

## **Income Dynamics and Stability in the Transition Process**

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### **General Reflections applied to the Czech Republic**

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#### **1. Introduction**

Income distribution is a widely neglected subject in applied macroeconomics. This was not always the case, particularly not in the heydays of Keynesanism in the 1960s. Today there is not even a single chapter on income distribution included into the worldwide used textbooks on macroeconomics (see for example Mankiw or Burda/Wyplosz). Even in transition economics, where dramatic change in income distribution took place, this subject has been discovered only recently. Wyplosz (1999) does not even mention the issue of income distribution in his review on ten years of transformation.

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This paper looks at the current state of the art, which can be summarised as “Transatlantic Consensus” explaining inequality through a partial analysis approach 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 conventional wisdom in this case systemic change went along with rising inequality and declining income in the initial phase.

The Czech case as 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. Analysis of so far unpublished empirical data indicates that there is no need for active distribution policy in the Czech Republic.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 on 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 of conceptualising rising income inequality in general. After a long period of lack of interest in the issue of income distribution, epitomised by Henry Aaron, who noted in 1978 (see Gottshalk/Smeeding for the following) that tracking changes in the distribution of income in the United States “was like watching the grass grow” a new interest emerged. Since the early eighties rising wage dispersion in 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 European mainland rising inequality went along with increasing unemployment.

The mechanics of the ‘Transatlantic Consensus’ are as follows: A shift in relative demand from unskilled to skilled workers leads to higher wages dispersion, because the wage premium increases in favour of those who are employed in the skilled labour sector. As wages for workers in the unskilled labour sectors correspondingly fall relatively, the overall inequality in earnings has widened. The channel of this explanation to the European continent (in particular 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 mechanics of rising inequality, the reasons for 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 mechanics are extended to the transition economies of Eastern Europe and further East by Milanovic (2000), who produced the most authoritative empirical overview in that field so far (1998). Transition from planned to market economies is defined as “the removal of legal restrictions on the private sector”<sup>1</sup>. For the pre transition scenario it is assumed that the majority of workers were employed in the state sector and that income there was distributed more equally - albeit on a lower level - than in the private sector. Within this set-up the same mechanics as in the ‘Transatlantic Consensus’ operate: 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 will return to the explanatory power of the approach for economics of transition after the consideration of macroeconomic aspects of income distribution in the following section.

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<sup>1</sup> 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.

### 3. Macroeconomic aspects of income distribution

First of all from a macroeconomic point of view the labour market explanation for inequality can only be part of the story, because there are more sources of income than wages. In 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 example Ricardo created his hypothesis of stagnation of capitalist development on the basis of his assumption that finally production would be for the benefit of the rent recipient (the landlord) only. His pupil Marx however concluded the breakdown of capitalism, because profit shares of income would increase that 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 those 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<sup>2</sup>.

The probably most obvious weakness of the labour market explanation of income inequality is that it neglects unemployment as far as it can not be explained by minimum wages. If 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 analytical approach. Either the focus is the labour market or it is not. There is little room for heterogeneity 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 education. This is a general macroeconomic aspect to the partial analysis,

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<sup>2</sup> For example Keane and Prasad (2000) argue that generous pension transfers were reducing inequality in Poland and by reducing resistance to market-oriented reforms were enhancing growth.

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 (see for example EBRD 1999, Keane/Prasad 2000) 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. On the other hand new and foreign firms introduced new liberty in wage setting in their sector, which in respect of human capital means that the potential for expected returns to 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.

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 (see 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 message in a nutshell was that declining savings of households and entrepreneurs would generate income creation (see 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 20<sup>th</sup> century the general question of interrelationship between the general level of income and distribution of income is taken up again, this time by neoclassical growth theory. Barro (2000) states evidence that higher inequality tends to retard growth in poor countries and encourage growth in richer places. His broad panel of countries does however show 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, as 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 \$2000 (1985 U. S. 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 the art, the following section will concentrate on one case from which general conclusions might be drawn.

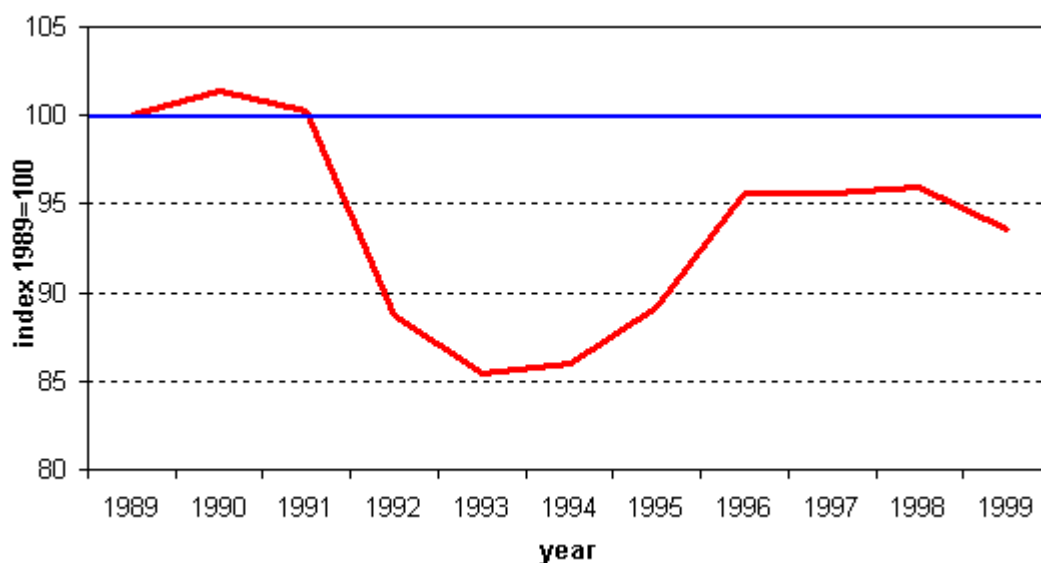
#### **4. The case of the Czech Republic**

The Czech Republic was singled out for this study for three reasons: Firstly this country is not included into Milanovic 2000, presumably because of data unavailability. To close this research gap is one motivation of this study. Secondly and more interestingly the Czech case contradicts conventional wisdom 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. The third reason for concentrating on the Czech Republic is that 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.

##### **4.1. The facts**

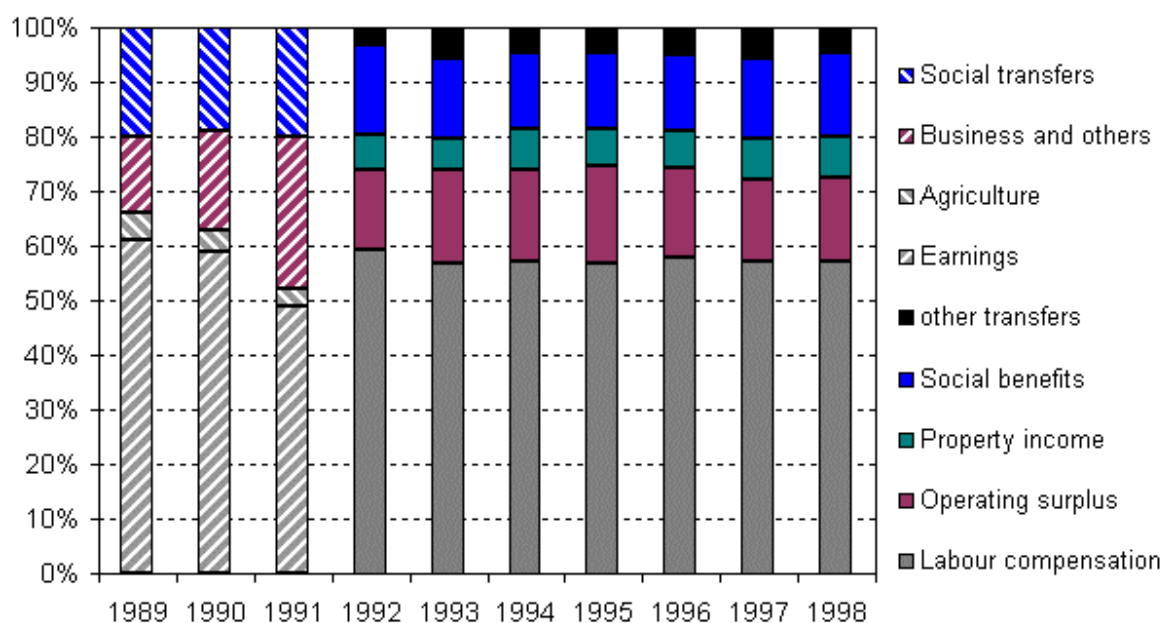
To start with the last reason for choice, figure 1 shows the development of Czech real GDP measured with 1989 as basis year. In whatever way the shape of the curve might be labelled, it does certainly not match the so-called J-curve of transformation (see also Hölscher 1999a). The J-curve would show 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 banking and balance of payments crisis. Interpretation has to be careful, because the choice of the basis 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 Worldbank, 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 (see Turnovec 2000). In this study the research leading question is how far the general economic performance can be related to the distribution of income.



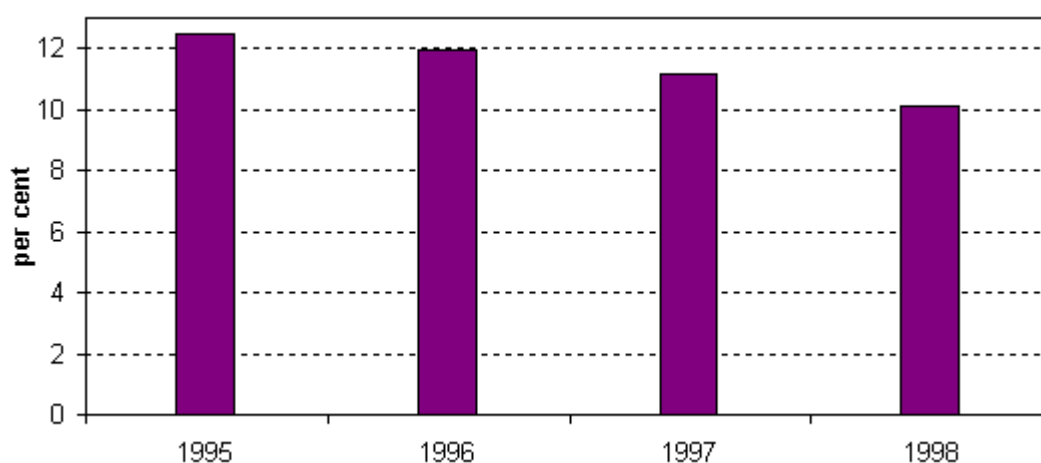
**Figure 1 Development of real GDP during Systemic Transition, 1989-1999**

Functional distribution of income is pictured by figure 2. Against the dynamics displayed in figure 1 functional distribution of income remains remarkably stable throughout the period with 1991 as the exception. 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 wages ratios (labour compensation). 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 to be not significant enough to conclude any line of causality.



**Figure 2 Functional income distribution, 1992-1998**

Taking 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 as such. However, no direct link between savings and growth performance is evident. An extremist interpretation could even reject the Kaldor 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.

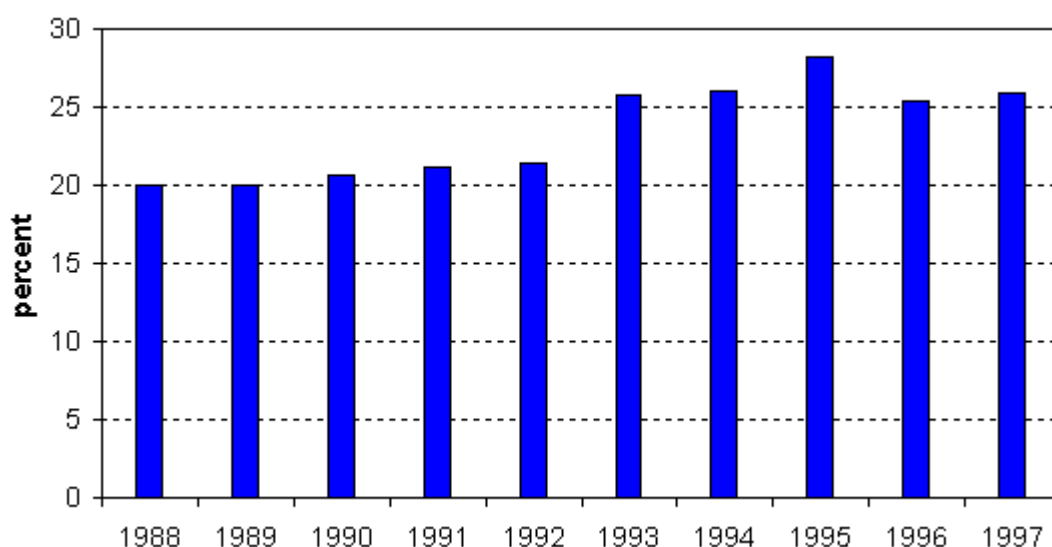


**Figure 3 Development of savings ratio during systemic transition, 1995 - 1998**

The characterisation of stability in distribution of income does not even change very much, 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 one half of the mean difference between any two observations in the earnings distribution divided by average earnings. Figure 4 shows increasing of the Gini coefficients from around 20 in the pre-transition period until 1992 up to 26 in 1993 and then more or less stabilising 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.

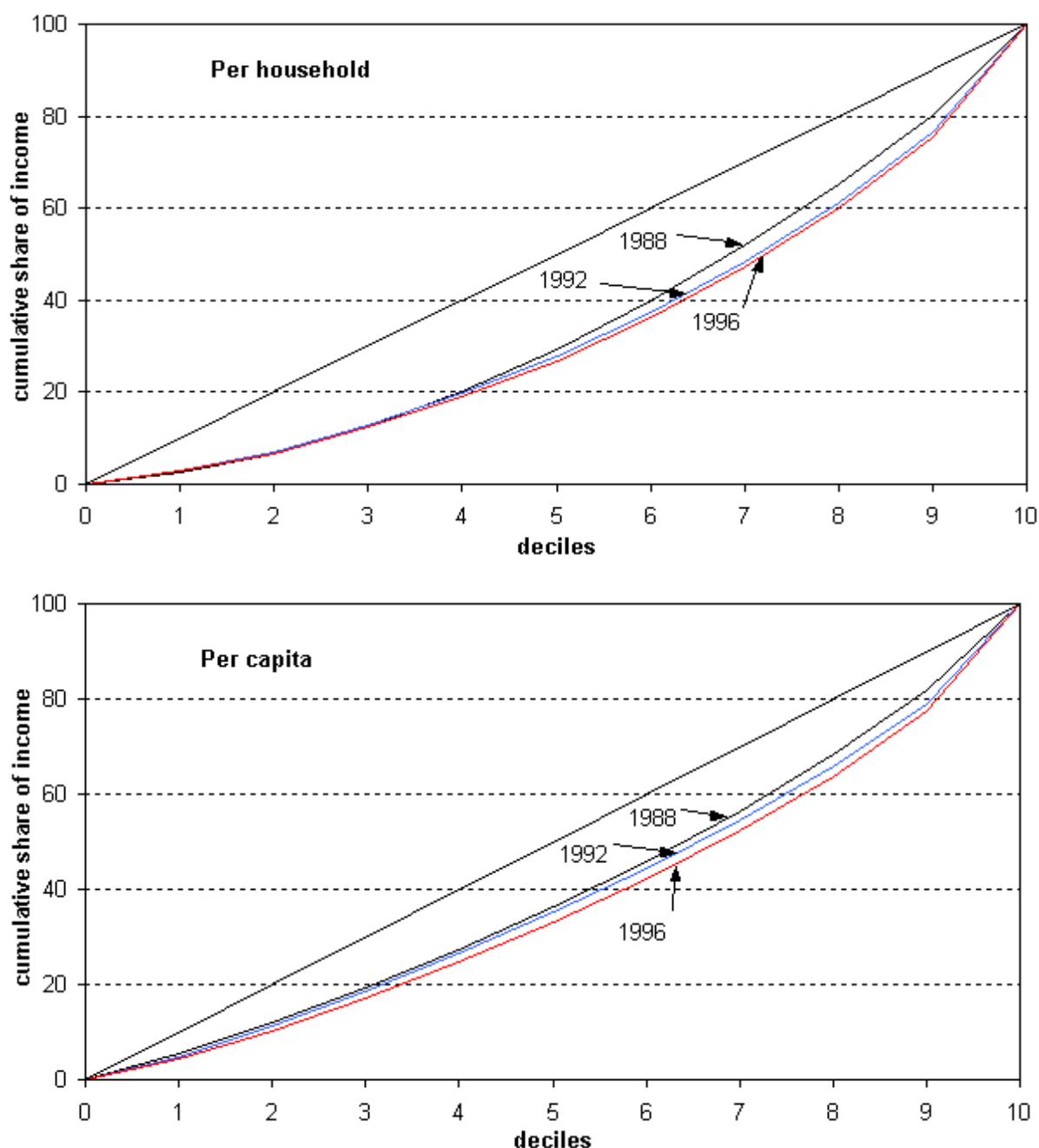


**Figure 3 Gini coefficients 1988 to 1997**

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 northeastward 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 (see Vecernik) per capita and per household.

The survey results per capita (figure 5) confirm the more rough 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 6 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<sup>3</sup>. 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 losses of one member of the household



**Figures 4 and 5 Decile income ratios per household and capita, 1988, 1992 and 1996**

could be compensated at least partly by income increases of another member of the household. Vecernik (2000, pp. 14,15) suggest that two effects have contributed to this result:

<sup>3</sup> For the ideological background of this observation see Vecernik (2000).

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 1 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 the income distribution more or less maintained its position, while the upper half lost slightly. Between 1992 and 1996 this picture reversed<sup>4</sup>. Over the whole period the middle shares of income distribution were squeezed. The household statistics show that the lowest and highest income categories have grown and middle categories lost more than 10 per cent. In per capita only the top decile has gained and the lowest income decile lost 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 1999, 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 1    Distribution of household income according to decile shares and real growth  
(in percent), 1988, 1992 and 1996**

Decile Share	Per household (HH)			Per capita (PC)			Real growth in 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

*Sources: Microcensus 1988, 1992 and 1996.*

Income per capita is weighted by persons.

<sup>4</sup> 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 (see Vecernik 1999).

Demographic and sociological changes, which are not subject of this analysis, are 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 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. A hypothetical explanation**

One aspect of transition economics is that available data are in transition themselves<sup>5</sup>. 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 conventional wisdom 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 that income dynamics of transition in Europe can be graphed in such a way (see for example Aghion/Commander 1999) and only Russia and the former Soviet Union (FSU) would follow a different path. The difference between the Czech Republic and (according to Keane/Prasad) Poland compared to Russia and FSU is however that we can not 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 stagnation of national income.

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<sup>5</sup> 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 per cent. Another example is the paper by Keane and Prasad (2000), which rejects Milanovic's findings on empirical grounds for the case of Poland. These authors come to similar results for Poland as this paper does for the Czech Republic.

Two explanations are tempting, but not pursued here. Firstly, neoclassical economics could rely on the explanatory power of the Cobb-Douglas type of production function and not expect anything to happen within functional income distribution whatever changes in production are happening. According to substitution elasticity of factor shares there is no need for any explanation for 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 in the Czech case we do find a dramatic fall in output as in many other transition economies. 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 mechanics 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<sup>6</sup>. Also overall employment within the state sector was extraordinarily high even for socialist economies, so that the conversion of the ‘Transatlantic Consensus’ from the mechanics 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 do point into the direction of the labour market. But 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 footnote no. 1). A more usual definition would include liberalisation, privatisation and stabilisation (see for example Hölscher 1998) and call for a broader picture. 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 is not the case for the Czech Republic after 1992.

For the coincidence between liberalisation and stability in income distribution I 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 included into this study. Schneider/Enste (2000) present data that introduce the Czech Republic (differing according to estimation method) 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 the

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<sup>6</sup> This phenomenon is about to change, as large state enterprises, which kept employment at high level are under reconstruction now.

black economy in the initial transition period of 1989-90 to 1990-93 on average as percentage of GDP from 6.4 to 13.4 (according to the Johnson et al. method, see Schneider/Enste 2000, p. 101) in the Czech Republic. If we assume that profits are not declared, then higher income categories have benefited most from moving into the black economy. Also the lowest category of income, which were characterised by a high number of children might be part of the shadow economy, as this group consists largely of Roma families, who in tendency have more children but are not officially registered. 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 a lack of investment into education. This argument does also contribute to stagnation and 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, I would argue that the peculiar circumstances of the Czech financial sector played an important role for 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 to 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) stating “growth is good for the poor”, depending on the state of development in economies of transition. Taking Barro’s \$ 2000 threshold not serious but as an illustration, it could be that inequality is too low to allow for the emergence of the Kuznets curve. Not even Barro would go so far 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 insights won from the study of the Czech case is that a causal relationship between general income creation or even growth and equality in terms of an interpretation of the direction has to be very careful. Income distribution seems to be a social variable to be seen in its entire historical context<sup>7</sup>. Even if the Kuznets curve can be observed as an empirical regularity the explanation for this regularity remains dubious. Barro derives his solution won from a multi-country panel over various decades by drawing a line between bunches of singular points. It seems that the state of the profession has reached the other extreme of so-called “laws” of income creation and distribution of the 1960s and not very much is known about its interrelationship by now.

Progress however has been made in measurement and data collection. This is not always true for transition economies, where assessments become outdated by a turn of facts sometimes very quickly. What could be said about the Czech economy is, that it is certainly not inequality that hampers growth, 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 for rejection of universal laws, which in fact are empirical observations only, could be made. In this study demystification of the J-curve of transformation as well as a Kuznets curve of transition in Eastern Europe are considered to be the major contribution to progress in economic knowledge.

Furthermore, it could be shown that in the Czech case not only conventional wisdom of transition economics is false, but also that 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<sup>8</sup>. The macroeconomic component on income distribution looks at income distribution as result of economic

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<sup>7</sup> For a wide ranging institutional approach see Tomann (2000) or Hölscher (1996).

behaviour towards risk. Here the infrastructure for investment into education is the key variable for growth and development.

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<sup>8</sup> Greenwood and Jovanovic (1990) approached this question within a general equilibrium framework without uncertainty.



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