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INCOME DYNAMICS AND STABILITY IN THE TRANSITION PROCESS

General Reflections Applied to the Czech Republic

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Income distribution is a widely neglected subject in applied macroeconomics. This paper looks at the current state of art, which can be summarised as the "Transatlantic Consensus" explaining inequality through a partial analysis approach with changes on the labour market at its core. The potential interrelationship between inequality and growth is particularly important for transition countries, because according to common knowledge in this case the change of regime went along with rising inequality and declining income in the initial phase. The Czech case – the Czech Republic being the most egalitarian country among the former socialist economies – is even more interesting, because here income distribution remained relatively stable before and throughout the transition period. This result is illustrated by Lorenz curves. The analysis of so-far unpublished empirical data indicates that there is no need for active distribution policy in the Czech Republic. This result might not hold for other transition countries, which find themselves at the initial part of the Kuznets curve, but on a lower level of income.

Keywords: income distribution, education, Czech Republic, Lorenz curves, Gini coefficient

JEL classification index: P270, E150, I200

1. INTRODUCTION

Income distribution is a widely neglected subject in applied macroeconomics, though this was not always the case, particularly not in the heyday of Keynesanism in the 1960s. Today there is not even a single chapter on income distribution included in widely used textbooks on macroeconomics (see for example Mankiw 2002 or Burda – Wyplosz 2002). Even in economics of transition this subject has been given attention only recently. Wyplosz (1999) does not even mention the issue of income distribution in his review on the ten years of transformation.

This paper looks at the current state of art, which can be summarised as the "Transatlantic Consensus" explaining inequality through a partial analysis ap-

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proach with changes on the labour market at its core. This approach and its explanatory value for transition economies are critically discussed from a macroeconomic point of view. The potential interrelationship between inequality and growth is particularly important for transition countries, because according to common knowledge in this case the change of regime went along with rising inequality and declining income in the initial phase.

The Czech case – with the Czech Republic being the most egalitarian country among the former socialist economies – is even more interesting, because here income distribution remained relatively stable before and throughout the transition period. This result is illustrated by Lorenz curves. The analysis of so far unpublished empirical data indicates that there is no need for active distribution policy in the Czech Republic. This result might not hold for other transition countries, which find themselves at the initial part of the Kuznets curve, but on a lower level of income.

The paper is structured as follows: the next section summarises the standard explanation of rising inequality, which is a microeconomic approach in a partial analytical framework. Its application to transition economies is briefly presented. The third section reflects upon macroeconomic issues related to the distribution of income. Various approaches are discussed in this context. The fourth section presents an empirical analysis of the Czech Republic followed by a hypothetical explanation. Finally general conclusions are drawn.

2. THE "STANDARD EXPLANATION" OF RISING INEQUALITY AND ITS APPLICATION TO TRANSITION ECONOMIES

The "standard explanation" of rising income inequality relates income inequality to the labour market. According to this explanation, which Atkinson (2000) calls "Transatlantic Consensus", rising *wage inequality* is the key for conceptualising rising income inequality in general. After a long period of lack of interest in the issue of income distribution – caused by the long-term stability in the field particularly in the USA – a new interest emerged (see Gottshalk – Smeeding 1997). Since the early 1980s rising wage dispersion on the US labour market could be observed. Empirical studies could show that these changes in earnings lead to rising inequality of household incomes. A similar observation could be made in the United Kingdom and continental Europe, although on the continent rising inequality went along with increasing unemployment.

The mechanism of the "Transatlantic Consensus" are as follows: a shift in relative demand from unskilled to skilled workers leads to a higher dispersion of wages, because wage premium increases in favour of those who are employed in

the skilled labour sector. As, correspondingly, wages for workers in the unskilled labour sectors fall relatively, the overall inequality in earnings has widened. The "channel" of this explanation to the European continent (in particular to France) is that effective minimum wage protection leads to higher unemployment rather than decreasing wages for the unskilled workers. Although there is widespread agreement upon the mechanism of rising inequality, the reasons behind the shift away from unskilled to skilled workers are disputed. Globalisation and technology changes are most prominently featured and refer to the increase in international trade and the advent of electronic commerce. Whatever the reasons for the shift *per se* are, for the purpose of this analysis it seems noteworthy that the mechanics of this partial analytical "standard explanation" are robust enough to create the "Transatlantic Consensus" within the academic community.

These mechanisms are extended to the transition economies of Eastern Europe and further east by Milanovic (2000), who produced the most authoritative empirical overview in this field so far (1998). Transition from planned to market economies is defined as "the removal of legal restrictions on the private sector".[1] For the pre-transition scenario it is assumed that the majority of workers were employed in the state sector and that income was distributed more equally – albeit on a lower level – than in the private sector. Within this set-up the same mechanisms operate as in the "Transatlantic Consensus": Parallel to the demand-shift story of Western industrialised countries, in the transition countries a shift from the state sector to the private sector of the labour market explains rising inequality in earnings and finally rising general inequality. Again, the robustness of the partial analytical approach is striking. We shall return to the explanatory power of this approach for the economics of transition after the consideration of macroeconomic aspects of income distribution in the following section.

3. MACROECONOMIC ASPECTS OF INCOME DISTRIBUTION

First of all, from a macroeconomic point of view, the labour-market explanation for inequality can only be a part of the story, because there are more sources of income than wages. According to the tradition of David Ricardo a distinction would have to be made between transfers (*rent* in Ricardo's terminology), profits and wages. The focus of interest in macroeconomics is the functional distribution of income rather than the personal distribution. Traditionally functional income distribution is conjunct with "laws" of economic development. For ex-

[1] The shortcomings of such an unusual definition of "transition" will become evident later in the course of this study. At this stage it is accepted for the sake of the Milanovic's argument.

ample, Ricardo created his hypothesis of stagnation of capitalist development on the basis of his assumption that finally production would be realised only for the benefit of the rent recipient (the landlord). His pupil, Marx, however, concluded the breakdown of capitalism, predicting that the profit shares of income would increase so much that the exploited working class would overthrow the whole capitalist system. Modern approaches of political economy can be traced back to this course of economic thought (see for example Scholz – Tomann 1999). In these approaches rising inequality would be limited by a poverty line, below which macroeconomic stability would be jeopardised by political unrest. Although this line of argument might be relevant for some of the very poor transition countries, in this analysis this aspect will not be elaborated.[2]

Probably the most obvious weakness of the labour-market explanation of income inequality is that it neglects unemployment as far as it cannot be explained by minimum wages. Faced with a scenario of non-voluntary unemployment, this approach has very little to say. This is not as trivial as it seems, because it points to the methodological limitation of the partial analysis approach, either the focus is the labour market or it is not. There is little room for the specification of labour beyond skilled and unskilled. A macroeconomic approach would look at the aggregate demand for labour and its effect on labour markets and income creation. At the end of the chain one would expect some effect on income equality.

Also, the macroeconomic approach would have to emphasise that a demand-shift story within the labour market like the "Transatlantic Consensus" suffers from any reaction of the supply side. At least in the longer run economic intuition would have to assume that workers would make endeavours to move from the sector of unskilled labour into the sector of skilled labour by investment into human capital. This is a general macroeconomic aspect to the partial analysis, which is particularly relevant for transition countries. As far as labour skills are concerned it can be assumed and is described in a number of studies that through the rapidly changing environment for work during transition, old labour skills were devalued and the stock of human capital underwent a similar experience as the stock of physical capital (see for example EBRD 2000; Keane – Prasad 2000). On the other hand new and foreign firms introduced a kind of new liberty in wage setting in their sector, which in respect of human capital means that the expectable returns on education have increased. The overall picture of transition would be decreasing experience premia and rising education premia. This aspect points towards the most important macroeconomic feature: the capital market.

[2] For example Keane and Prasad (2000) argue that generous pension transfers were reducing inequality in Poland and, by reducing resistance to market-oriented reforms, they were enhancing growth.

If there is a market price for education in terms of opportunity costs, this must be reflected by the rate of interest. In simple models a lower rate of interest leads to rising equality, because the price for an investment into education is falling (von Weizsäcker 1986). In such a framework the rate of interest becomes a major policy parameter of the state for distribution policy. If the rate of interest in general expresses some kind of behaviour towards risk, then the states of capital markets are at issue for equality and the crucial link is investment into education. With regards to transition economies it is undisputed that capital markets are incomplete and the level of uncertainty is high. Due to macroeconomic stabilisation policy, real interest rates are high and the path towards more income equality through more investment into education and training might be closed (Hölscher 1997). In this context saving behaviour of households is one variable to be observed.

The savings ratio featured prominently in the Kaldor tradition of income distribution, which goes far beyond a partial analysis. Kaldor's main message was that declining savings of households and entrepreneurs would generate income creation (Krelle 1962). In this view circular flow determines the level of income as well as its distribution into wages and profits as shares of national income. This type of macroeconomics of income distribution dominated economic discourse throughout the 1960s.

At the end of the 20th century the general question of interrelationship between the general level of income and the distribution of income is taken up again, this time by neo-classical growth theory. Barro (2000) states evidence that higher inequality tends to retard growth in poor countries and encourage growth in richer ones. His broad panel of countries however shows little overall relation between income inequality and rates of growth and investment. This is no surprise, as he applies an extended version of a Cobb-Douglas function in his analysis. Transition economies are not included, since within the framework of a growth model the period is presumably too short. The threshold between poor countries, where growth tends to fall with greater inequality and rich countries, where growth rises with increasing inequality is found "around USD 2000 (1985 US dollars)" per capita GDP (Barro 2000, p. 32).

From an analytical point of view it seems to be of interest that this new approach to income distribution confirms the old view on income distribution, because "the Kuznets curve – whereby inequality first increases and later decreases in the process of economic development – emerges as a clear empirical regularity" (Barro 2000, p. 32). As an explanation for this phenomenon is not available at this state of art, the following section will concentrate on one case from which general conclusions might be drawn.

4. THE CASE OF THE CZECH REPUBLIC

The Czech Republic was singled out for this study for three reasons:

- This country is not included in Milanovic (2000), presumably because of data unavailability. To close this research gap was one motivation for this study.
- The Czech case contradicts common knowledge that inequality was rising dramatically during the transition from planned to market economies. In fact, functional as well as personal distribution of income remained more or less stable over the last ten years and inequality increased only slightly.
- In terms of GDP growth the Czech Republic – against earlier expectations – is not the frontrunner of transition, but rather experienced a recession well after the "transformation recession" was overcome.

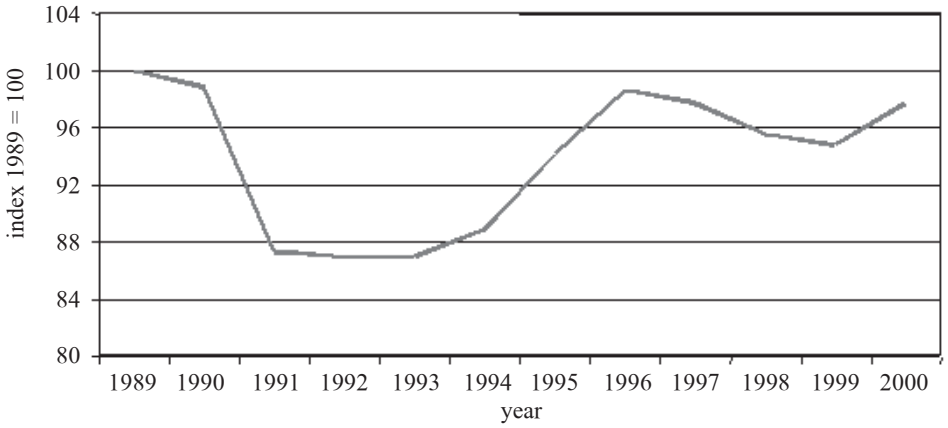


Figure 1. Development of real GDP during the transition (1989–1999)

4.1. The facts

To start with the last reason for choice, *Figure 1* shows the development of Czech real GDP measured with 1989 as basis year. In whatever way the shape of the curve might be labelled, it does certainly not match the so-called *J*-curve of transformation (see also Hölscher 1999a). The *J*-curve would show an upswing after the first years of "transformation recession" and an economic recovery displaying higher levels of GDP in the longer run than before transition began. Instead, the Czech picture is characterised by stagnation after a short recovery from the early recession and even further recession after 1997, the year of the Czech bank-

ing and balance-of-payments crisis. Interpretation has to be careful, because the choice of the base year is crucial and serious reservations about the comparability of data across the transition period are appropriate. However, this method has been customised by various institutions (including World Bank, EBRD etc.) and due to comparability with other studies the approach is maintained here. Also, the overall picture for the Czech Republic is empirically confirmed from another perspective (Turnovec 2000). In this study the leading research question is how far the general economic performance can be related to the distribution of income.

Functional distribution of income is illustrated by *Figure 2.* Against the dynamics displayed in *Figure 1,* functional distribution of income remains remarkably stable throughout the period with the exception of 1991. There is a break in reporting by the Czech Statistical Office after 1991. "Business and others" replaced by "operating surplus" and other categories were changed as well (see below) indicating a systemic break. Nevertheless it seems to be remarkable that this share grew in the beginnings of transition only to fall sharply the year after. Profit ratios (share of operating profits) increased slightly in 1993, but then remained stable until the 1997 crisis. The same observation holds for the wage ratios (labour compensation), and even property income shows moderate changes only. A careful interpretation could just state that an increased share of profits went along with positive growth rates from 1994 to 1996. Changes seem not to be significant enough to conclude any line of causality.

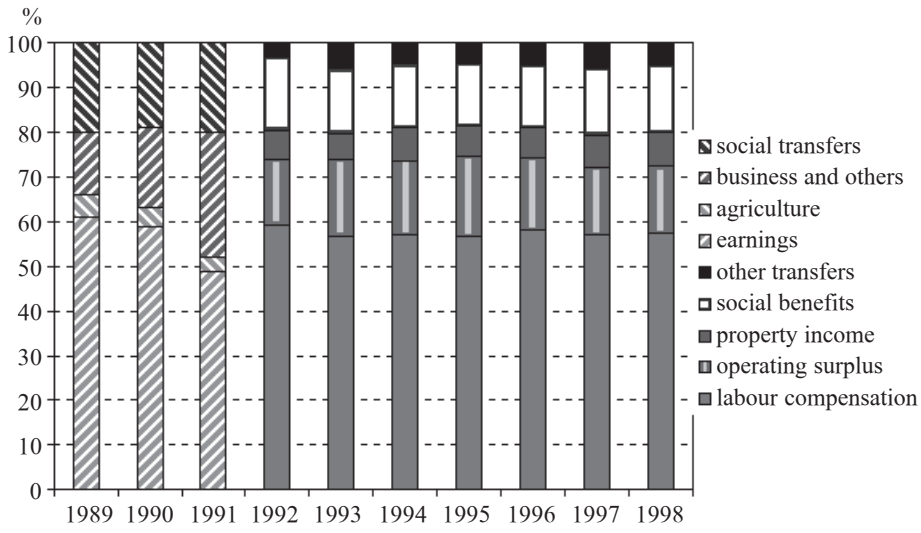


Figure 2. Functional income distribution (1992–1998)

Following the macroeconomic approach a step further, the savings ratio in *Figure 3* does not show very much change either. Given the high level of uncertainty within the Czech Republic the high level of the savings ratio seems to be remarkable in itself. However, no direct link between savings and growth performance is evident. An extremist interpretation could even reject Kaldor's message, as declining saving ratios go along with declining income creation, but it is not the purpose of this study to review the debate of the 1960s.

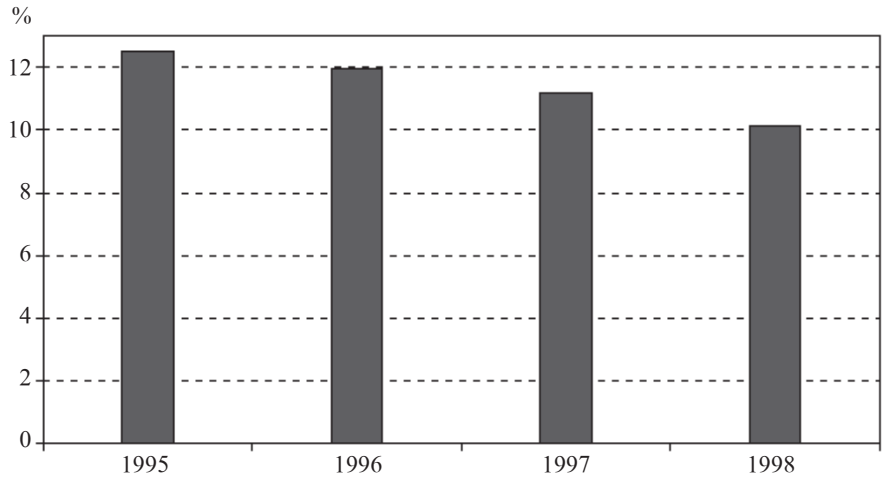


Figure 3. Development of savings ratio during transition (1995–1998)

The characterisation of stability in distribution of income does not change very much even when personal distribution is observed. This analysis uses the Gini coefficient as empirical measure of income inequality. The Gini coefficient is derived from the cumulative distribution of earnings across the population as per capita incomes. It is defined as half of the mean difference between any two observations in the earnings distribution divided by average earnings. *Figure 4* shows the increase of the Gini coefficients from around 20 in the pre-transition period until 1992 up to 26 in 1993, and then more or less stagnating at that level. Within the international context this would approximately be within the Scandinavian group of countries and within the transition countries this is the lowest level of inequality, as in communist times.

The Gini coefficients reported above are consistent with those found in other surveys. *Table 1* reports Gini coefficients for the distribution of personal earnings between 1989 and 1998 for selected transition economies.

It appears that the distribution of earnings was more equal in the Czech Republic than in other transition economies for most of the last decade. Over the

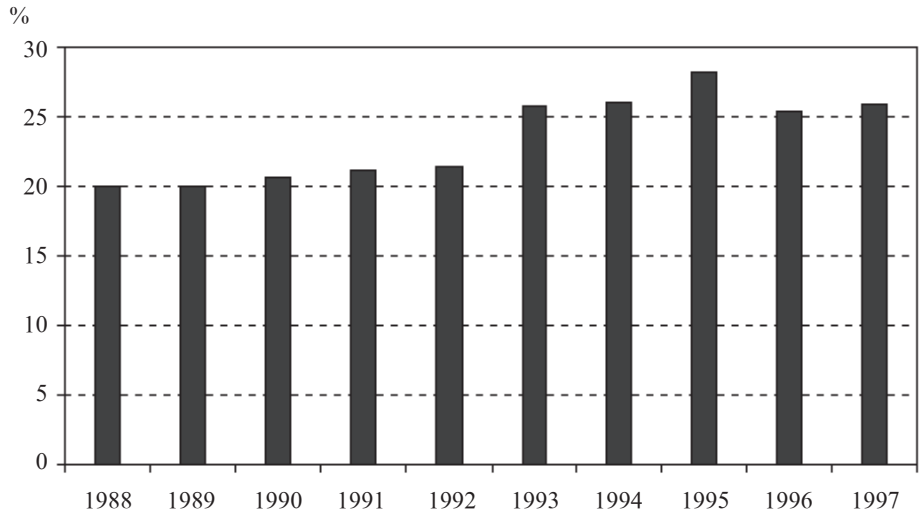


Figure 4. Gini coefficients (1988–1997)

Table 1

Distribution of earnings[a] in selected transition economies: Gini coefficient

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Czech Republic	0.204	0.212	0.212	0.214	0.258	0.260	0.282	0.254	0.259	0.258
Poland[b]	0.207	–	0.239	0.247	0.256	0.281	0.290	0.302	0.300	0.294
Slovenia	0.219	0.232	0.273	0.260	0.276	0.275	0.358	0.298	0.307	0.306
Hungary[c,d,e]	0.268	0.293	–	0.305	0.320	0.324	–	–	0.350	–
Russia[c]	0.271	0.269	0.325	0.371	0.461	0.446	0.471	0.483	–	–

Notes:
(a) Gross personal earnings interpolated from group data for monthly earnings with bonuses, for full-time employees, as reported by employers.
(b) 1989–1991: net earnings; 1992–1999: gross earnings.
(c) Small employers excluded.
(d) 1989: Atkinson – Micklewright (1992).
(e) 1989: refers to 1988.
Source: TransMONEE 2001 database, UNICEF ICR, Florence.

whole period the Gini coefficient increased by 26% for the Czech Republic compared to 42% and 40% for Poland and Slovenia respectively. This widening in the distribution of earnings may be attributed to the wider wage dispersions experienced in various sectors of the economy in the early phase of transition. In general the data support Milanovic's claim insofar as the Czech Republic is concerned. It may be argued that the more even distribution of earnings may be a

result of the individuals lacking the necessary skills or human capital to compete effectively for the wage premiums offered in the private sector – particularly in the developing services and financial sectors.

One familiar interpretation of the Gini coefficient is the Lorenz curve, which graphs cumulated income shares versus cumulated population shares. Population is ordered from low to high incomes. In this context, the Gini coefficient can be computed as twice the area between the 45-degree line that extends north-east from the origin and the Lorenz curve. The 45-degree line represents equal income distribution across the population and the larger the distance of the Lorenz curve the greater is income inequality. *Figures 5* and *6* rely on decile income ratios derived from surveys in 1988, 1992 and 1996 (Vecernik 1999) per capita and per household.

The survey results per capita *(Figure 6)* confirm the data presented in *Figure 4*, as the distance of the Lorenz curves of 1992 and 1996 to the 45-degree line widens. As a focus on social change, *Figure 5* seems to be more interesting. Here one can observe that first of all household inequality in the Czech Republic was far higher than per capita inequality.[3] In the early phase of transition income inequality of households is still on the increase, but slows down considerably in the period from 1992 to 1996. The obvious interpretation of this phenomenon is that over the process of transition a loss of one member of the household could be compensated at least partly by income increases of another member of the household. Vecernik (2000, pp. 14–15) suggests that two effects have contributed to this result: Working pensioners leaving the labour force (by heavy taxes on earnings taken parallel with pension benefit), and women, who can be supported by better-paid husbands to stay at home and/or support them in self-employed family business.

Behind the stability in the overall income distribution, a more detailed look into the deciles shows changes, which occurred in relative positions of different groups. *Table 2* shows income distribution by decile shares. According to income per household, the bottom share increased slightly and the top share rose considerably. According to income per capita, the top share rose, too, but the other categories behaved differently in the two periods. Between 1988 and 1992, the relative position of the lower half of income distribution more or less maintained its position, while the upper half decreased slightly. Between 1992 and 1996 this reversed[4]. Over the whole period the middle shares of income distribution were

[3] For the ideological background of this observation see Vecernik (2000).

[4] This difference can be explained by the fact that the first period was before privatisation and under a regime of wage control and universal social benefit. After 1992 privatisation was introduced, the minimum wage was frozen and wage control was abolished (Vecernik 1999).

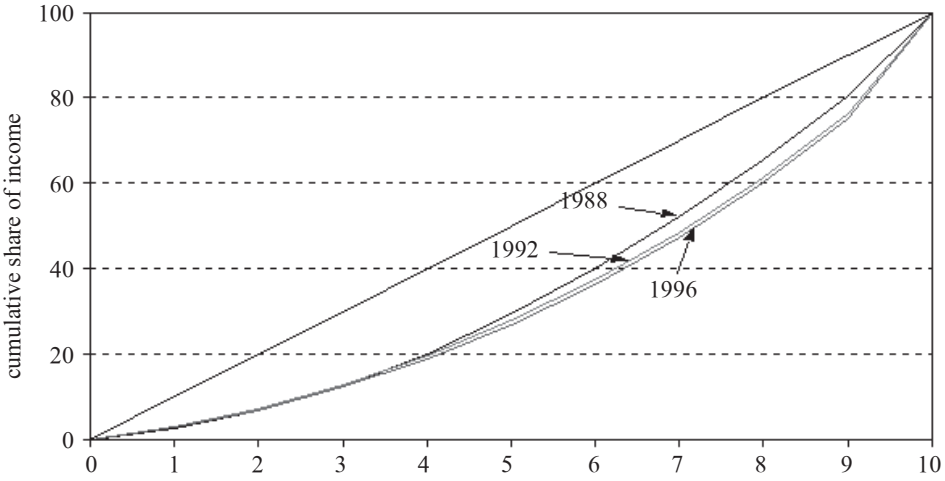


Figure 5. Decile income ratios per household (1988, 1992 and 1996)

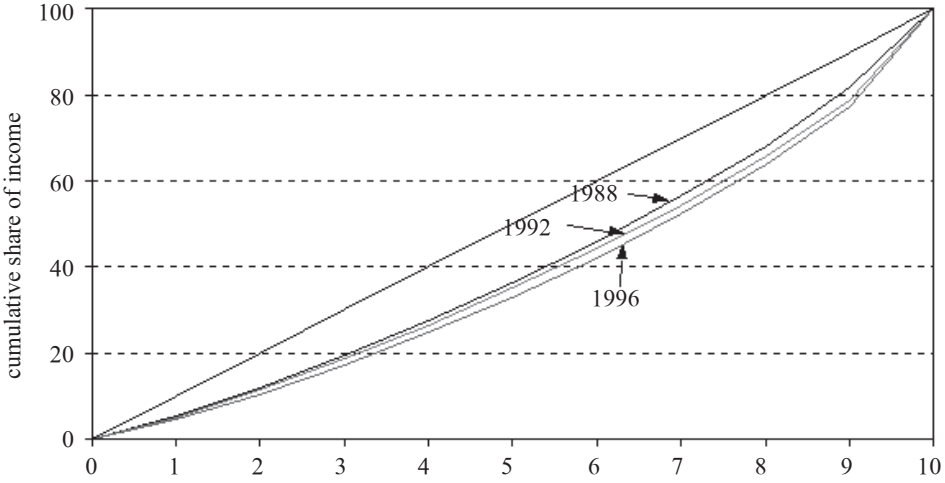


Figure 6. Decile income ratios per capita (1988, 1992 and 1996)

squeezed. The household statistics show that the lowest and highest income categories have grown and middle categories decreased by more than 10%. In per capita only the top decile has gained and the lowest income decile decreased most. However, the degree of change in income hierarchy is moderate in comparison to other transition economies. It would go too far to state "the hollowing out of the middle classes" (Milanovic 2000, p. 31). Although there is some tendency of polarisation in terms of income dynamics, the overall picture represents a rather even distribution of income.

Table 2

Distribution of household income according to decile shares and real growth, 1988, 1992 and 1996 (%)

Decile share	Per household (HH)			Per capita (PC)			Real growth (1988–1996)	
	1988	1992	1996	1988	1992	1996	HH	PC
1	2.5	2.9	2.8	5.3	4.9	4.3	105.6	74.6
2	4.1	4.1	3.9	6.6	6.4	5.9	88.5	82.8
3	5.9	5.8	5.6	7.4	7.3	6.8	88.7	85.9
4	7.6	6.9	6.7	8.1	7.9	7.6	81.7	87.7
5	9.3	8.1	7.9	8.8	8.6	8.3	79.7	88.5
6	10.7	9.6	9.4	9.6	9.2	9.1	81.4	88.6
7	12.0	11.1	10.9	10.6	10.1	10.1	84.5	89.2
8	13.2	12.8	12.7	11.8	11.3	11.5	88.9	90.8
9	15.1	15.2	15.4	13.6	13.2	13.7	95.0	93.7
10	19.6	23.5	24.7	18.2	21.1	22.6	117.3	116.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	93.4	93.4

Note: Income per capita is weighted by persons.
Sources: Microcensus 1988, 1992 and 1996.

Demographic and sociological processes, which are not subjects of this analysis, are in the background of some of the observed changes. In the household statistics the low-income category is not only associated with transfer income, but primarily with families with children. For the per capita statistics determination of income through the market mechanism became more important. The ideological heritage of the dominance of manual industrial workers declined in favour of the rising importance of services. In addition, education became a driving force in income creation. Vercernik (1999, p. 17) estimates that the contribution of education towards income levels increased three times from 1988 to 1996.

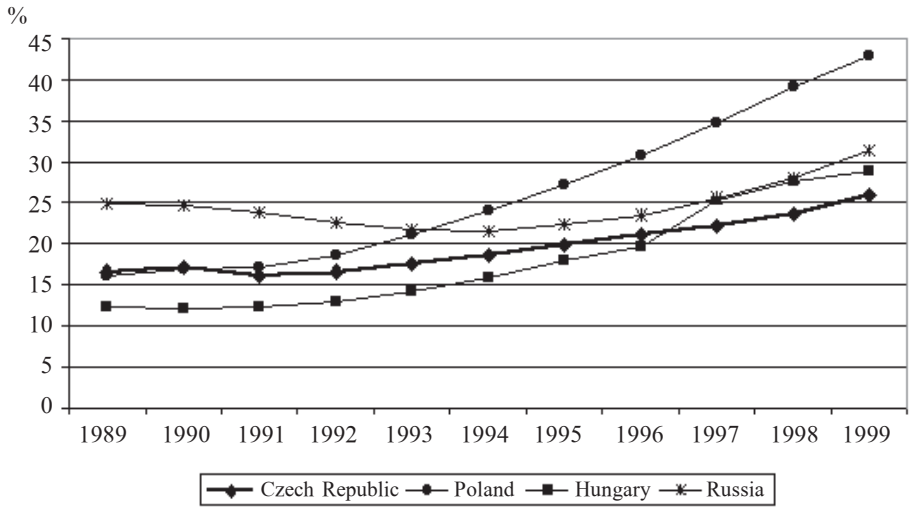
4.2. Human capital

The relatively small Czech income inequality in the initial transitional period may be partly due to insufficient investment in human capital. Furthermore, wage structure in the planned economies of Eastern Europe offered a low rate of return on education, which may have led to low participation rates in secondary and higher education particularly during the early phase of transition (see for example Munich et al. 1999; Newell – Reilly 1999). Age-wage profiles for various types

of education remained relatively flat during this phase of transition in the Czech Republic (CERGE 1996). Newell (2001) documents rising wage inequality in the early transitional process caused by sectoral shifts in employment and increasing inter-industry wage differentials, and suggests that in the countries of Eastern Europe, where economic growth has restarted, the subsequent rise in household income inequality is associated with an increased incidence of workless households. This phenomenon can be partly explained by rising participation in post-compulsory education and early retirement. Furthermore, it is suggested that structural change has impacted on the distribution of wages and increased the wage premia to education and to the growing sectors of the economy. Relative wages have fallen in the agriculture and production sectors and have increased in the service sector, what can be seen universally across most transition economies. In particular, workers in the evolving financial, insurance and real estate sectors of the Czech Republic have experienced a substantial rise in their relative wages (Newell 2001).

One possible explanation for the disparities in acquired human capital is unequal access to education and training opportunities. Barrow (1998) reports urban-rural disparities in access to education. In the case of the Czech Republic this in part may be a result of quasi-central control of district education offices by the Ministry of Education, and the inefficiencies inherent in the educational system. Furthermore, it may be seen as counter to the stated principle of decision-making being devolved to the lowest possible level. Parents now also have to pay (almost full-cost) for "extra-normative" activities (e.g. hobby and tuition outside school), which was previously not the case. This would presumably impact more heavily on families in the lower end of the income distribution leading to unequal access to education, and contributing to household income inequality.

Investment in human capital in the Czech Republic can be seen in *Figures 7, 8* and *9* as proxied by educational enrolments. *Figure 7* shows a general upward trend in enrolments in higher education for selected transition economies. During the early phase of the transition process the Czech Republic witnessed a 2 percentage point increase in enrolments from 16.6% to 18.6% between 1989 and 1994. In the latter part of the decade enrolments increased by approximately 5 percentage points between 1994 and 1999. In the ten-year period quoted, enrolment in higher education rose by approximately seven percentage points and remained below 20% of the population until 1996. However, when compared to other transition economies, growth in enrolments in higher education for the Czech Republic has been below that for other transition economies, with the exception of Hungary (in the first half of the decade).



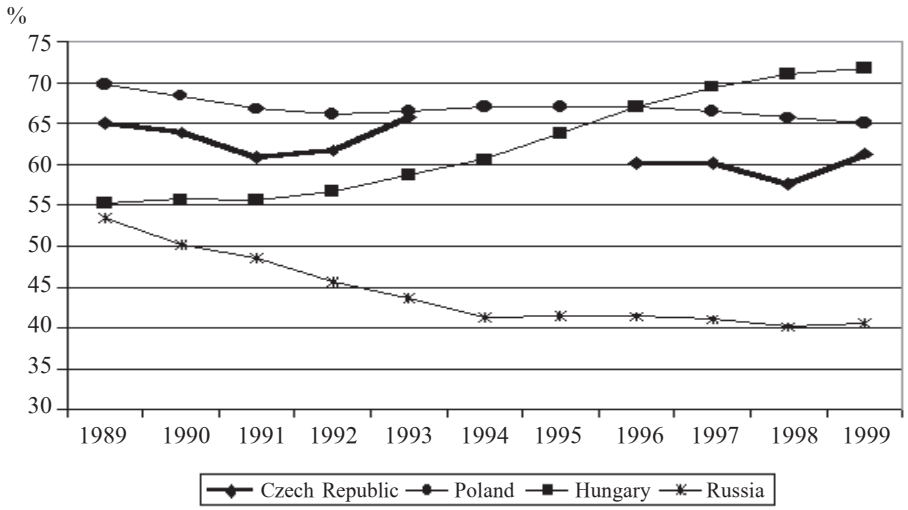
Notes:
(a) Enrolments are gross rates, percentage of population aged 18–24.
(b) Czech Republic gross enrolments for 1989–1995: 18–22-year olds, and 1996–1999: 19–23-year olds.
(c) Hungary gross enrolments for 18–23-year olds.
Source: TransMONEE 2001 database, UNICEF ICR, Florence.

Figure 7. Enrolments in higher education

Figure 8 shows gross enrolment rates for technical and vocational education. These qualifications prepare individuals for entering into specific occupations and trades. For the Czech Republic enrolment in this form of education has been above that of Hungary and Russia to 1993, but has been broadly in line with other transition economies. Between 1996 and 1999 enrolments averaged approximately 60% of the population in contrast to the earlier period, and between 1996 and 1998 enrolment in this sector of education has already been below that of Hungary and Poland. (There are no data available for the years 1995 and 1996 for the Czech Republic.)

Enrolment in general secondary education[5] is shown in *Figure 9.* It is clear that enrolments in this form of education have been below that experienced in other transition economies throughout the period.

[5] General secondary education offers two- to four-year programmes of academic study, often leading to higher education, with entry on a selective basis. In the CIS countries, general secondary education typically comprises the two or three upper classes of the comprehensive school, while in Central and Eastern Europe it involves longer programmes at separate institutions. In a number of countries, secondary school streams begin in lower secondary grades. In countries with two-year programmes, coverage may be underestimated.

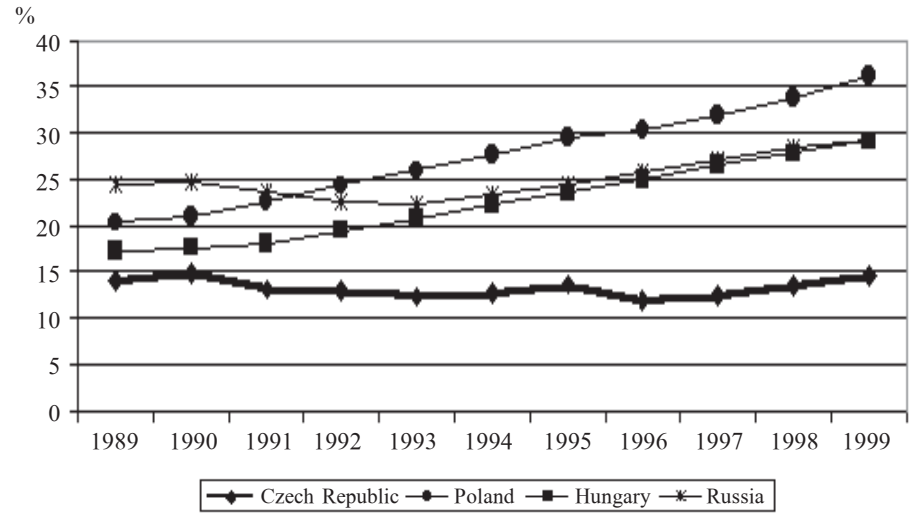


Notes:
(a) Enrolments are gross rates, percentage of population aged 15–18.
(b) Czech Republic gross enrolments for 1989–1995: 14–17-year olds, and 1996–1999: 15–18-year olds.
(c) Hungary gross enrolments for 14–17-year olds.
Source: TransMONEE 2001 database, UNICEF ICR, Florence.

Figure 8. Enrolments in technical/vocational education

One may generalise from the data reported that there is some backwardness in the formation of human capital in the Czech Republic regarding educational enrolments compared to other transition economies. Individuals perceiving a relatively low return on education may not enrol in tertiary or higher education, and this may have been more acute in the early phase of transition in the Czech Republic. However, this may be reversed in the future with parents and students enabled to exercise more choice over the quality and type of education. Furthermore, as wage dispersions continue between industrial sectors, the wage premia offered in the service sector may induce greater enrolments in professional and higher education, possibly leading to a further increase in household income inequality. Barrow (1998) reports a fall in demand for vocational school places with a rise in the demand for professional training in technical schools (leading to matriculation) as an indication of a market at work in the Czech educational sector.

If education had been privately funded, the high real interest rate may have curtailed educational investment in the early phase of transition. However, a substantial part of education in the Czech Republic is publicly provided and funded,



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Source: TransMONEE 2001 database, UNICEF ICR, Florence.

Figure 9. Enrolments in general secondary education

for instance, only 3.6% of pupils were in private schools in 1994 (Barrow 1998). It is therefore difficult to see how problems in the financial sector, as already noted, contributed to the lack of investment in human capital. However, the private sector does play an important role in some sectors of education, it has made considerable inroads into secondary, special and higher professional sectors in terms of the number of schools. For example, in 1996–1997, 32.3% of all schools in the higher professional sector were private (although being relatively small-scale). It may be argued that the returns on the courses offered by private institutions may be higher than the returns on state-sector education. From the macro-economic point of view, state education system would have required ceteris paribus a higher level of government spending. If higher taxes are not a political option, a higher rate of interest would be the consequence of this increased state borrowing. Even this might not be an option under the circumstances of the Czech transition, because it would confront potential private investors with the crowding-out effect.

Table 3 reports public expenditure on education for the period 1989–1999. We see that in the early phase of the transition process public expenditure on

education in the Czech Republic was below that of other states with the exception of Russia. In 1995 and 1996 it was broadly in line with other comparable transition economies, but has fallen after the financial crisis of 1997.

Table 3

Public expenditures in education/GDP, 1989–1999

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Czech Republic	4.0	4.1	4.1	4.5	5.2	5.4	5.3	5.3	4.7	3.4	4.6
Slovakia	–	5.1	5.6	6.0	5.2	4.4	5.1	5.0	4.5	4.3	4.3
Poland	–	4.8	5.1	5.4	5.4	5.3	5.2	5.4	5.5	5.3	5.1
Hungary	5.7	5.8	6.3	6.6	6.5	6.4	5.5	4.9	4.3	4.8	5.1
Russia	–	3.7	3.6	3.6	4.0	4.5	3.6	3.8	4.2	3.6	–

Note: Public expenditures represent current and capital expenditures on education by local, regional and national governments, including municipalities. Household contributions are normally excluded.
Source: TransMONEE 2001 database, UNICEF ICR, Florence; GDP data: EBRD (2000).

4.3. A hypothetical explanation

One aspect of economics of transition is that available data are in transition themselves.[6] Therefore it appears to be not only legitimate but also most appropriate to apply a hermeneutic method rather than thorough econometrics. In particular in the context of income and growth for the period under review it remains uncertain what effect has to be attributed to growth and to which extent it is a phenomenon of the business cycle. We have to operate with stylised facts.

The intellectual challenge in the Czech case is that it contradicts common knowledge in two ways. Its growth performance does not fit into the picture of the *J*-curve and its development of income distribution does not follow a Kuznets curve. It is therefore misleading to graph income dynamics of transition in Europe in such a way (for example Aghion – Commander 1999), and only Russia and the former Soviet Union would follow a different path. According to Keane and Prasad (2000) the difference between the Czech Republic and Poland com-

[6] Some of the data presented in this study rely on the yearbooks of the Czech Statistical Office. There the revised figures of previous years differ sometimes at around 20%. Another example is the paper by Keane and Prasad (2000), which rejects Milanovic's findings for the case of Poland on empirical grounds. These authors come to similar results for Poland as this paper does for the Czech Republic.

pared to Russia and the FSU is, however, that we cannot observe a steep rise in inequality settling at a high level, whereas the myth on East Europe is a Kuznets type of rising inequality decreasing after a period of growth. We have to explain the relative stability of income distribution going along with transformation recession, upswing, recession and finally the stagnation of national income.

Two explanations are tempting, but not pursued here. Firstly, neo-classical economics could rely on the explanatory power of the Cobb-Douglas type of production function, not expecting anything to happen within functional income distribution, whatever changes in production take place. According to substitution elasticity of factor shares there is no need for any explanation for the stability of functional income. The problem is defined away. For this robust and simple approach a strong belief in general equilibrium theory must be assumed, because unlike many other transition economies, in the Czech case we do find a dramatic fall in output. As to my knowledge the assumptions of the production functions are not claimed to apply for this case.

The second robust and simple explanation would be to follow the mechanisms of the "Transatlantic Consensus" and apply it to the Czech case as done by Milanovic (2000) for many other transition economies. The Czech case could serve as example *par excellence*, as this country's unemployment rate remained surprisingly low over the period of transition.[7] Also overall employment within the state sector was extraordinarily high, even among socialist economies, so the conversion of the "Transatlantic Consensus" from the mechanisms of skilled–unskilled into state–non-state should apply better than anywhere else. There might even be some truth in the approach, because changes in personal income distribution point into the direction of the labour market. The reservation against this explanation is based on the initially articulated scepticism concerning the definition of transition as "the removal of legal restrictions on the private sector" (see note 1 above). A more usual definition would include liberalisation, privatisation and stabilisation and call for a broader picture (Hölscher 1998). In particular, the labour market approach alone might explain the dynamics, but not the stability of personal income distribution unless prevailing restrictions can be assumed. As the labour market was subject to far-reaching liberalisation, this has not been the case for the Czech Republic since 1992.

For the coincidence between liberalisation and stability in income distribution we propose a *threefold explanation*. First of all the data might not be reliable and inequality might be far higher if the shadow economy could have been

[7] This phenomenon is about to change, as large state enterprises, which kept employment on a high level are under reconstruction now.

included into this study. Schneider and Enste (2000) present data that introduce the Czech Republic as the transition country with the lowest share of black economy. However, in the context of dynamics of the shadow economy we find the strongest increase of the share of black economy in the initial transition period. From 1989–1990 to 1990–1993 the share of black economy in GDP is estimated to have risen from 6.4 to 13.4% on average in the Czech Republic (Schneider – Enste 2000, p. 101). Assuming that profits are not declared, higher income categories have benefited most from moving into the black economy. Also, the lowest income category – which was characterised by a high number of children – might be part of the shadow economy, as this group consists largely of gipsy families who intend to have more children but are not officially registrated. The degree of correction of the Czech stability picture must be uncertain by nature of the argument.

Secondly, and also related to liberalisation, adjustment of skills to the international competitive environment might not have taken place due to the lack of investment into education. This argument also contributes to stagnation and the recent recession of GDP. The macroeconomic background is the high degree of uncertainty mirrored by the high saving ratios above. Under the circumstances of transition it becomes more expensive to invest into education in terms of opportunity costs. If the example of the Anglo-Saxon market for education is chosen, the risk premium on education loans is high. In a more continental scenario the budget constraint on the state budget for education is so high due to stability requirements during transition that this type of investment lags behind.

To take this argument further, we would argue that the peculiar circumstances of the Czech financial sector played an important role in this development, as it was not in the position to generate the financial resources for investment into education. According to Turnovec (2000) the Czech financial sector constitution can be made responsible for the 1997 depression, because it lagged behind the official version of transition progress in terms of privatisation and transparency. In the event of global financial turbulence it collapsed. If there is any conjunction between investment, education, growth and inequality, the collapse of the Czech banking sector had cut this course of causality.

Finally there seems to be some evidence for turning round the point made by Dollar and Kraay (2000) who advocate that “growth is good for the poor”, depending on the state of development in economies of transition. Taking Barro’s USD 2000 threshold as an illustration, inequality may be too low to allow for the emergence of the Kuznets curve. Not even Barro would go so far as to suggest income distribution policy in favour of the rich, but the infrastructure for the creation of profit expectations in the official private sector might demand for a

potential of higher inequality in the Czech Republic. The stability of social transfers shown above does not work into that direction and a redirection into education could be carefully advised.

5. CONCLUSION

The general insight gained from the study of the Czech case is that one must examine the possibility of a causal relationship between general income creation or even growth and equality in terms of an interpretation of the direction. Income distribution seems to be a social variable to be seen in its entire historical context[8]. Even if the Kuznets curve can be observed as an empirical regularity, the explanation for this regularity remains dubious. Barro (1999) derives his solution (based on a multi-country panel stretching) over various decades by drawing a line between bunches of singular points. It seems that the state of art has reached the other extreme of the so-called "laws" of income creation and distribution of the 1960s, and not very much is known about their interrelationship by now.

Progress, however, has been made in measurement and data collection. This is not true for all transition economies, where assessments sometimes become outdated very quickly by a turn of facts. In the Czech economy it is certainly not inequality that hampers growth, but whether it is too much equality, we do not know. This result is important with respect to research into economic systems in general, as the case could be made for the rejection of universal laws, which, in fact, are empirical observations only. Demystification of the *J*-curve of transformation as well as a Kuznets curve of transition in Eastern Europe is considered to be a major contribution of the present study to the progress in economic knowledge.

Furthermore, it was shown that not only common knowledge of economics of transition is false in the Czech case, but also the "Transatlantic Consensus" on explaining inequality has very little to say. The general conclusion supports macroeconomic considerations and demands for further research on the interrelationship between finance, growth and education under the circumstances of uncertainty[9]. The macroeconomic component of income distribution looks at income distribution as a result of economic behaviour towards risk. Here the infrastructure for investment into education is the key variable for growth and development.

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