price liberalisation means that the data that do exist should more accurately represent the distribution of economic welfare than before, although this in turn reduces comparability with the pre-reform period. In each case the changes reflect the differences between one economic and political system and another.

Other changes are less obvious and are a feature of the *process* of transition. They may again be expected to reduce the quality of the data or their comparability with those from earlier years. Reductions in public expenditure as output has fallen will have cut statistical office budgets, which may reduce the quality of the work undertaken and the regularity with which data are collected. A common problem has been the loss of staff, lured away by higher private sector wages. Rampant inflation, which Table 5 shows has occurred especially (but not only) in parts of the former Soviet Union, results in various problems for surveying. Data on annual incomes may be rendered meaningless.²⁶ The phenomenon of arrears in wage payments and social security benefits, again common in the former Soviet Union, is an associated problem. Arrears represent a command over resources for the individual to whom they are owed but inflation greatly reduces their value. The introduction of progressive income tax may be coupled with a grossing-up of “first economy” earnings so as to leave net earnings unchanged, leading to a one-off spurious rise in earnings inequality.

The importance of these problems varies from country to country, as the examples of inflation and wage arrears illustrate. The same is true of the ability of statistical offices to cope with the challenges faced. The offices in many of the republics of the former Soviet Union have been in a particularly weak position, exacerbating the problems stemming from a poor inheritance of surveying tradition. Separate offices in each republic existed prior to the break-up of the Union but they had little autonomy. The Family Budget Survey seems to have continued much as before in many republics during the first half of the 1990s, becoming an even less suitable source for the study of income distribution – its multiple weaknesses exposed ever more severely by the change in economic system.²⁷

²⁶ If surveying is continuous through the year and no adjustment is made of the monthly figures, the annual amounts will be dominated by the data for the last quarter.

²⁷ For example, the part of the survey relating to Uzbekistan was laudably expanded by the Republic’s statistical office from 3,000 to 4,250 households in 1992 with the aim of improving the representativity of the quotas relating to each sector of the economy. However, the quotas were still unrepresentative of their target population (Falkingham and Micklewright, 1997, Table 3.1).

To set against this there have been some positive developments in sources, often as a result of technical assistance from international organizations. The World Bank has been instrumental in developing completely new surveys in several former Soviet republics, using conventional methods of sample design and survey conduct, based on its Living Standard Measurement Study (LSMS) methodology (Oliver, 1997). A prominent example is the Russian Longitudinal Monitoring Survey (RLMS), conducted by the University of North Carolina (Mroz et al., 1997) – a survey of several thousand households, of which seven rounds had been held by the end of 1996 (with the first in 1992).²⁸ Other examples include surveys in Azerbaijan (1995), Kazakhstan (1996), Kyrgyzstan (1993), and Ukraine (1995).

The new data have enabled some important insights, but these surveys did not necessarily result in quick improvements in the capacity of statistical offices in the countries concerned (Falkingham and Micklewright, 1997).²⁹ (The main purpose of several of the surveys was to collect data for World Bank staff to carry out one-off assessments of poverty and of targeting of state spending.) However, clear progress has been made in some cases, for example the new official budget surveys in Belarus, Latvia and Lithuania (Martini et al., 1996, Lapins and Vaskis, 1996, Sniukstiene et al., 1996) and the LSMS-type survey carried out by the Kyrgyz statistical office in 1996 (National Statistical Committee of the Kyrgyz Republic, 1997). Even in Russia, where resistance to change appears to have been strong, revisions started to be made during 1996 to the sample design of the Family Budget Survey (Frolova, 1998).

The more advanced Eastern European statistical offices were better placed to react quickly to some of the problems of data collection posed by the change of economic system. The Hungarian statistical office began to include the self-employed in the country's budget survey in 1989; in 1992 the Polish statistical office extended the sample of its budget survey to households of the non-agricultural self-employed (the agricultural self-employed had already been included) – the survey in 1991 had excluded from coverage about 15 per cent of all private households (Kordos, 1996, p.1128). The same household type was included in the Czech and Slovak budget surveys in 1993. This was a negligible group in 1989 but by 1992 it represented 6 per cent of households in the Czech Republic and 4 per cent in Slovakia (Garner,

²⁸ The availability of the RLMS microdata through the internet (the data may be downloaded from www.cpc.unc.edu/rlms) provides a striking contrast with the situation regarding data in the Soviet period.

²⁹ Analyses of distributional issues with surveys sponsored by the World Bank in former Soviet republics include Mroz and Popkin (1995), Newell and Reilly (1996), Ackland and Falkingham (1997), Falkingham (1997), Commander et al., (1999) and the papers in Klugman (1997). An example using a survey from outside the former USSR is the work on Albania by Alderman (1998).

1998, p.296). Users of Czech or Slovak budget survey data, or of Polish data, from the early 1990s are therefore faced with a changing sample coverage – an increasingly important group (likely to have disproportionately high or low incomes) is first excluded and then included in the survey.³⁰

Coverage and representativeness have also changed due to varying survey response rates, and a fall in the willingness of households to participate in official surveys seems to have been characteristic of the transition. For example, response to the Czech microcensus fell 20 per cent points between 1989 and 1997, from 96 per cent to 76 per cent (Veěern8k, 1998). In Hungary, response to the budget survey fell from an average of 78 per cent in the three surveys in 1983-87 to 61 per cent in the annual surveys in 1993-95, with a figure of only 33 per cent achieved during the latter period in the capital, Budapest.³¹ Frolova (1998) reports declining response to the Family Budget Survey in Russia.³²

The changing nature of the data, and of the interpretation that should be put on them, make it difficult to arrive at simple conclusions from the available evidence on the impact of transition on income distribution. As was put by the 1996 *World Development Report*, devoted to transition, “comparisons across countries and over time are very approximate” (World Bank, 1996, p.67).

The *World Development Report* went on to argue that “some clear patterns emerge ... inequality has risen throughout the region”. In the case of the Czech Republic, the evidence in the Report recorded a rise in the Gini coefficient of per capita household income of about seven per cent points between 1988 and 1993 B a sizeable change. The sources were not given, but investigation reveals that the data from the two years came from very different surveys. The data for 1988 refer to information on annual income, collected in the official microcensus which covered some 60,000 households (the source we used in Figure 5). Those for 1993 relate to income in January of that year, collected through a survey with a quota sample of some 1,700

³⁰ Garner reports that the household types covered by the Czech and Slovak budget surveys (both quota samples) represented about 95 per cent of all households in each republic in 1989, but that by 1992 the figures had dropped to 90 per cent and 84 per cent (1998, p.296).

³¹ We are grateful to Judith Lakatos of the Hungarian Central Statistical Office for this information. It should be noted that the shortfall in response in Hungary and the other countries we refer to is not just due to refusal to participate. For example, Lapins and Vaskis (1996) point to the deficiencies in available sampling frames in the early transition period as a major factor in the 30 per cent non-response rate to the new Latvian budget survey.

³² By contrast, response to the Polish budget survey has increased sharply, apparently as a result of a reduction in the period for which households are asked to participate from three months to one month (Kordos, 1996, Tables 1 and 2).

adults, conducted by the Institute of Sociology.³³ Like was not being compared with like (we show below the consequence).

Even when the sources concerned appear to be the same, there are good reasons for being cautious about accepting the evidence at face value. The uncertainties that surround the data make particularly valuable evidence on changes over time from different sources. Do the changes in earnings inequality recorded in a country's employer enquiry correspond with those suggested by the budget survey or some other source? Do independent surveys of household incomes corroborate the patterns in official sources? We try in what follows to collect evidence of this type so that a more robust picture of changes can be obtained.

Where possible, we compare *series* from before and after the end of the period of the planned economy, so as to avoid conclusions that hinge unduly on comparisons made for single years. The data series from the transition period are, of course, rather short, and by definition reflect an unfinished process – but it is that process which is of most interest, rather than a particular point along the way. As we noted at the start of the chapter, the study of transition is not one of comparing *equilibria* before and after the end of socialism.

▪ **4.2 *The distribution of earnings in transition***

How has the size distribution of earnings changed in economies in transition? Labour markets in Central and South-Eastern Europe have been characterised by substantial unemployment, sectoral shifts in employment and rapid growth in the private sector, and rising returns to education and skill (Allison and Ringold, 1996, and Rutkowski, 1996a).

The picture in many of the republics of the former Soviet Union is rather different, reflecting in part their slower pace of economic liberalisation. One important difference has been the lower rates of open unemployment in the first half of the 1990s, with adjustment in the labour market to the large falls in output and changes in terms of trade being largely in terms of price rather than quantity – at least in terms of formal shedding of labour. This difference is reflected in the registered unemployment rates shown in Table 5, although these data undoubtedly understate the true level of unemployment in many former Soviet republics, where the incentive to register as unemployed has

³³ The Institute of Sociology of the Academy of Sciences conducted a series of such surveys of "Economic Expectations and Attitudes" from 1991. The surveys are an important initiative but their author, Jiri Veèern8k, has been careful to note that the income questions are not as detailed as in the microcensus. (Respondents to the EEA surveys were asked five simple questions about their own income and that of all other household members.) And he comments "it is clear that the quality of our surveys' data could not be the same as with statistical surveys. Results could serve as preliminary information only" (Veèern8k, 1993, p.32). Results from the EEA surveys and other Czech sources, covering a range of issues, are given in (Veèern8k, 1996).

often been low. For example, unemployment in Russia as measured by the standard ILO/OECD criteria of search and availability for work was nearly 5 per cent in late 1992 and over 9 per cent by the end of 1995, compared to less than 1 per cent and little more than 3 per cent respectively according to the official register.³⁴

We start with Central Europe. In the case of former Czechoslovakia, we have data from the transition period only for the Czech Republic. A series of data for the distribution of earnings in Slovakia appears not to exist (or at least is not readily available) and this is particularly unfortunate given the natural interest in the different experiences of the two halves of the former federation after their separation in 1992.³⁵ (We saw earlier that the distribution of earnings in the two republics was very similar at the end of the 1980s.)

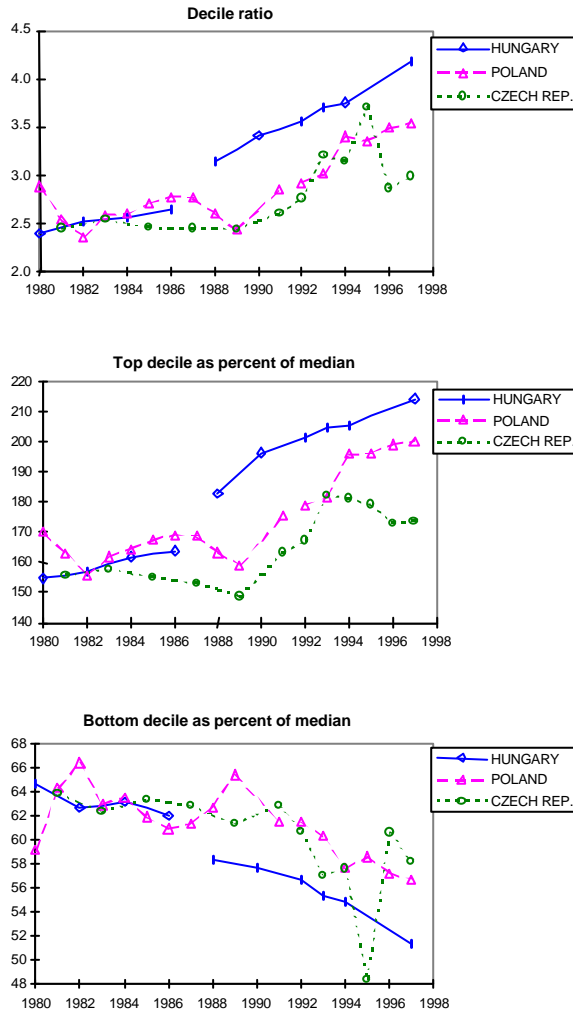
Figure 7 shows for 1980-97 the decile ratio, and the ratios of the top and bottom deciles to the median, for the distribution of monthly gross earnings for men and women taken together (full-time workers). The estimates for the 1980s are the same as those in Figure 1 (except in the case of the Czech Republic although the source here is the same, the earlier results referring to all of Czechoslovakia) and are included so that changes during the 1990s can be viewed in relation to any that occurred in the previous decade. (The reader should note that the scale in this and other graphs covering the 1990s is not necessarily the same as in those earlier in the chapter for the socialist period alone.)

The data for the 1990s are a continuation of the same series of employer enquiries from the pre-reform period, and in this sense there is comparability across the two decades. However, the coverage of the enquiries and the definitions of the included earnings may have changed during transition. We noted earlier that the introduction of progressive personal income taxation will lead to a break in the series if accompanied by grossing-up of earnings to leave net pay unchanged. In Hungary this occurred in 1988 which is why the figure for this year was not included in Figure 1.

³⁴ The figures on ILO/OECD basis are from the labour force survey for 1992Q4 and 1995Q4, given in the OECD CCET labour market database.

³⁵ Rutkowski (1996a, p54) gives information on the distribution of earnings in Slovakia in 1993 but the data come from a labour force survey and are not therefore comparable in nature with those from an employer earnings enquiry given for 1989 (Jan Rutkowski pointed out to us that the 1993 data do not refer to the public sector only as stated in his paper).

Figure 7: Earnings distribution for full-time workers: Czech Republic, Hungary and Poland, 1980-1997



Source: See Figure 1 and Appendix B (except 1988 for Hungary, which is from Atkinson and Micklewright, 1992, table HE1).

The same occurred in Poland in 1992.³⁶ The extent to which measured earnings inequality rose as a result of the changes is difficult to judge and we have dealt with the problem by merely indicating in the diagram a break in the series (the effect in Hungary appears to be much larger than in Poland). In all three countries there have been growing exclusions from coverage, the importance of which are again hard to gauge. The data for the enquiries in Hungary and the Czech Republic exclude firms with less than 50 and 25 employees respectively. The Polish enquiry excludes private sector firms with less than 6 employees.

The decile ratio for Hungary shows a steady increase from 1988, reaching 4.17 in 1997. This continues a trend that was already present over 1980-86 but at a rate that is over two and a half times faster. To help put this into perspective, the average annual increase in Hungary during 1980-86 was the same as in Britain during 1980-90, a period in which inequality is considered to have risen quite rapidly (Atkinson and Micklewright, 1992, Table BE1). By this yardstick the widening of the distribution in Hungary over the 1990s was indeed fast. A look at the lower parts of the diagram show that the rise in inequality in Hungary was driven more or less equally by changes at either end of the distribution.

The story in Poland for the 1990s is similar. The decile ratio rises rapidly at much the same annual rate as in Hungary (again driven by changes at either end of the distribution), although it was only in 1994 that its value exceeded those in 1976-78 shown in Figure 1.

The figures for the Czech Republic, however, show much greater variation and the changes at each end of the distribution during the 1990s are more complicated. The decile ratio for 1996-97 was below that in 1993-95. We have not established the reasons for the changes but the overall pattern shows the danger of focusing on individual years during the transition period – just as earlier we noted the danger of taking a single year when studying the socialist period.

The exclusion from the data of persons working for small firms may affect both the level of measured earnings inequality at any one time and its speed of change. In the case of Hungary, the employer enquiry does in fact include these persons, although they are kept separate by the statistical office in the analysis. We have the data for 1993 and the number of employees concerned was considerable – over 20 per cent of all full-time workers were in firms with less than 50 workers. Not surprisingly, their earnings differ from those of employees of larger firms and when we include these individuals in the

³⁶ Personal income tax was introduced in the Czech Republic in 1993 but in a manner that apparently led to no effect on measured earnings inequality (we are grateful to Jiri Veèernøk for this information). Information on coverage of the Czech and Polish enquiries is taken from Veèernøk (1995) and Rutkowski (1996b).

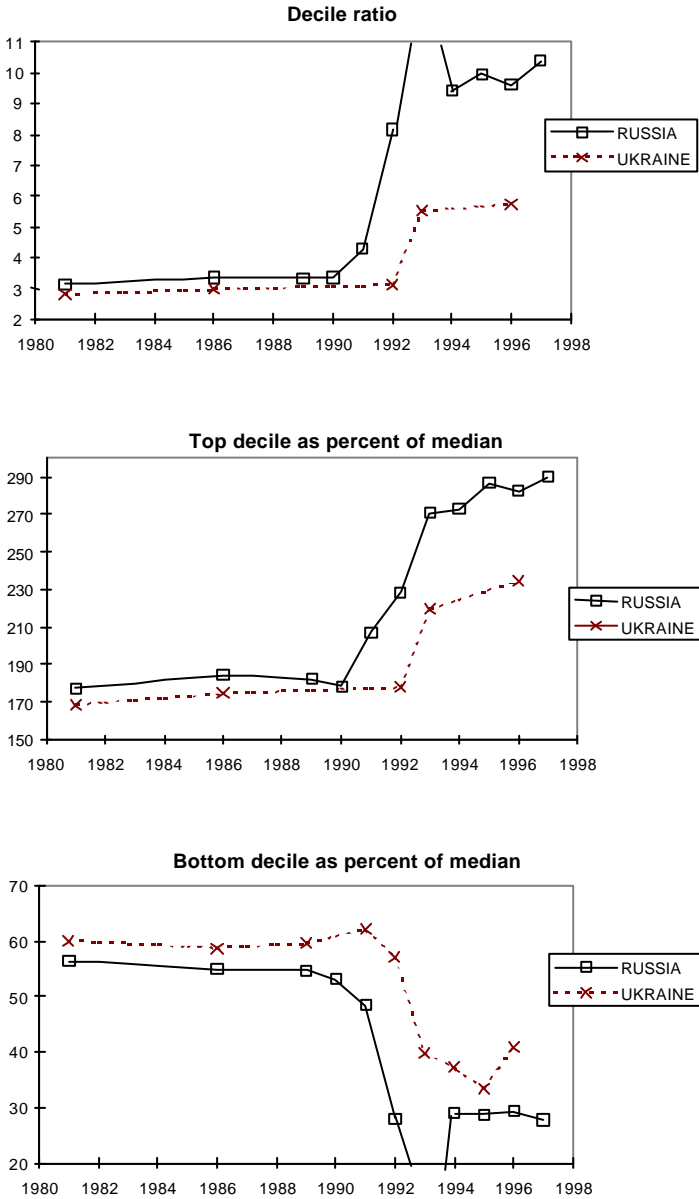
calculations the decile ratio rises from 3.70 to 4.01. It seems a safe bet that the ratio including the smaller firms' workers in 1997 would be at least 4.5.

In all three countries, there is also information from household survey data on the distribution of earnings. Pudney (1994a, 1994b) compares results from the same employer enquiry data for 1988-92 used in Figure 7 (for firms with more than 50 employees) with those based on budget surveys for 1989 and 1991. He finds that the two sources tell the same story for the change in inequality, but that the level is substantially higher in the budget survey data.³⁷ By contrast, Veèern8k (1995) finds a notably larger rise in earnings inequality between 1988 and 1992 in Microcensus data for the Czech Republic than is recorded in the employer enquiry used in Figure 7. And labour force survey data for Poland show very little change in the dispersion of monthly earnings over 1992-96 (Newell and Socha, 1998); the decile ratio was 2.69 at both the beginning and end of the period, compared to a rise from 2.91 to 3.48 in the employer data in Figure 7. All these results again show the danger in taking the estimates from one set of data as being definitive.

Hungary, Poland and the Czech Republic are countries that were well advanced on the process of economic reform by the mid-1990s. The changes in Hungary began long before 1989; Poland always had a substantial private sector; the Czech Republic had by 1995 the largest private sector share of GDP of any economy in transition. Russia, by contrast, has been a slower reformer (although faster than several others). How did measured earnings inequality change in this country where the transition process had further to go by the late 1990s? Figure 8 shows how the decile ratio and the top and bottom deciles relative to the median evolved in Russia over 1981-1997, again based on data on monthly earnings for full-time workers from employer earnings enquiries (the same source as in Figure 1 for the USSR).

³⁷ A further source is the annual panel survey of 2,000 households started by the research institute, TARKI, in 1992. Póter Galasi kindly calculated for us the decile ratio of monthly earnings of full-time employees in the TARKI panel who worked a full month (the same definition of sample and time period to that in the employer enquiry data). The TARKI data refer to net earnings and not surprisingly in view of deductions due to a progressive income tax, these data show a substantially lower level of earnings dispersion than do the employer enquiry data that refer to gross amounts (although if an estimate of the tax paid by each individual is added back into the data, a substantially higher decile ratio for gross earnings is found). The change in the decile ratio showed by the TARKI panel is more erratic than in the employer enquiry but broadly speaking moves up at the same speed.

Figure 8: *Earnings distribution for full-time workers: Russia and Ukraine, 1981-1997*



Source: Atkinson and Micklewright (1992 Table UE5) and Appendix B.

The changes in measured earnings inequality in these data are extraordinary, dwarfing those recorded for Hungary, Poland and the Czech Republic. In the last year of the Soviet Union, 1991, the data for Russia show a jump in the decile ratio from 3.4 to 4.3, restoring it to the level shown by Figure 1 for the end of the 1950s – or about that for Hungary in 1997. In 1992, the first year of price liberalisation, the decile ratio in Russia leaps to over 8, and, incredibly, almost doubles again the next year to over 15 – off the top of our graph – before falling back to about 9 or 10 in 1994-97, a level far above that in any OECD country.³⁸ The bottom part of Figure 8 shows that the rise in inequality has been driven, broadly speaking, by similar changes at both ends of the distribution, as in the Central European countries. The bottom decile halved relative to the median over 1989-97 while the top decile rose by 60 per cent. Put another way, the fall in the bottom decile would have been sufficient alone to push the decile ratio to 6.5, while the rise in the top decile alone would have driven it up to 5.3. What has been the cause of this dramatic widening of the Russian earnings distribution? The changes seem almost to defy credibility.

The first issue to consider is indeed whether the rise in dispersion recorded in these data is spurious in some sense. Is it found in other data sets that provide an alternative source of information to the official employer enquiry? One might expect the Russian enquiry to have deteriorated in quality and representativeness more than those in the Central European countries considered earlier. (The Russian enquiry is meant to cover both state and private employers but we have no knowledge of its coverage in practice during the 1990s.) Or is the definition of “full-time” work meaningful in any Russian data set from this period? Are there large numbers of persons in the data who are officially employed full-time but who do little or no work, and who are paid accordingly? What is the treatment in the data of wage arrears, which grew notably in importance in Russia in the first half of the 1990s?

We have no other data for Russia that span both the break-up of the USSR and the liberalisation of prices in 1992. However, the Russian Longitudinal Monitoring Survey (RLMS), a household survey referred to in our earlier discussion of sources, provides information from the second half of 1992 onwards, each round of the survey containing several thousand employees who should form a representative sample of all workers. Table 6 gives quantile ratios from three rounds of RLMS for earnings paid in the previous month (if positive) in the respondent's main job. These show a level of inequality of a similar order of magnitude to those in the employer enquiry,

³⁸ In each year both top and bottom deciles lie in closed intervals containing only a few per cent of the distribution, so the results cannot be very sensitive to the method of interpolation. The only exception is in 1997 when the top decile lies in an open interval containing 14 per cent of the distribution.

especially for 1994-95 when the ratios of top and bottom deciles to the median, as well as the decile ratio, correspond quite well in the two sources.

Table 6: *Quantile ratios of monthly earnings for full-time workers in the Russian Longitudinal Monitoring Survey (RLMS)*

	RLMS wave	Q ₉₀ /Q ₁₀	Q ₉₀ /Q ₅₀	Q ₁₀ /Q ₅₀
1992	(round 1 – Jul/Sept)	6.3	2.50	0.40
1994	(round 5 – Nov/Dec)	9.8	2.95	0.30
1995	(round 6 – Oct/Nov)	9.2	2.75	0.30

Note: Interviewing in each round of RLMS is conducted over two or more months and respondents are asked the earnings paid in the previous month. Before calculating the quantiles, in each case we have adjusted the data for changes in average earnings between the months covered.

Source: Calculations were made from microdata. Sample size was 5,386 in 1992, 2,505 in 1994, and 2,201 in 1995. We restricted the samples to those working as an employee in their main job, with earnings paid in the last month, and with hours worked in the last month of 140 hours or more.

The results in Figure 8 for the mid-1990s therefore appear to be repeated in a quite different data set. But do either the employer enquiry or the RLMS really refer to full-time earnings? Russian enterprises often sought to minimise lay-offs during the period in question, putting employees on leave with no or minimal pay or on short-time work. By mid 1994, 22 per cent of the labour force were apparently in one of these categories (Standing, 1996, p.82). Those on short-time work (which seems to have been much the more common of the two) probably enter the employer enquiry data (we have no information about those on leave), implying that the dispersion shown in Figure 8 is biased upwards.

On the other hand, the results from the RLMS in Table 6 are restricted to individuals who reported working at least 140 hours in the previous month in the job in question, and should therefore be largely free of this problem. (It is of course possible that some respondents are not actually working the hours that they report.) It should also be remembered that the rise in dispersion shown in Figure 8 is not just on account of changes at the bottom of the distribution – there was a sharp increase in inequality at the top as well.

The issue of wage arrears further complicates matters, and underlines the difference between an employer enquiry and a survey of employees. RLMS data show that by late 1996, a half of all working-age adults were owed money by their primary employer, with “these delinquent payments being equal, on average, to one month's expenditures for an average household” (Mroz et al., 1997, p14). Arrears are said to be the main cause for the rise in

the number of respondents reporting employment but no earnings for the previous month, from 6 per cent of the labour force in 1992 to 21 per cent in 1996. The employer earnings enquiry seems to ignore the distinction between arrears and payment – the figures reported to the statistical office apparently include both earnings actually paid and those still owed to workers. The RLMS figures refer to payments received, but the data do not allow the identification of either partial payments made in the last month or payments that included arrears from earlier pay-periods. Both of these would lead to upward bias in the recorded dispersion.

Notwithstanding all these difficulties, it is difficult to dismiss the levels of recorded earnings dispersion in Russia in the mid-1990s as a mere aberration of the data. A substantial part of the inequality in full-time earnings recorded in the available data for Russia seems to be genuine, especially when viewed in the light of accounts of wage determination during the transition.

Mikhalev and Bjorksten (1995) and Standing (1996) both emphasize the contrasts between wage setting in the “budgetary” sector (enterprises and institutions paid from the state budget), in state-owned enterprises, and in the private sector, composed partly of privatized former state enterprises and partly of new private firms. Centralised wage setting remained only in the budgetary sector, where wage indexation was carried out by periodic increases in the minimum wage to which the wage tariff scale was fixed. The minimum wage was changed twice in 1992, three times in 1993, but only once in 1994. Substantial erosion of wages in the budgetary sector relative to other sectors occurred both between these changes and over the period 1991-94 as a whole, when the minimum wage dropped from about 25 per cent to 8 per cent of the average wage. Few workers were actually *paid* at the level of the minimum pre-transition – the importance of the minimum wage in Russia comes from its link with other wage rates and social security benefits.³⁹

State-owned enterprises gained financial autonomy in 1992 with managers free to set wages as desired, subject to some limited union influence (see also Commander et al., 1995). And by mid-1994 medium or large-sized enterprises employing 85 per cent of the industrial labour force had been privatized (Standing, 1996, p.11). The effect on wages depended on the nature of each enterprise’s business – workers in enterprises operating as natural monopolies, notably in energy extraction and supply, saw big rises in relative wages. Wages in light manufacturing, hit by a sharp reduction in

³⁹ The link with state transfers is a feature in common with other transition countries, including several in Central Europe. Standing and Vaughan-Whitehead (1995) argue that it has led to a reduction in the importance of the minimum wage in the region’s labour markets as governments have used minimum wage policy as a way of controlling expenditure on state transfers. (The minimum wage in Hungary, for example, declined from 65 per cent of the average wage in 1989 to 35 per cent by mid 1994.)

demand for output, fell relative to others. The private sector, important in trade and financial services, emerged as the sector with the highest average wages. Survey data for different months in the first half of 1994 record average private sector wages consistently about double those in state-owned enterprises (Mikhalev and Bjorksten, 1995, Table 15). Summarising the situation, Standing argues that “the wage system that emerged in the early and mid-1990s could be characterised as one of the most flexible conceivable” (1996, p.113) and reports evidence from employer surveys of increasing determination of wages according to individual performance.⁴⁰ (See also Layard and Richter, 1995.)

Was the increase in Russian earnings dispersion associated with much movement by different groups around the distribution, or are those doing well before and after 1991 the same people? The evidence is mixed. Workers in energy extraction and supply did relatively well after 1991 but also benefited from the bias towards the “productive” sector pre-reform. Standing, however, argues that inter-industry wage differentials were changing by the mid-1990s (1996, p.143). There seems agreement about some groups. Mikhalev and Bjorksten report that “a striking development is that professionals and engineers who have traditionally been underpaid in Russia have lost more ground in recent years” (1995, p.22), noting that many are found in the budgetary sector.

By way of comparison with Russia we include in Figure 8 what is more limited data for Ukraine, the second most populous former Soviet republic. Ukraine provides a comparator which has been one of the slowest reformers among all the former socialist countries and where macroeconomic collapse has been even deeper than in Russia. The differences in the figures for 1992 between Russia and Ukraine are striking. From then on dispersion rises sharply in Ukraine although we are only able to track adequately the changes from year to year at the bottom of the distribution.⁴¹ Both bottom and top decile stay somewhat closer to the median than in Russia (especially the top decile) but the decile ratio by 1996 is 5.7, well above the level for the Central European countries in Figure 7. (We have no information about the quality or coverage of the Ukraine data during the 1990s, which, like those from the 1980s, come from an employer enquiry.)

How do the levels of earnings inequality in the 1990s in the countries we have considered compare with those in other industrialised countries? The

⁴⁰ He also argues that the excess-wage tax applied to enterprises in Russia in the wake of price liberalisation provided an incentive for managers to retain very low-paid employees so as to reduce the average wage, a possibility we noted in Section 3.

⁴¹ We do not estimate the top decile in 1991, 1994 or 1995 since in these years they lie in an open interval, containing a quarter of the distribution in 1991 and 1994 and over 40 per cent in 1995.

1997 values of the decile ratio from the employer enquiries in our five transition countries were (to one decimal place):

Czech Republic	3.0
Poland	3.5
Hungary	4.2
Ukraine (1996)	5.8
Russia	10.4

The figures for Ukraine and, especially, Russia are well in excess of those found in OECD countries, although for these two cases there is considerable uncertainty about what the data actually measure. Looking back at Figure 3, the level in Hungary is at about that in Canada or the US and well above those in Western Europe (and we argued that the true value in Hungary was higher). The value for Poland just exceeds that in Britain, a country with one of the highest levels of earnings inequality in the European Union (Eurostat, 1998). The Czech Republic has a value equal to that for France in 1990 and above those in the same year for Australia and Germany.

▪ **4.3 Inequality of household incomes in transition**

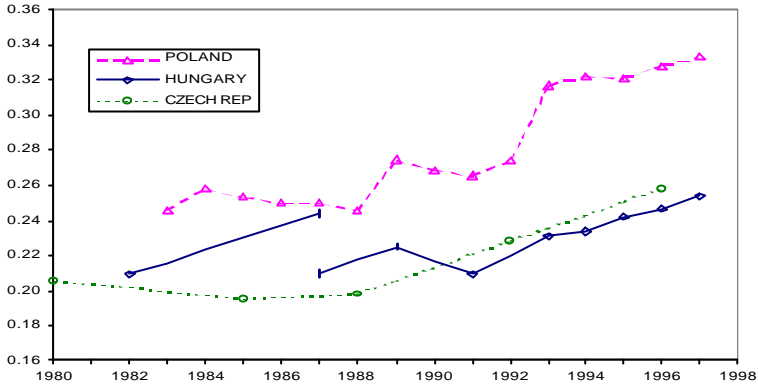
How do the changes in inequality of households' incomes compare with those of employees' earnings? As with the pre-reform data, the change in the unit of observation and the inclusion of other sources of income may alter the picture considerably, and it is notable that the share of labour market earnings in total household income declined across a range of countries in the first half of the 1990s; Milanovic (1999) reports falls of 10 to 20 per cent.

The impact of emerging unemployment may reinforce that from higher earnings dispersion if job losses are concentrated in households where other members are in the lower part of the earnings distribution. And if job losses are correlated across household members, the impact on household income inequality will be larger still. (An analysis of the changing numbers of workless households in transition economies, along the lines of the work by Gregg and Wadsworth (1996) for OECD countries, would be of considerable interest.) An increased importance of self-employment and capital income can be expected to have the same effect. On the other hand, redistributive taxation and cash transfers may pull back the rise in overall income inequality beneath that of earnings.

As with the discussion of earnings, we look first at Central Europe. Figure 9 shows Gini coefficients in the 1990s for the Czech Republic, Hungary, and Poland, together with those for the 1980s shown earlier in Figure 5. The data for the 1990s, as for the earlier decade, refer to income *per capita*, although

this adjustment may now be harder to defend due to the reduced importance of subsidies for housing and fuel.

Figure 9: *Gini coefficient for the individual distribution of per capita income: Czech Republic, Hungary and Poland, 1980-1997*



Note: In the case of Hungary, results for 1982-87 are from the income survey (as in Figure 5) and those for 1987-97 are from the budget survey.

Source: See Figure 1 and Appendix B (except for the budget survey figure for Hungary for 1987 which is from Milanovic, 1998, Table A4.3).

The sources are the same as before in the Czech Republic and Poland (the official microcensus and budget survey respectively) although coverage may well have changed – we pointed out the extension of the Polish survey to full coverage of the self-employed in 1992 and the fall in response in the Czech microcensus during the 1990s. In the case of Hungary, the source for 1987-97 – the official budget survey – differs from that used in Section 2 – the official income survey. The Gini coefficient for the overlapping year, 1987, differs by over 3 per cent points. Hungarian statisticians stress that the income survey was the superior source at this time.

Hungary stands out as registering only a modest rise in dispersion of individuals' per capita incomes, a change in the Gini of 3 per cent points over 1989-97, (or 4 from 1987) which may be compared with that for employees' earnings over 1988-97 of 8 points. There was even a fall between 1989 and 1991, whereas the rise for earnings was continuous. And the average annual increase over 1991-97 was little more than that for 1982-87.

Growth in income inequality was more marked in Poland, with the Gini rising 6 points in the eight years from 1989, although here too it fell initially – when earnings inequality was rising – and the increase to 1997 was again less than that for employees' earnings. The Czech Republic also registers a 6

point rise in the per capita income Gini, between 1988 and 1996 (as does the Gini for earnings), with the rate of increase the same as that for Hungary over 1991-97.

Do other sources for the three countries give similar results to these? In the case of Poland, nothing can be done – the budget survey appears to be the only regular source of information on household incomes. We are unable to see, for example, whether the jump in inequality shown in 1993 is shared by another data set.⁴²

Figure 10 shows results based on alternative sources for Hungary and the Czech Republic (these again refer to annual income per capita). For Hungary, our other source is the TARKI household panel survey.⁴³ This source shows a notably higher level of income inequality than the budget survey – the Gini coefficient is 7 to 8 per cent points higher, which is a big difference. The ranking reflects that of the income and budget surveys in 1987 (see also Andorka et al., 1996). But it is comforting to see that the two sources give a reasonably similar picture of the changes between the early and mid 1990s – a rise in the Gini of about 3 per cent points.

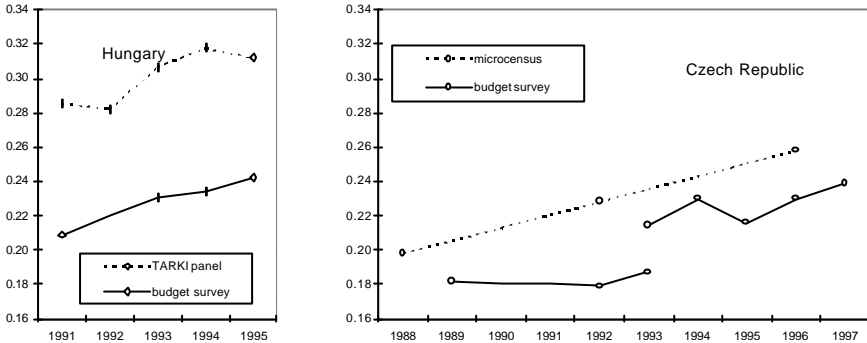
For the Czech Republic, the budget survey is an alternative source to the microcensus. It has the attraction of providing information annually, allowing changes over time to be tracked more carefully, and of the data being collected through the year rather than through recall. But its sample design (a quota panel sample with no planned rotation) may well lead to inferior coverage, especially in the early 1990s. For 1993-97 we show our own estimates of the per capita Gini based on interpolating the distribution from grouped data, but for 1989-93 we draw on what are undoubtedly superior estimates by Garner (1998) and Garner and Terrell (1998) who use the survey microdata and in addition re-weight to improve their representativeness. The figures for the overlapping year, 1993, illustrate the sensitivity of results to the precise methods used.

The budget survey shows a smaller rise in income inequality than the microcensus. The Garner/Terrell results show essentially *no* change in income inequality to 1992, and a rise of just a half per cent point over 1989-93. Our estimates for the later period show a change of a two and a half points over 1993-97. Neither the budget survey nor the microcensus support the finding from the 1996 *World Development Report* that we referred to earlier of a 7 per cent point rise in the Gini coefficient in the Czech Republic between 1988 and 1993, a finding based on taking two quite different sources for the two years.

⁴² Figure 7 shows only modest growth in earnings inequality in this year, and totals for different headings of state social expenditures in cash show no sharp differences from 1992 (Rutkowski, 1998, Annex 1).

⁴³ See footnote 37.

Figure 10: *Alternative estimates of the Gini coefficient for the individual distribution of annual per capita income: Hungary and the Czech Republic*



Source: Hungary: (a) TARKI panel results from Galasi (1998, Table 1) (Galasi's table refers to the year of interview but since the annual income data cover the 12 months to March we have given his results as referring to the year prior to interview), (b) budget survey results as in Figure 9. Czech Republic: (a) budget survey results for 1989-93 from Garner (1998, Table 13.1) and Garner and Terrell (1998, footnote 30) and those for 1993-97 from Appendix B, (b) microcensus results as in Figure 9.

Although the alternative sources for Hungary and the Czech Republic do show some differences, the broad picture is not dissimilar. The early phase of transition in the first part of the 1990s in these countries and in Poland saw small or even no increases in income inequality at a time when the earnings distribution was definitely widening, followed by larger increases.⁴⁴ (The microcensus results for the Czech Republic are an exception, in that they show a steady increase, but there are only two observations in the period under review.) Looking back at Table 3, the last values shown in Figure 9 for Hungary (0.25) and the Czech Republic (0.26) are at the high Scandinavian or low Benelux level for the late 1980s – towards the lower end of the OECD range, although the alternative source puts Hungary near the average. That for Poland (0.33), is around the level at that time for Australia, Canada, France, Italy, Portugal and the UK – above the OECD average.

Garner and Terrell (1998) provide a careful analysis of different components of household income in the Czech Republic using budget survey data for the early transition period. (They also cover Slovakia, where the

⁴⁴ This is broadly in line with the conclusions of Boyle Torrey et al. (1996) who use microdata from a variety of sources for the three countries up until 1992.

picture turns out to have been similar.) Decomposing the changes in the Gini coefficient, they show that increased inequality of labour earnings was largely compensated for by changes to the tax and, especially, the transfer system.

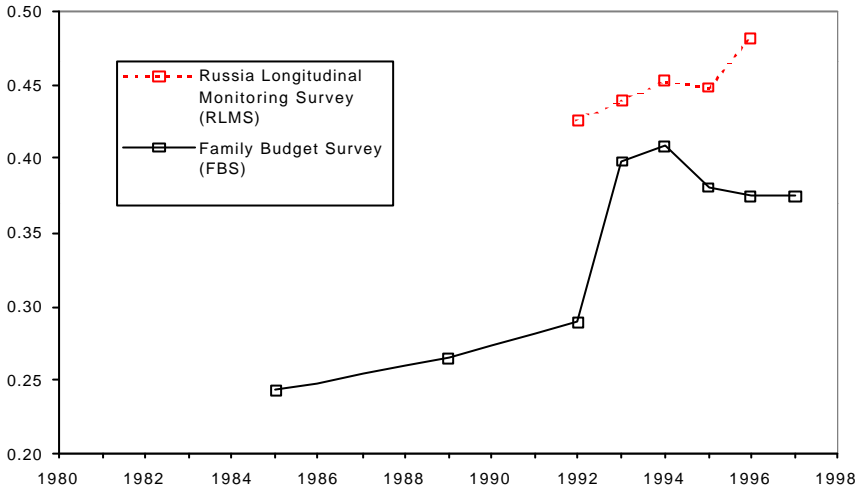
The importance of changes in state transfers can also be seen in Poland, although here the story told in Milanovic (1998) and Rutkowski (1998) is rather different to the Czech one. The equalising impact in 1995 of all cash transfers taken together was less than in 1989. The figures are dominated by expenditures on state earnings-related pensions that rose sharply, from 7 per cent of GDP in 1989 to 16 per cent in 1994-95, becoming more concentrated on higher parts of the income distribution (Rutkowski, 1998, Tables 3.7 and A1-1). The equalising effect of other state transfers, however, increased. The same picture of contrasting impacts of changes in pensions and other cash transfers is found for Hungary over 1987-93 (Milanovic, 1998, Table 4.2) although in this case the changes for pensions were more modest. (Jarvis and Pudney, 1995, however, draw attention to the reduction in progression in personal income tax in Hungary since its introduction in 1988.)

We turn now to Russia. Figure 11 shows the Gini coefficient for per capita income calculated from the official Family Budget Survey (FBS), which has many deficiencies, and the Russian Longitudinal Monitoring Survey (RLMS), used earlier to look at earnings, a source that should provide much more reliable estimates. The FBS figures refer to annual income, although it is unclear what this means given the enormous inflation experienced in several years. The RLMS figures refer to income over one month. (There are almost certainly other significant differences between the definitions of income in the two sources.)

The FBS series shows a huge jump in the Gini between 1992 and 1993 of 11 per cent points. After a further slight rise in 1994, it falls back somewhat in 1994-97 to around 0.38, effectively the value for the USA shown in Table 3, the OECD maximum. The RLMS figures are substantially higher, by 4 per cent points in 1993-94, rising to over 10 points in 1996. (The difference is at its greatest in 1992, the year of price liberalisation, when the FBS data may be particularly suspect.)⁴⁵ Income inequality in Russia, judged by this source, was well above the top of the OECD range by the mid-1990s.

⁴⁵ Other figures from the FBS show a higher level of income inequality for 1992 than that in Figure 11. Our own estimate, based on tabulated FBS data labelled "average of quarterly figures", is much higher (0.36). Doyle (1996) estimates the Gini for per capita income from tabulated data for five different months in 1992 and reports a 9 point increase between March and August. (If the normal practice of Russian statistical office were followed to produce these data, the monthly figures would in fact represent income cumulated during the year to the month in question, but unadjusted for price changes.) The RLMS figure for 1992 refers to the summer, after liberalisation had begun.

Figure 11: *Gini coefficient for the individual distribution of per capita income: Russia, 1985-1997*



Source: See Appendix B for FBS figures. RLMS results refer to monthly income and are from Commander et al. (1999, Table 5, rounds 1 and 4-7).

One obvious concern is the implication of price differences across regions, which are substantial. In December 1995, average food prices faced by the 10 per cent of the population living in the most expensive regions exceeded those for the 10 per cent living in the cheapest regions by well over 50 per cent.⁴⁶ Moreover, inflation rates have varied substantially between regions, especially over the most rapid period of price change, 1992-93.⁴⁷ Does this mean that the dispersion of nominal incomes is much greater than that of real incomes?(The same question would apply in our earlier analysis of earnings.) It transpires that adjustment of household incomes in the RLMS for differences in regional prices results in only small differences to the estimated level of income inequality, and the calculations in Figure 11 are in

⁴⁶ This calculation is based on data on the cost of a 19 good food basket for one city in each of Russia's 88 regions (excluding Chechnya). (11 autonomous regions that contain only two per cent of the population are excluded from the calculation.) The distribution of prices is then calculated weighting the cost of each city's basket by its region's population. We are grateful to Kitty Stewart for this information.

⁴⁷ The highest measured rate of consumer price inflation over the 12 months from December (Kalmykia Republic in the Volga region) was two and a half times the lowest (St. Petersburg) (Stewart, 1998, Appendix A).

fact already based on incomes adjusted for differences in regional price inflation.

The huge rise in income inequality in Russia comes as no surprise in the light of what happened to the distribution of earnings, shown earlier. But as in Central Europe, there were other factors involved. Milanovic decomposes the change in the Gini coefficient between 1989 and 1994 (1998, Table 4.2). The increased dispersion of earnings is certainly the main factor driving higher inequality but the changes in all other headings have a reinforcing effect: pensions, other cash transfers, and non-wage private sector income. The marked difference between the nature of the sources used for the two years – FBS in 1989 and RLMS in 1994 – may affect the results, but analysis of RLMS alone for 1992-96 by Commander and Lee (1998) gives a picture of the determinants of inequality in transition which is not inconsistent with that painted by Milanovic. In particular, Commander and Lee note the failure of public policy to counteract the effect of a greater dispersion of labour income:

“even at the outset of transition, the redistributive effect of public policy appears to have been significantly smaller in Russia than in Central Europe. Furthermore, over the course of transition, the evidence strongly suggests that with respect to transfers, there has been an unambiguous shift toward greater proportionality” (p.16).

Pensions formed the major part of expenditures on cash transfers throughout the period. While in 1992 their effect was to reduce overall income inequality, by 1996 the opposite was the case.⁴⁸ This switch is as in Poland, but in Russia expenditure fell as a share of national income rather than rose – from nearly 7 per cent of GDP in 1992 to 4.5 per cent in 1996 (with the real value of the average pension falling by almost half). Spending on other transfers also fell relative to GDP and, for example, the proportion of families receiving family allowance payments in 1996 was less than half that in 1992 (Commander and Lee, 1998, p.7).⁴⁹

How does the level of income inequality that emerged in Russia in the 1990s compare with that in other former Soviet republics? A variety of estimates can be found for the latter, some based on surveys that seem to be descendants of the old Soviet FBS and some on the new surveys described in our discussion of sources. Milanovic (1998, Table 4.1) reports Gini

⁴⁸ This is not to say that transfers became unimportant at the lower end of the distribution – the share of transfers in total income continued to be at its highest in the lower quintiles.

⁴⁹ One striking feature of incomes in Russia during 1992-96 was the change in the importance of different sources of income, with that from employment falling by at least 10-15 per cent points, to below a half of the total, and while income from home production and the informal sector rose by a similar amount. (Although the direction of change is the same, the figures differ substantially between Mroz et al., 1997, and Commander et al., 1999.) The overall impact of these changes on income inequality seems to have been small.

coefficients for per capita income from the early part of the transition (1993-95) for 10 other countries. The value for Ukraine in 1995 was much the same (0.47) as those in Russia based on RLMS for the mid-1990s. That for Kyrgyzstan in 1993 was higher (0.55). The other countries all had Ginis of less than 0.4 although only one (Belarus in 1995 with 0.28) had a value below 0.3, the OECD average shown in Table 3. While Russia and one or two other republics may be at the upper end of the range for the now independent states (a range larger than that at the end of the Soviet period), it appears that by OECD standards some substantial inequality in measured incomes was also present elsewhere.⁵⁰

▪ 4.4 *Interpreting the evidence*

As with the socialist period, the qualification of “measured” incomes is important to note. What do the estimates of inequality of earnings and incomes from the transition period tell us about differences in economic welfare? We consider again price subsidies, non-wage benefits from work, and social benefits in kind from the state. We produce only limited evidence and inevitably we are in part just raising issues that need to be subjected to further measurement.

The story with subsidies seems as if it might be straightforward. If subsidies in the socialist period were equalizing in their effect (even if they were not targeted on the lower part of the income distribution), their removal through price liberalisation will have had a regressive impact. The rise in inequality of economic welfare will have therefore been greater than that shown by data on cash incomes alone.

Newbery (1995), however, concludes from an analysis of household budget survey data that price changes in Hungary over 1988-91 had relatively little redistributive impact, noting that this may be because the indirect tax system had already been reformed in the early 1980s. As we noted earlier in commenting on the socialist period, it is the entire set of tools for manipulating the price system that should be the focus of attention and not just explicit consumption subsidies. For example, the distributional impact of the new Value Added Taxes needs to be analysed.

Some subsidies certainly remain. Schaffer (1995) reports that total subsidies (to producer and consumer) in 1993 in former Czechoslovakia, Hungary and Poland were about 3-5 per cent of GDP (down from 15 per cent

⁵⁰ The surveys for the countries we mention by name are all new ones and the estimates from them should not be compared directly with those from the 1989 FBS in Table 2. In those countries for which there are also per capita expenditure data a switch to the alternative measure of household welfare that they provide would not greatly alter the picture. For example, the Gini for Russia in the RLMS is effectively unchanged (although that for Kyrgyzstan falls by a fifth). (The conceptual advantages of expenditure data are often stressed but the problems of measurement should not be underestimated.)

or more in 1986), and around the level of those in the European Union, with the bulk of those that were left due to “remaining price controls (notably transport) and social/political factors (notably housing)” (p.117). The distributional impact of those subsidies that are retained may differ from those that were removed.

The housing market has seen significant continuing price intervention, and there is also the distributive impact of privatization of the state housing stock to be considered. Pudney (1995) estimates the subsidy to households renting public sector property in Hungary in 1991 and concludes that the effect was equalizing (in contrast to Dániel's results for the 1970s reported earlier) although the absolute value of the subsidy rose with income level (a concentration curve below the 45 degree line). As Pudney points out, a key issue in considering the distributive effect of a market-orientated rent reform is what the state would do with the revenue from higher rents – one cannot simply focus on the removal of the subsidy alone.

The period considered by Pudney was already one when the public sector owned only a small part of the housing stock in Hungary and in the event a large part of the remaining public sector housing at the start of the 1990s was sold off in the following years, rather than the rents being raised. Dániel (1997) reports that this privatization was on highly advantageous terms for the buyer, while existing owner-occupiers with state mortgages were offered a huge write-down of their mortgage debt in return for a switch to market interest rates. She makes illustrative calculations of the annualized value of the ensuing privatization using household budget survey data for 1989 (taking into account a range of costs, including those of renovation due to the backlog of maintenance). These indicate a regressive impact.

The housing sector underwent enormous change in Russia in the first half of the 1990s. Buckley and Gurenko (1997) argue that by mid-1992 the implicit housing subsidy to renters, already high by the end of the Soviet period, had risen hugely, since nominal rents were unchanged in the liberalization of prices beginning that year. Data from round one of RLMS, collected in Summer 1992, show average expenditure on rent and utilities as a percentage of total average expenditure to have been only 2.8 per cent (Mroz et al., 1997, Figure 3). Buckley and Gurenko's estimate of the value of the subsidy “income” to renters in 1992 reduces the Gini coefficient of per capita income in RLMS by 6 per cent points (a figure that of course depends on a whole series of assumptions), and they argue that housing policy at this time therefore provided an important cushion against the consequences of transition.

Subsequent events included a (literal) give-away privatization of massive proportions of the public sector housing stock. By late 1996, only a third of Russian households lived in housing owned by the state or by enterprises and well over half owned their own homes, compared to figures of two-thirds and

a quarter respectively in 1992 (Mroz et al., 1997, Table 9). Buckley and Gurenko argue that its give-way nature, coupled with the prior distribution of housing, imply that this privatization was strongly progressive. This is supported by the results of Struyk and Daniell (1995) who analyse a random sample of several thousand dwellings from seven cities (including Moscow and St. Petersburg) collected at the end of 1993 (the year in which privatization appears to have peaked). They find no clear evidence linking income (or occupational status) of the household to the probability that the dwelling had been privatized.

The Russian privatization, including the terms under which it took place, underline the importance of taking into account imputed rent from owner occupation in calculations of households' incomes, as recommended in UN guidelines (United Nations, 1977), although this is not in general the practice in Western countries either. If only the "subsidy income" for renters is taken into account, then the Russia privatization would appear to have *worsened* the distribution of income, as households lose their rent subsidy and have no other income imputed in its place.

Large subsidies appear to have remained for those still renting in Russia in the mid 1990s. Commander and Schankerman report expenditures on housing subsidies to have been 4 per cent of GDP in 1995, and "on a rising trend" (1997, p.2). RLMS data show households' average expenditure on rent and utilities as a percentage of the total to have risen to only 5.8 per cent by end 1996 (Mroz et al., 1997, Figure 3), although the smaller proportion of renters at that time needs to be borne in mind.

We noted in Section 2 the importance of non-wage benefits from work during the socialist period. Part of this importance (or one of the reasons for their existence) should have declined during transition with price liberalisation and the increasing variety of goods available for purchase on the open market. But the general view is that fringe benefits from employers did not decline as quickly as expected (Commander and Schankerman, 1997, Rein et al., 1997). Nor did these benefits remain a feature of state enterprises alone. Evidence from various countries show both privatized firms and new firms supplying non-wage benefits as well, although not necessarily to the same extent.

The reasons for the continued importance of non-wage benefits seem mixed. They include inertia and weak alternative state social support (for example in Russia) on the one hand, and, on the other, both the desire to retain or attract staff and the managers' views of the role of the firm towards its employees. While the latter reasons may appear to be an inheritance from the past, neither are out of line with good management practice in Western market economies, although the scale on which the benefits are paid may differ. In some transition countries there have been tax incentives (intentional or otherwise) to managers to pay part of employees' remuneration other than

through wages (a feature also familiar from the West). For example, Standing (1996) argues that this was the case in Russia with the excess wage tax, as do Filer et al., (1997) for the Czech Republic.

As one might expect, the situation from country to country in the mid 1990s displayed substantial variation. Earle (1997) using aggregate data on the Czech Republic and Romania for 1992-93 argues that “every type of measured benefit falls within the Western range” (p.69). On the other hand, Russia and (even more so) Ukraine still saw extensive provision, especially (but not only) that part of the subsidised housing referred to above that remained with enterprises. The desire to provide continued access to fringe benefits appears to have been an important reason for avoiding lay-offs. Nevertheless, enterprise survey data showed some declines for Russia over 1991-94 (Commander and Schankerman, 1997). (See also OECD, 1996b.) A feature that seems to have been common to all transition countries is a very large withdrawal by enterprises from provision of pre-schools (kindergartens). A good number were divested to local authorities but many closed.⁵¹

There is less direct evidence on the distributional impact of fringe benefits in transition (as opposed to indirect evidence from the link with firm size or type). Two studies for Russia in 1994 indicate that fringe benefits went to better paid workers. Commander and Schankerman (1997) report the number of benefits provided by industrial firms rising with the average firm wage. Kolev (1998) uses data from a random sample of employees and finds a clear positive relationship with the monthly wage for the probability of receipt for various benefits (but not for housing), even when controlling for other characteristics that could be correlated with wages. (Without these controls, the probability of receipt rises between the bottom and top quarters of the wage distribution by a factor of 1.5 to 4.0, depending on the benefit concerned, falling only for housing.) More evidence of this type is needed.

Kolev then goes on to try to estimate the value of fringe benefits using respondents' evaluation of their job satisfaction. He finds that all fringe benefits are positively associated with higher reported job satisfaction and that very large increases in the wage would be needed to compensate for the benefits' removal. While self-reported satisfaction may be a rather weak proxy for indirect utility, the analysis resonates with the comment of Rein et al., (1997) that the value of fringe benefits to workers may differ from their

⁵¹ Across the CIS as a whole, there were 32,000 fewer pre-schools in 1995 than there had been in 1991. The example of Kazakhstan illustrates the decline of enterprise kindergartens, much the more important type at the end of the Soviet period. Their number fell by nearly 60 per cent over 1991-95 while the number of local authority facilities rose by only 10 per cent (UNICEF, 1998, Figure 2.5). (The enrolment rate of pre-school children fell by 30 per cent points.) Remaining enterprise kindergartens in Kazakhstan appear to have provided places that were still heavily subsidised (Klugman et al., 1997).

measured cost to firms. It is the former that we are most interested in while it is the latter on which the analysis of firm data – the standard approach – focuses.

Finally, we consider social benefits in kind in the form of education and health. This is another example of an issue where more work is needed. Although there has been a lot of interest in reforms to education and health systems in the transition countries, published work on the new distributional incidence of state expenditures, similar to that, for example, of Milanovic (1995) for the socialist period remains thin on the ground, although internal World Bank reports have considered the issue.

One might certainly expect there to have been some changes. In the case of education, there were some marked falls in total expenditure as a proportion of GDP in some countries in the first half of the 1990s – Georgia and Armenia were probably the worst cases, with a virtual collapse in state expenditures due to a precipitous decline in tax revenue (UNICEF, 1998, Figure 2.10). Of course, the value of the educational benefit may not be well proxied by expenditure but it would indeed be surprising if the distributional incidence of these changes were neutral.⁵² Enrolments also fell in a number of countries, with declines at all levels of schooling in parts of Central Asia and the Caucasus. Overall, the number of children of school-age rose in the transition countries as a whole in the first half of the 1990s but the number of children enrolled in school fell (Cusan and Motivans, 1999).

There is varied evidence suggesting a growth in inequalities in education systems in the 1990s, especially in the former Soviet republics and poorer parts of South-East Europe, implying that the incidence of state spending on education may have shifted in a regressive fashion (UNICEF, 1998). Enrolment and attendance may have fallen off in particular in lower income households due to a rising price of education and falling and more unequally distributed household incomes. On the price side there has been formal and informal charging for places or for teaching, both in schools and in tertiary level institutions (formal charges in compulsory level schooling still seems absent), and large increases in the real costs of textbooks, children's clothing and shoes, and local transport.

⁵² One concrete benefit from schools that is relatively easy to value is free-school meals. There have been notable falls in provision in many countries, especially in the successor states of the former Soviet Union. For example, the proportion of children in primary schools receiving such meals fell by around 15-20 per cent points over 1989-96 in Russia and Belarus and by 50 points in Kazakhstan and Kyrgyzstan (UNICEF, 1998, Figure 2.15). Since there have been no compensatory increases in state transfers to families it seems safe to label these changes as regressive, given the typical position of children in the income distribution.

5. Conclusions

We saw in Section 2 that it was dangerous to generalise about income distribution in the socialist economies, especially in relation to market economies since these too display considerable heterogeneity. As far as earnings of full-time workers are concerned, dispersion towards the end of the socialist period in the countries that have been most studied in the literature matched that in several OECD economies – the decile ratio in Czechoslovakia was essentially the same as that in Germany, Poland the same as Australia, Russia the same as Britain. Dispersion in Britain and Russia (and in the rest of the Soviet Union) was much larger than in Germany or Czechoslovakia – and in the other Central European countries. In both parts of Europe, East and West, earnings were less dispersed than in North America.

But this was the picture at only one point in time and we emphasized the significant changes that had taken place in the distribution of earnings in several of the socialist economies. Nor was the situation stable in the OECD area. There is no fixed socialist versus market comparison to be made.

The picture for household incomes was clearer, at least for the 1980s – the socialist countries that we have covered in this chapter were apparently more equal than was typical of OECD countries, with a difference between the mean per capita Gini coefficient of 7 per cent points, although the Scandinavian and Benelux countries were at about the same level as the socialists.

Not only does this conclusion refer to just one period but it also refers to measured incomes only. We emphasized the importance of accounting for subsidies (and indirect taxes), fringe benefits and social income in kind. These change the picture in a way that defies easy summary. The same is true for market economies although the extent to which conclusions are affected may be less.

Although earnings inequality increased through the 1990s, the scale of the effect of the transition varied greatly. While the decile ratio rose by the order of 30-50 per cent between 1980 and 1997 (mostly after 1989) in Central Europe it doubled in the Ukraine and quadrupled, at least temporarily, in Russia although we noted reasons for doubting the veracity of everything one sees here.

The switch to the broader concept of household income dampens these changes, with an increase of around 25 per cent recorded in the per capita Gini coefficient in Central Europe and 100 per cent in Russia. The Central European countries by the late 1990s were well up into the OECD range for income inequality. Russia was well above it and there can be little doubt that this is now a very unequal country (even if the situation under socialism is still open to debate). This relatively simple message has to be qualified,

however, by the fact that there is (or was as of 1997) perhaps more evidence that Russian inequality was stabilising than was true for the less dramatic rises in Central Europe – although the different Russian sources do not tell the same story. And again we emphasized the need to consider other forms of income that affect the distribution of economic welfare and the difficulties in doing so. The issue of housing illustrates the problems, including the failure of the data to capture the impact on the distribution of income of housing privatization.

We have not found satisfactory analytical models encompassing enough features of the transition, such as combining the relative price effects of liberalisation with the distinctive wage setting processes of state and privately owned enterprises to generate an evolving pattern of inequality. This is a major deficiency that has not only deprived us of an effective analytical framework within which to consider the evidence but also limits the treatment of distributional considerations which may constrain government policy. Dewatripont and Roland (1992, 1995 and 1996) (and others) have considered how changes in ownership structure may modify attitudes to successive phases of reform.

The study of changes in the transition countries, or the comparison of socialist and market economies, involves data sets that are not strictly comparable. This underlines the data problems to which we have referred many times. Such problems are serious both at the conceptual and at the practical level and considerable care is needed with those data that are available.

The data problems would be even more serious if we were attempting to compare the *levels* of income before and after rather than relying, as we do, exclusively on indices of *relative* dispersion. We know, however, that indices of per capita GDP, though also presenting statistical problems, fell in all cases. Poland recovered and passed its previous peak first, and recovery was general in Central Europe in the mid 1990s – but not in the CIS.

We have not presented data such as mortality or morbidity, which would reinforce the welfare implications of falling GDP and rising inequality, especially for the countries of the CIS. These are relevant to the “capability approach” to human welfare described by Sen in the first chapter of this handbook. It might be that the distribution of capabilities has widened more than that of incomes and this would be an interesting hypothesis to investigate.

We started by saying that we were reporting on an episode of changing income distributions in a particular group of countries. An episode of a relatively concentrated period of change such as typified those occurring in the course of the long runs of data reported in other chapters of this handbook. We are not, however, tempted to make any claims for the

representativeness of the (incomplete) episode we have studied as an example of those earlier in the historical record.

Appendix A

Suppose that each sector consists of numerous enterprises using equipment of different vintages earning different per capita quasi-rents at the unique competitive wage. Suppose also that workers in each enterprise appropriate a proportion \hat{a} of their per capita quasi-rent in addition to the competitive wage.

In this case a wage subsidy adds less to profits and investment, and more to earnings and consumption, thus the condition for further employment subsidisation to raise output more than consumption becomes more demanding at $s < (1 - \hat{v})b$.

As before, output rises by $(\underline{w} - s)dn$, but now household income rises by $(\underline{w} - b)dn + \hat{a}(n.ds - dt)$, where the second term is \hat{a} times the net addition to profits on which tax, t , is levied.

Revenue neutrality implies that $dt + b.dn = n.ds$

So that household income rises by $(\underline{w} - b)dn + \hat{a}b.dn$

and net profits rise if $(\underline{w} - s)dn > (\underline{w} - (1 - \hat{a})b)dn$, that is if $s < (1 - \hat{a})b$.

If the minimum wage were driven by considerations of distribution of earnings amongst the employed, for example

$\underline{w} = \beta e$, where $\beta < 1$ and e = average earnings,

then, with $\hat{a} > 0$, \underline{w} itself would rise with an employment subsidy:

while as before output again rises by $(\underline{w} - s)dn$

household income rises by $(\underline{w} - b)dn + \hat{a}(n.ds - dt - n.d\underline{w}) + n.d\underline{w}$

and $n.d\underline{w} = \beta n.de$

where $n.de = n.d\underline{w} + \hat{a}(n.ds - dt - n.d\underline{w})$

revenue neutrality again implies that $dt + b.dn = n.ds$

so that $n.de = n.d\underline{w} + \hat{a}(b.dn - n.d\underline{w})$

and $n.d\underline{w} = \beta(1 - \hat{a})n.d\underline{w} + \hat{a}\beta b.dn$

$n.d\underline{w} = \hat{a}\beta b.dn / (1 - (1 - \hat{a})\beta)$

household income rises by

$(\underline{w} - b)dn + \hat{a}b.dn + (1 - \hat{a})\hat{a}\beta b.dn / (1 - (1 - \hat{a})\beta)$

so that net profits rise if $s < (1 - \hat{a})(1 - \beta)b / (1 - (1 - \hat{a})\beta)$

thus there would seem to be scope for a profits-tax-financed employment subsidy even if quasi-rents are shared with labour and rising average earnings raise the de facto minimum wage as long as the relevant coefficients are not very close to unity. For instance $\hat{a} = b = 1/2$ makes the necessary condition that $s < b/3$, while $\hat{a} = \beta = 3/4$ makes it $s < b/13$.

Appendix B

This appendix gives data points for the transition period that are not otherwise reported in published sources given in the sources to the Figures.

1. *Distribution of earnings of employees (Figures 7 and 8)*

Q90/Q10	1989	1990	1991	1992	1993	1994	1995	1996	1997
Poland	2.43		2.85	2.91	3.01	3.40	3.35	3.48	3.53
Hungary		3.40		3.56	3.70	3.75			4.17
Czech Rep.	2.43		2.60	2.75	3.20	3.14	3.70	2.86	2.98
Russia	3.33	3.36	4.28	8.17	15.55	9.41	9.96	9.60	10.40
Ukraine				3.12	5.51			5.74	
Q90/Q50 (%)	1989	1990	1991	1992	1993	1994	1995	1996	1997
Poland	159.0		175.5	179.0	181.6	195.9	196.2	199.1	200.3
Hungary		196.4		201.5	204.9	205.6			214.4
Czech Rep.	148.7		163.3	167.3	182.4	181.2	179.2	173.1	173.7
Russia	182.2	178.3	207.5	228.6	270.6	272.8	286.6	282.4	290.0
Ukraine				177.9	219.4			234.4	
Q10/Q50 (%)	1989	1990	1991	1992	1993	1994	1995	1996	1997
Poland	65.4		61.5	61.5	60.3	57.6	58.6	57.2	56.7
Hungary		57.7		56.7	55.3	54.8			51.4
Czech Rep.	61.3		62.8	60.7	57.0	57.6	48.4	60.6	58.2
Russia	54.7	53.1	48.5	28.0	17.4	29.0	28.8	29.4	27.8
Ukraine	59.5		62.1	57.1	39.8	37.2	33.5	40.8	

2. *Distribution of individuals by per capita income (Figures 9, 10 and 11)*

Gini coefficient	1989	1990	1991	1992	1993	1994	1995	1996	1997
Poland	0.275	0.268	0.265	0.274	0.317	0.323	0.321	0.328	0.334
Hungary	0.225		0.209		0.231	0.234	0.242	0.246	0.254
Czech Rep. (MC)				0.228				0.258	
Czech Rep. (BS)					0.214	0.230	0.216	0.230	0.239
Russia (FBS)	0.265			0.289	0.398	0.409	0.381	0.375	0.375

Note: The two sets of figures for the Gini coefficient for per capita income in the Czech Republic are from the microcensus (MC) and the budget survey (BS). The former are calculations using the survey microdata reported in Veěerník (1998). The Russian FBS figures are from Frolova (1998). All other results are from the files of the “MONEE project” at UNICEF International Child Development Centre, Florence. The project collaborates with statistical offices throughout the region and produces regular reports on social conditions and public policy in the transition in Central and Eastern Europe and the former Soviet Union (UNICEF, 1993, 1994, 1995, 1997, 1998). Inequality indices have been estimated from the grouped data collected by the project using the INEQ package written by F.A. Cowell, LSE, using the Pareto assumption both within ranges and for the top interval (see Atkinson and Micklewright, 1992, pp. 279-281).

References

- Ackland, R. and J. Falkingham (1997), "A Profile Of Poverty In Kyrgyzstan", in J. Falkingham, J. Klugman, S. Marnie and J. Micklewright (eds), *Household Welfare in Central Asia*. Basingstoke: Macmillan.
- Aghion, P. and O. Blanchard (1994), "On The Speed Of Transition In Central Europe". *NBER Macroeconomic Annual*, pages 283-300.
- Alderman, H. (1998), "Social Assistance In Albania: Decentralization And Targeted Transfers". *LSMS Working Paper*, 134. Washington: The World Bank.
- Alexeev, M. (1988), "The Effect Of Housing Allocation On Social Inequality: A Soviet Perspective". *Journal of Comparative Economics*, 12, pages 228-234.
- Alexeev, M. (1990), "Distribution Of Housing Subsidies In The USSR, With Some Soviet-Hungarian Comparisons". *Comparative Economic Studies*, 32, pages 138-157.
- Allison, C. and D. Ringold (1996), "Labor Markets In Transition In Central And Eastern Europe". World Bank Technical Paper 352, *Social Challenges of Transition Series*. Washington, DC: World Bank.
- Andorka, R., Z. Ferge and I. Tóth (1996), *Is Hungary Really The Least Unequal? A Discussion Of Data On Income Inequalities And Poverty In Central And Eastern European Countries*. Budapest: TARKI.
- Atkinson, A.B. and J. Micklewright (1983), "On The Reliability Of Income Data In The Family Expenditure Survey 1970-77". *Journal of the Royal Statistical Society, Series A* 146, pages 33-61.
- Atkinson, A.B. and J. Micklewright (1992), *Economic Transformation in Eastern Europe and the Distribution of Income*. Cambridge: Cambridge University Press.
- Atkinson, A.B., L. Rainwater and T. Smeeding (1995), "Income Distribution in OECD Countries". *Social Policy Studies*, No. 18. Paris: OECD.
- Bergson, A. (1984), "Income Inequality Under Soviet Socialism". *Journal of Economic Literature*, 22, pages 1052-1099.
- Boeri, T. (1994), "Transitional Unemployment". *Economics of Transition*, 2, pages 1-26.
- Boeri, T. (1995), "Unemployment Dynamics And Labour Market Policies", in S. Commander and F. Coricelli, (eds.), *Unemployment, Restructuring and The Labour Market in Eastern Europe and Russia*. Washington, DC: World Bank, Economic Development Institute Development Studies.
- Boeri, T. and S. Edwards (1998), "Long-Term Unemployment And Short-Term Unemployment Benefits: The Changing Nature Of Non-Employment Subsidies In Central And Eastern Europe". *Empirical Economics*, 23, pages 31-54.
- Bourit, F., P. Hernu and M. Perrot (1983), "Les Salaires en 1982". *Economie et Statistique*, 154 (April), pages 17-32.

- Boyle Torrey, B., T. Smeeding, and D. Bailey (1996), "Rowing between Scylla and Charybdis: Income Transitions in Central European Households". Luxembourg Income Study Working Paper, 132.
- Bruinooge, G., Ö. Éltető, G. Fajth and G. Grubben (1990), "Income Distributions in an International Perspective - The Case of Hungary and the Netherlands". *Statistical Journal of the United Nations*, 7, pages 39-53.
- Buckley R.M. and E.N. Gurenko (1997), "Housing and Income Distribution in Russia: Zhivago's Legacy". *World Bank Research Observer*, 12, pages 19-34.
- Buckley R.M. and E.N. Gurenko (1998), "Housing Demand in Russia: Rationing and Reform". *Economics of Transition*, 6, pages 197-210.
- Burda, M. (1993), "Unemployment, Labour Markets and Structural Change in Eastern Europe". *Economic Policy*, 16, pages 101-137.
- Burda, M. (1995), "Labour Market Institutions and the Economic Transformation of Central and Eastern Europe", in S. Commander and F. Coricelli (eds), *Unemployment, Restructuring and The Labour Market in Eastern Europe and Russia*. Washington, DC: World Bank, Economic Development Institute Development Studies.
- Cardoso, A. (1997), *Earnings Inequality in Portugal: The Relevance and the Dynamics of Employer Behaviour*. PhD thesis. Florence: European University Institute.
- Commander, S., J. McHale, and R. Yemtsov (1995), "Russia" in S. Commander and F. Coricelli (eds), *Unemployment, Restructuring, and the Labor Market in Eastern Europe and Russia*. Washington, DC: World Bank, Economic Development Institute Development Studies.
- Commander, S., A. Tolstopiatenko, and R. Yemtsov (1999), "Channels of Redistribution: Inequality and Poverty in the Russian Transition". *Economics of Transition*, 7 (forthcoming).
- Commander, S. and U. Lee (1998), "How Does Public Policy Affect the Income Distribution? Evidence from Russia 1992-1996". Mimeo. London: European Bank for Reconstruction and Development.
- Commander, S. and M. Schankerman (1997), "Enterprise Restructuring and Social Benefits". *Economics of Transition*, 5, pages 1-24.
- Cornes, R. (1995), "Measuring the Distributional Impact of Public Goods", in D van de Walle and K. Nead (eds), *Public Spending and the Poor*. Baltimore: Johns Hopkins University Press.
- Cusan, A. and A. Motivans (1999), "Changing Expenditures and Enrolment", in J. Micklewright (ed), *Education After Communism*. Basingstoke: Macmillan, (forthcoming).
- Dániel, Z. (1985), "The Effect of Housing Distribution on Social Inequality in Hungary". *Journal of Comparative Economics*, 9, pages 391-409.
- Dániel, Z. (1997), "The paradox in the Privatization of Hungary's Public Housing: A National Gift or a Bad Bargain?" *Economics of Transition*, 5, pages 147-170.

- Dewatripont, M. and G. Roland (1992), "Economic Reforms and Dynamic Political Constraints". *Review of Economic Studies*, 59, pages 703-730.
- Dewatripont, M. and G. Roland (1995), "The Design of Reform Packages under Uncertainty". *American Economic Review*, 85, pages 1207-1233.
- Dewatripont, M. and G. Roland (1996), "Transition as a Process of Large Scale Institutional Change". *Economics of Transition*, 4, pages 1-30.
- Diamond, P.A. and J.A. Mirrlees (1971), "Optimal Taxation and Public Production I: Production Efficiency and II: Tax Rules". *American Economic Review*, 6, pages 8-27 and 261-278.
- Doyle, C. (1996), "The Distributional Consequences during the Early Stages of Russia's Transition". *Review of Income and Wealth*, 42, pages 493-506.
- Earle, J. (1997), "Do East European Enterprises Provide Social Protection? Employee Benefits and Labour Market Behaviour in the East European Transition", in M. Rein, B. Friedman and A. Wörgötter (eds), *Enterprise and Social Benefits After Communism*. Cambridge: Cambridge University Press.
- Éltető, Ö. (1997), "Disparities in the Economic Well-Being of Hungarian Society from the Late 1970s to the 1980s", in P. Gottschalk, B. Gustafsson and E. Palmer, *Changing Patterns in the Distribution of Economic Welfare: An International Perspective*. Cambridge: Cambridge University Press.
- Éltető, Ö. and E. Frigyes (1968), "New Income Inequality Measures as Efficient Tools for Causal Analysis and Planning". *Econometrica*, 36, pages 383-396.
- EBRD (1997), *Transition Report 1997*. London: European Bank for Reconstruction and Development.
- EBRD (1998), *Transition Report 1998*. London: European Bank for Reconstruction and Development.
- Eurostat (1998), "The Distribution of Earnings in the European Union". *Statistics in Focus*. Population and Social Conditions, number 8.
- Falkingham J. and J. Micklewright (1997), "Surveying Households in Central Asia: P Problems and Progress", in J. Falkingham, J. Klugman, S. Marnie and J. Micklewright (eds) *Household Welfare in Central Asia*. Basingstoke: Macmillan and New York: St. Martin's Press.
- Falkingham J. (1997), "Public Transfers and Targeting in Kyrgyzstan", in J. Falkingham, J. Klugman, S. Marnie and J. Micklewright (eds), *Household Welfare in Central Asia*. Basingstoke: Macmillan and New York: St. Martin's Press.
- Filer, R., O. Schneider, and J. Svejnar (1997), "Wage and Non-Wage Labour Costs in the Czech Republic – The Impact of Fringe Benefits, in M. Rein, B. Friedman and A. Wörgötter (eds), *Enterprise and Social Benefits After Communism*. Cambridge: Cambridge University Press.
- Flakierski (1991), "Social Policies in the 1980s in Poland: A Discussion of New Approaches", in J. Adam (ed), *Economic Reforms and Welfare Systems in the USSR, Poland and Hungary*. Basingstoke: Macmillan.

- Flemming, J. (1993), "Public Finance, Unemployment and Economics in Transition", in A.B. Atkinson (ed), "Economics in a Changing World", Vol. 3. Public Policy and Economic Organisation. Proceedings of Tenth World Congress of the International Economic Association. Basingstoke: Macmillan and New York: St. Martin's Press.
- Frolova, E. (1998), "Problems on Poverty and Income Inequality in the Russian Federation: Methodological Issues and Conclusions". Department for Living Condition Statistics and Population Surveys, State Committee of the Russian Federation on Statistics. Moscow: Goskomstat.
- Galasi, P. (1998), "Income Inequality and Mobility in Hungary, 1992-96". *Innocenti Occasional Paper*, 64, Florence: UNICEF International Child Development Centre.
- Garner, T. (1998), "Changing Welfare in a Changing World?: Income and Expenditure Inequalities in the Czech and Slovak Republics", in S. Jenkins, A. Kapteyn and B. van Praag (eds), *The Distribution of Welfare and Household Production: International Perspectives*. Cambridge: Cambridge University Press.
- Garner, T. and K. Terrell (1998), "A Gini Decomposition Analysis of Inequality in the Czech and Slovak Republics During the Transition". *Economics of Transition*, 6, pages 23-46.
- Gregg, P. and J. Wadsworth (1996), "It Takes Two: Employment Polarization in the OECD". Centre for Economic Performance Discussion Paper, 304. London: London School of Economics.
- Grossman, G. (1987), *Roots of Gorbachev's Problems: Private Income and Outlay in the Late 1970s, Gorbachev's Economic Plans*. Washington, DC: US Congress Joint Economic Committee.
- Hughes, G. and P. Hare (1992), "Trade Policy and Restructuring in Eastern Europe", in J. Flemming and J. Rollo (eds), *Trade Payments and Adjustment in Central and Eastern Europe*. London: Royal Institution of International Affairs and European Bank for Reconstruction and Development.
- ILO (1984), *World Labour Report*. Geneva: International Labour Organization.
- ILO (1987), *World Labour Report*. Geneva: International Labour Organization.
- IMF, The World Bank, OECD and EBRD (1991), *A Study of the Soviet Economy*. Paris: OECD.
- Jarvis, S. and J. Micklewright (1995), "The Targeting of Family Allowance in Hungary", in D. van de Walle and K. Nead (eds), *Public Spending and the Poor*. Baltimore: Johns Hopkins University Press.
- Jarvis, S. and S. Pudney (1995), "Redistributive Policy in a Transition Economy: the Case of Hungary", in D. Newbery (ed), *Tax and Benefit Reform in Central and Eastern Europe*. London: Centre for Economic Policy Research.
- Klugman, J. (ed.) (1997), "Poverty in Russia: Public Policy and Private Responses". EDI Development Studies. Washington, DC: The World Bank.
- Klugman, J., S. Marnie, J. Micklewright and P. O'Keefe (1997), "The Impact of Kindergarten Divestiture on Household Welfare in Central Asia", in J.

- Falkingham, J. Klugman, S. Marnie and J. Micklewright (eds), *Household Welfare in Central Asia*. Basingstoke: Macmillan and New York: St. Martin's Press.
- Knight, J. and L. Song (1990), "The Determinants of Urban Income Inequality in China". Institute of Economics and Statistics, Applied Economics Discussion Paper 91. Oxford: University of Oxford.
- Kolev, A. (1998), "The Determination of Enterprise Benefits in Russia and their Impact on Individual's Well-Being". Working Paper, ECO 98/5, Department of Economics. Florence: European University Institute.
- Kordos, J. (1996), "Forty Years of the Household Budget Surveys in Poland". *Statistics in Transition*, (Journal of the Polish Statistical Association) 2, pages 1119-1138.
- Lapins, J. and E. Vaskis (1996), "The New Household Budget Survey in Latvia". *Statistics in Transition*, (Journal of the Polish Statistical Association) 2, pages 1085-1103.
- Layard, P.R.G. and A. Richter, "How Much Unemployment is Needed for Restructuring?" *Economics of Transition*, 3, pages 39-58.
- Lydall, H.F. (1968), *The Structure of Earnings*. Oxford: Oxford University Press.
- Lydall, H.F. (1979), "Some Problems in Making International Comparisons of Inequality", in J.R. Moroney (ed), *Income Inequality: Trends and International Comparisons*. Lexington: D.C. Heath.
- Marchal, J. and B. Ducros (eds.) (1968), *The Distribution of National Income*. Basingstoke: Macmillan.
- Marnie, S. (1992), *The Soviet Labour Market in Transition*. EUI Monograph in Economics. Florence: European University Institute.
- Marnie, S. and J. Micklewright (1994), "Poverty in Pre-Reform Uzbekistan: What Do Official Data Really Reveal?" *Review of Income and Wealth*, 40, pages 395-414.
- Martini, A, A. Ivanova and S. Novosyolova (1996), "The Income and Expenditure Survey of Belarus: Design and Implementation". *Statistics in Transition*, (Journal of the Polish Statistical Association), 2, pages 1063-1084.
- McAuley, A.N.D. (1979), *Economic Welfare in the Soviet Union*. Madison: University of Wisconsin Press.
- McKinnon, R. (1991), *The Order of Economic Liberalization*. Baltimore: Johns Hopkins University Press.
- Messerlin, P. (1992), "The Association Agreements Between the EC and Central Europe", in J. Flemming and J. Rollo (eds), *Trade Payments and Adjustment in Central and Eastern Europe*. London: Royal Institution of International Affairs and European Bank for Reconstruction and Development.
- Mikhalev, V. and N. Bjorksten (1995), "Wage Formation during the Period of Economic Restructuring in the Russian Federation". Centre for Co-operation with the Economies in Transition. Paper GD(95)102. Paris: OECD.

- Milanovic, B. (1995), "The Distributional Impact of Cash and In-Kind Transfers in Eastern Europe and Russia", in D. van de Walle and K. Nead (eds), *Public Spending and the Poor*. Baltimore: Johns Hopkins University Press.
- Milanovic, B. (1998), *Income, Inequality, and Poverty during the Transition from Planned to Market Economy*. World Bank Regional and Sectoral Studies. Washington, DC: World Bank.
- Milanovic, B. (1999), "Explaining the Growth in Inequality during the Transition". *Economics of Transition* 7, (forthcoming).
- Morrison, C. (1984), "Income Distribution in East European and Western Countries". *Journal of Comparative Economics*, 8, pages 21-138.
- Mroz T., B. Popkin (1995), "Poverty and the Economic Transition in the Russian Federation". *Economic Development and Cultural Change*, 44, pages 1-32.
- Mroz T., and B. Popkin, D. Mancini, E. Glinskaya and M. Loshkin (1997), "Monitoring Economic Conditions in the Russian Federation: The Russia Longitudinal Monitoring Survey 1992-96". Report submitted to USAID, Carolina Population Centre. Chapel Hill: University of North Carolina.
- National Statistical Committee of the Kyrgyz Republic (1997), *Kyrgyzstan Analysis Report 1996: Living Standards and Measurement Survey*. Bishkek: National Statistical Committee of the Kyrgyz Republic.
- Newbery, D. (1995), "The Distributional Impact of Price Changes in Hungary and the United Kingdom". *Economic Journal*, 101, pages 847-863.
- Newell, A. and B. Reilly (1996), "The Gender Wage Gap in Russia: Some Empirical Evidence". *Labour Economics*, 3, pages 337-356.
- Newell, A. and M. Socha (1998), Wage Distribution in Poland: The Roles of Privatisation and International Trade, 1992-96". *Economics of Transition*, 6, pages 47-66.
- OECD (1993), *Employment Outlook*. Paris: OECD.
- OECD (1996a), *Employment Outlook*. Paris: OECD.
- OECD (1996b), *The Changing Social Benefits in Russian Enterprises*. Paris: OECD.
- Ofer, G. and Vinokur (1992), *The Soviet Household under the Old Regime*. Cambridge: Cambridge University Press.
- Oliver, R. (1997), "Model Living Standards Measurement Study Survey Questionnaire for the Countries of the Former Soviet Union". *Living Standards Measurement Study Working Paper* No. 130. Washington, DC: World Bank.
- Phelps Brown, H. (1977), *The Inequality of Pay*. Oxford: Oxford University Press.
- Pryor, F.L. (1973), *Property and Industrial Organization in Communist and Capitalist Nations*. Bloomington: Indiana University Press.
- Pudney, S. (1994a), "Earnings Inequality in Hungary since 1988". *Economics of Transition*, 2, pages 101-106.

- Pudney, S. (1994b), "Earnings Inequality in Hungary: A Comparative Analysis of Household and Enterprise Survey Data". *Economics of Planning*, 27, pages 251-276.
- Pudney, S. (1995), "Income Distribution and the Reform of Public Housing in Hungary". *Economics of Transition*, 3, pages 75-106.
- Redor, D. (1992), *Wage Inequalities East and West*. Cambridge: Cambridge University Press.
- Rein, M., B. Friedman and A. Wörgötter (1997), "Introduction", in M. Rein, B. Friedman and A. Wörgötter (eds), *Enterprise and Social Benefits After Communism*. Cambridge: Cambridge University Press, Cambridge.
- Renaud, B. (1991), "Housing Reform in Socialist Economies". *World Bank Discussion Paper* 125. Washington, DC: World Bank.
- Rodrigues, C. (1993), "Measurement and Decomposition of Inequality in Portugal 1980/81-1989/90". *Discussion Paper* MU9302. Cambridge: The Microsimulation Unit, Department of Applied Economics, University of Cambridge.
- Rosen, S. (1981), "Economics of Superstars". *American Economic Review*, 71, pages 845-858.
- Rutkowski, J. (1996a), "Changes in the Wage Structure during Economic Transition in Central and Eastern Europe". *World Bank Technical Paper* 340, *Social Challenges of Transition Series*. Washington, DC: World Bank.
- Rutkowski, J. (1996b), "High Skills Pay Off: The Changing Wage Structure during Economic Transition in Poland". *Economics of Transition*, 4, pages 89-112.
- Rutkowski, J. (1998), "Welfare and the Labor Market in Poland". *World Bank Technical Paper* 417, *Social Challenges of Transition Series*. Washington, DC: World Bank.
- Schaffer, M., (1995), "Government Subsidies to Enterprises in Central and Eastern Europe: Budgetary Subsidies and Tax Arrears", in D. Newbery (ed), *Tax and Benefit Reform in Central and Eastern Europe*. London: Centre for Economic Policy Research.
- Sefton, T. (1997), "The Changing Distribution of the Social Wage". *STICERD Occasional Paper* 21. London: London School of Economics.
- Shenfield, S. (1984), *The Mathematical-Statistical Methodology of the Contemporary Soviet Family Budget Survey*. PhD thesis. Birmingham: Centre for Russian and East European Studies, Faculty of Commerce and Social Science, University of Birmingham.
- Smeeding, T.M., P. Saunders, J. Coder, S. Jenkins, J. Fritzell, A.J.M Hagenars, R. Hauser and M. Wolfson (1993), "Poverty, Inequality, and Family Living Standards Impacts Across Seven Nations: The Effect of Non-cash Subsidies for Health, Education and Housing". *Review of Income and Wealth*, 39, pages 229-255.

- Sniukstiene, Gi, G. Vanagaite and G. Binkauskienė (1996), "Household Budget Survey in Lithuania". *Statistics in Transition*. Journal of the Polish Statistical Association, 2, pages 1085-1103.
- Standing, G. (1996), *Russian Unemployment and Enterprise Restructuring: Reviving Dead Souls*. Basingstoke: Macmillan.
- Standing, G. and D. Vaughan-Whitehead (1995), *Minimum Wages in Central and Eastern Europe: from Protection to Destitution*. Budapest: Central European University Press.
- Steiner, V. and K. Wagner (1996), "Has Earnings Inequality in Germany Changed in the 1980s?" *ZEW Discussion Paper* 96-32. Mannheim: University of Mannheim.
- Stewart, K. (1998), *Decentralisation and Regional Equity in Russia: Three Essays on Intergovernmental Transfers and the Financing of Education*. PhD thesis. Florence: Department of Economics, European University Institute.
- Struyk, R. and J. Daniell (1995), "Housing Privatization in Urban Russia." *Economics of Transition*, 3, pages 197-214.
- Szakolczai, G. (1979), "Limits to Redistribution: the Hungarian Experience", in D. Collard, R. Lecomber and M. Slater (eds), "Income Distribution: The Limits to Redistribution: Proceedings of the 31st Symposium of the Colston Research Society". Bristol: Scientechica.
- United Nations (1977), "Provisional Guidelines on Statistics of the Distribution of Income, Consumption and Accumulation of Households". Department of Economic and Social Affairs, Studies in Methods, Series M, no. 61. New York: United Nations.
- UNICEF (1993), "Public Policy and Social Conditions". *Regional Monitoring Report 1*. Florence: UNICEF International Child Development Centre.
- UNICEF (1994), "Crisis in Mortality, Health and Nutrition". *Regional Monitoring Report 2*. Florence: UNICEF International Child Development Centre.
- UNICEF (1995), "Poverty, Children and Policy: Responses for a Brighter Future". *Regional Monitoring Report 3*. Florence: UNICEF International Child Development Centre.
- UNICEF (1997), "Children at Risk in Central and Eastern Europe: Risks and Promises". *Regional Monitoring Report 4*. Florence: UNICEF International Child Development Centre.
- UNICEF (1998), "Education for All?". *Regional Monitoring Report 5*. Florence: UNICEF International Child Development Centre.
- Večerník, J. (1991), "Earnings Distribution in Czechoslovakia: "Intertemporal Changes and International Comparison". *European Sociological Review* 7, pages 237-252.
- Večerník, J. (1993), "The Labour Market, Poverty and Social Policy in the Czech and Slovak Republics, 1990-92: Data and Analysis". ACE Grant Report. Prague: Institute of Sociology, Academy of Sciences.
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- Veèerník, J. (1998), *Household Income Distribution and Redistribution in the Czech Republic: Readjustment to the Market*. Prague: Institute of Sociology, Academy of Sciences.
- Wiles, P.J.D. (1974), *Distribution of Income: East and West*. Amsterdam: North-Holland.
- Wiles, P.J.D. (1978), "Our Shaky Data Base", in W. Krelle and A.F. Shorrocks (eds), *Personal Income Distribution*. Amsterdam: North-Holland.
- Wiles, P.J.D. and S. Markowski (1971), "Income Distribution under Communism and Capitalism", *Soviet Studies*, Part I, 22, pages 344-369 and Part II, 22, pages 487-511.
- Williamson, J. (1997), "The Washington Consensus Revisited" in L. Emmerij (ed), *Economic and Social Development into the XXI Century*. Washington, DC: Latin American Development Bank.
- World Bank (1996), *World Development Report*. New York: Oxford University Press.

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