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Growth and Convergence in the Central and East European Countries towards EU /1992-2002/

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Growth and Convergence in the Central and East European Countries towards EU /1992-2002/

Aleksandar Vasilev*

Abstract:

The main focus of the paper is the growth process in transition countries in the period 1992-2002, by taking the production function approach. The empirical cross-section study performed found that initial life expectancy and net savings speed up growth while death rate, inflation, and terms of trade hamper the increase in GDP. The paper also aims at policy implications, such as better spending in the legal system, health care and social security could help governments foster the restructuring process and decrease the effect of the mistakes done in the past.

Keywords: growth, transition countries

JEL Classification:

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I. Introduction

Economic growth is a relatively recent field of study, although Adam Smith mentions the subject in 1776 in his famous book *The Wealth of Nations*. That is maybe the most interesting topic in development economics nowadays. A single-digit number of growth per year may not seem to make a big difference when viewed on an annual basis, but it makes a significant change for the next generations. That is why economists are interested what drives the phenomenon that brings such “extraordinary beneficial consequences”(Ray 1997).

In economic terms, growth is the result from diverting resources from current consumption in order to finance investment, which is a way to enhance future production. That would mean more future consumption as well. The higher the level of output, the higher the income, since everything produced belongs to somebody in the economy. The sources of income equal the expenditure on output (Sullivan).

We observe a positive rate of economic growth when the level of new investment exceeds the rate of capital depreciation. Investment can be new equipment that overcompensates for the worn out machinery, when we talk about physical capital; or fresh graduates with better skills, who take the places of the retired workers in the case of investment in human capital. This allows the cycle in the next period to occur on a larger scale; subsequently, the economy expands. If the above mentioned condition is not fulfilled, the stagnation or even shrinking of the production results.

After the fall of Communism, transition countries experienced a significant output fall. Spiraling inflation, ballooning deficits and huge external debts complemented this shock. The latter greatly impeded the expansion of the economy and resulted in lower incomes overtime.

The transition countries' story is different from that of a developing country in a fundamental way. Countries in the region have already industrialized economies, the labor force has the technical expertise, and the capital base, although significantly depreciated, is in place. Large enterprises are also there.

Transition countries are different, with their specific history setting, political environment and cultural features, nevertheless, they share many common characteristics. The best example is that the growth model that the Soviet regime imposed on the countries was based on an extensive, rather than intensive type of growth. Transition countries grew initially during Communism because of the increase in capital and labor force, not due to increased productivity of the inputs. As property rights were blurred, there were no incentives to improve technologically, to acquire new knowledge, or to establish new firms and thus create welfare.

Roland (1997,2000) suggests the important role played by the geo-political factor. According to him, economists could interpret transition as a very important geopolitical move, namely the shift to Central Europe and subsequently to the West. The danger of being left out of such a club acts as a credible threat, increasing the cost of policy reversals. That explains the mild transformation in the countries of Central Europe. Moreover, Czech Republic, Hungary and Poland engaged in a race for being the most advanced transition country. The reward was the lion share of foreign direct investments. The prize was luring enough to stimulate the rapid development of credible transformation.

For the transition countries to catch up with the developed ones, market-based reforms should be carried on to the end. Like in developing countries in the case of infectious diseases there is a bundle of viruses that have to be exterminated in order to efficiently decrease mortality rates. The situation in transition countries is much similar. There is a threshold package of reform measures that have to be made in order for the economy to boost up. Otherwise, partial reform makes no good. It usually increases inequality and poverty among the citizens. Interest groups prevent further reforms because they will decrease the rents that could be extracted. The benefits cannot spill over the low-income layer of society.

There should be a massive and consistent fiscal boost to all levels in the spheres of education and law. They would provide the basis for institutional stability. It takes time to built stable institutional framework but it is a necessary prerequisite for sustainable growth. The annual out put growth of 4-5% is remarkable but when the production is compared to its pre-transition level, it becomes obvious that most of the countries are still

on the starting line of the road to market economy. Moreover, most of the countries have to do a better job in order to catch up with the European Union (EU) states.

The specific geographical and historical factors acted as boosters to development of some countries and setbacks for the others. Central European countries such as Hungary, Poland and Czech Republic demonstrated amazing results. They started early and carried out structural reforms in a timely manner. The physical proximity to Western Europe helped for the large inflow of foreign investment. What was even more important, was the fact that they were not under totalitarian regimes of the Soviet type.

This kind of command economy had a devastating effect on the countries in the Balkans and the republics from the former Soviet federation. The party direction erases all forms of social organizations. It took all the power from people, their ability to act in their own interest. Socialist planning debilitated people so that they could be governed easier.

There should be a careful sequencing of the economic policy. Professor Rant explained in a talk show from January 2004 on the Bulgarian Television bTV that policy is like preparing a meal: you need the right ingredients first. Then those should be put in the right order and in the right proportions to produce the optimal mix.

Competition policy should be among the first to be implemented in transition economies. Roland (2000) point out that privatization without a competitive framework developed monopolies that in most of the cases had enough power to capture the state apparatus and prevent the introduction of a competition policy, as well as any other measures that did not suit their interests.

That is the embarrassing evidence from the first decade of transformation and transition to a market-based economy. Politics was the driving force of reform instead of economic reasoning. A lot of people at the top engaged in spontaneous privatization and tunneling. This led to the establishment of oligarchs, newly rich businessmen running big enterprises in an inefficient manner. They do not exert optimal effort as long as they capture an excessive share of their relevant market. Still, their lobbies in the government are so powerful that they direct the course of the economic policy, or a lack of such. Some scholars (qt. in Roland) warned against the macroeconomic consequences of giveaway privatization. Every citizen received vouchers, which were used to buy shares in state enterprises. Unfortunately, in the case of Russia and Bulgaria, mass privatization

deprived government of most of the assets. Too little cash entered the budget. Moreover, the inability and in most of the cases, slowness in creating an efficient tax administration led to breakdown. This caused a general insecurity of property rights. To reverse such a situation is very difficult because the strong industrial groups use the weakness of the government to block any reform in taxation. Few strategic investors with technical know-how were attracted to the country. From state monopolies, enterprises turned into private monopolies, with almost no change in their governance structure and no significant investment.

There is some light at the end of the tunnel after all. Thanks to continuing discussions with IMF experts, macroeconomic stability was achieved, a stop was put to most of the protectionist tariff regimes, and trade was liberalized. Together with tight budget requirements, which led to better management of the country resources on an aggregate level. Unfortunately, those countries have to start from scratch in making markets and establishing suitable institutions.

This paper studies the factors for growth in ex-communist countries in the period 1992-2002. Although there is significant variation in growth performance across the countries, they share much more similarities than differences with one another. The main focus of the empirical study is the growth process in transition countries.

This paper studies those factors that influenced growth, by taking the production function approach. The main goal is to explain the expansion on the economies in transition over the last decade. We also aim at revealing policy implications that could help governments foster the restructuring process and decrease the effect of the mistakes done in the past.

The rest of the paper is organized as follows: Part II briefly discusses the literature. Part III describes the model and data. Part IV explains the results. Part V concludes.

II. Literature overview

Robert Solow's fundamental article, published in 1956, was the first to discuss economic growth. Solow assumes a standard neoclassical production function, which

features diminishing returns to capital. The savings rate and population growth rate are considered exogenous, their values are taken as given. Solow shows that the level of output per capita in equilibrium depends on savings and population growth rate. With different rates of savings and population growth rate, different countries reach different steady states. The higher the savings rate, the richer the country will be, while the higher the population growth rate, the poorer the country in per-capita terms. The model leaves a large portion of the growth unexplained, though. Soviet planners perceived this model as a policy menu, from which they could choose suitable values to achieve certain ends.

Nelson and Phelps (1966) note that the process of education can be viewed as an investment in people, since they are bearers of human capital. The return to education is greater when it is complemented by a technological progress in the economy. According to the authors, education produces positive externalities such as knowledge spillovers, so that the social benefit of education is much higher than the private one.

Barro (1991) comes forth with some regularities about growth, fertility and investment in his fundamental study. He uses the school-enrollment rates as a proxy to measure initial human capital, and finds this factor significant and positively related to growth. Also, countries with high human capital are usually the ones with low fertility rates and high ratios of physical investment to GDP. Barro finds government consumption as a proportion of GDP to hinder economic growth. He explains that phenomenon with the taxes imposed to afford such consumption and the distortions in agents' behavior that resulted thereof, e.g. decreased incentive for investment. He found price distortions to slow down growth, while public investment, does not explain growth in the period he researched. Political instability is another factor that he finds significant in impeding growth. Insecure property rights have an adverse effect on the level of private investment.

Mankiw et al (1992) find that higher saving rate leads to higher income in steady state. That in turn leads to a higher level of human capital, even in cases where the rate of human-capital accumulation is held constant. Thus, they show that higher saving rate raises total factor productivity (TFP). On the contrary, population growth lowers income per capita because the available capital is spread over a larger pool of workers. This implies that higher population growth lowers TFP. They explain the variation in income

per capita to be determined by the cross-country difference in tax policies, education policies, fertility, and political stability.

Fischer and Sahay (in Orlowski 2000) run three panel regressions explaining growth performance with updated data from 1998. They contain two types of explanatory variables: macroeconomic policy variables (inflation and fiscal balance) and structural reform variables captured by the liberalization index, EBRD indices and the share of private sector. All three results confirm that the anti-inflation policies and structural reform policies were beneficial to growth. Authors conclude that price liberalization and small-scale privatization contributed more to growth than large-scale one.

Barro and Sala-i-Martin (1992) find evidence of convergence in their sample, but only a conditional one. When initial school enrollment rates and government consumption/GDP are held constant, the rates of convergence are approximately the same as the ones they found for US states. With the same technology, the introduction of international capital markets speeds the convergence of output, but slows down the convergence for income per capita. According to them, that is due to the limited ability to borrow in order to finance accumulation of physical and human capital. On the other hand, mobility of labor and technology tends to speed up the predicted rate of convergence.

Empirical studies of growth often employ cross-national regressions. Along with capital and labor, these studies include other variables, such as education as a proxy for human capital, inflation, political instability, democracy, population growth, latitude, and regional dummies.

III. Model and Data

The model will try to capture both macroeconomic factors as well as some institutional and legal deficiencies. The econometric model we plan to test empirically, is the following:

$$Growth_i = \alpha + \beta_1 Netsav + \beta_2 TOT90 + \beta_3 Death + \beta_4 Life_ex + \beta_5 M2Gr + \varepsilon$$

This is a standard linear multiple regression equation, which uses cross-sectional data. Thus the author eliminates a possible correlation among the variables, as it is the case with time series data. Moreover, it is very difficult to find long series of data for an individual country. Ordinary Least Squares (OLS) method of estimation of the coefficients will yield unbiased, consistent and efficient estimates.

A Breusch-Pagan Lagrange multiplier test for heteroscedasticity was performed as suggested in Ramanathan (1998): The main regression is run and the unstandardized residuals are saved. Then a new variable is computed by squaring them. An auxiliary regression was run, squared residuals being the dependent variable. The test statistic $LM = nR^2 = 22 * 0.077 = 1.694$, where n is the number of observations used in the estimation of the auxiliary regression and R^2 is the unadjusted R^2 from that regression. $LM < \chi^2 = 33.9244$ with 22 degrees of freedom at 5% level of significance

So we cannot reject the null hypothesis that all the coefficients in front of the variables are not significantly different from 0. That means there is no evidence to support presence of heteroscedasticity, so OLS will be the estimation procedure, providing BLUE (best linear unbiased estimators)

Below we provide short description of the data used in the regression. The variables are from 90 and 91 (initial conditions) and explain the growth during the period 1992-2002. Thus the problem of simultaneity is avoided.

GROWTH – is the average growth rate in GNI per capita in the period 1992-2000

LIFE_EXP – life expectancy at birth is the number of years a newborn infant would live if prevailing patterns of mortality at the time of his birth were to stay the same throughout its life. Since the indicator is stable over the decade, the data is from year 2000.

NETSAV – gross national savings are calculated as the difference between GNI and public and private consumption, plus net current transfers; as a percentage of GNI held by residents.

TOT90 - net barter terms of trade in 1990 are calculated as the ratio of the export price index to the corresponding import price index measured relative to the base year 1995.

DEATH - crude death rate is the number of deaths occurring during the year, per 1,000 population estimated at midyear.

M2GR – M2 aggregate comprises the sum of currency outside banks, demand deposits other than those of the central government, and the time, savings, and foreign currency deposits of resident sectors other than the central government. This definition of the money supply corresponds to lines 34 and 35 in the International Monetary Fund's (IMF) International Financial Statistics (IFS). The change in money supply is measured as the difference in end-of-year totals relative to M2 in the preceding year.

All the data, together with the definitions of the variables used, is from the CD ROM version of *World Development Indicators 2003*.

IV. Explanation of the results

The table with the regression output is shown in Appendix I. The model's R sq. is 57.9%, which indicates that the model explains a significant part of the growth rate. In other words, the mentioned percentage of the explained variance is successfully explained by the variables included in the regression, while the other 42.1% are due to errors or factors not included in the model. For cross-section model, this indicates an acceptable model.

The joint significance F-test was also performed. We looked at the p-value of the F-statistic, which was close to zero. This means we can safely reject the hypothesis that all the coefficients are zeros even at 1 % level of significance.

All the variables included in the model have individual explanatory power over growth in 1992-2002. Most of them are statistically significant at 1%, with the exception of TOT90 and M2GR, which are significant at 8% level of significance.

The **constant term** has a negative value. This implies that when we do not have any production resources, the output will fall year after year. That fact is consistent with our intuition: if we have some assets from last years and we produce something using the

same assets over the 10-year period, as a result they will deteriorate. The proceeds we would get in the subsequent years will be smaller and smaller.

LIFE_EXP is an important contributor to growth. The longer the citizens of a particular country live, the greater the time they could provide the economy with the flow of labor services. The benchmark here is Switzerland where the life span is 80 years both for males and females.

This variable suggests something about the quality of life as well. Aslund (2002) advocates the proposition that vodka in Russia was to blame for the decreased male life expectancy in the years of transition. Looking at the **table** in the appendix, we note that almost all transition countries with the exception of Central European ones registered a drop in their male life expectancy levels.

The explanation for that phenomenon is that there is little uncertainty in developed countries; everything there is well organized. In transition countries, however, institutions are still in a developing stage; they are not working in the most efficient way. Institutions in transition countries cannot provide the necessary level of security and certainty of outcome to the citizens. The fears about what will happen tomorrow cause distress and unrest in the people, which decreases their life expectancy.

Transition countries still have high level of human capital that was developed under totalitarian regimes. Most of it, however, is not suitable for market conditions. While traditionally people from the region have good quantitative skills, they severely lack marketing, entrepreneurial and customer service skills, which are the prerequisite for starting a small-scale business. With the contemporary educational expenditure cuts in the government budget, it may turn out that the high levels of human capital are unsustainable in the new environment.

A possible way to alleviate those negative effects, is increased labor mobility. Thus a laborer could go to a place where the value of his services is the highest. Together with the learning-by-doing phenomenon, that would augment the stock of knowledge. Labor mobility is still low in the countries from the region, though. The explanation for that phenomenon besides the non-existent labor market, was the geographical concentration of particular industries that were built according to the central planning. Whole regions were dominated by a 'dinosaur', a monopolistic producer who provided employment to whole

towns in a segmented market, protected with high state tariffs imposed on competitors and subsidies to loss-making enterprises when needed.

The rudimentary housing market exacerbated the problem. A worker was prevented from going to a factory where he could get a higher wage because he cannot sustain his move there. His previous wage was received in kind and it incorporated social benefits such as vacations to state-owned resorts, health plans, etc.

DEATH has a negative correlation with growth. The population of all transition countries features a high percentage of old people, currently between a fourth and a third. When combined with the low birth rates and high emigration of young people to the West, those statistics provide a worrisome trend for the future.

The significant number of old people in the population will increase the demand for health services. The network of state hospitals, faced with severe budget cuts, would not be able to meet all their needs. The other option, which constitutes going to a private hospital, is still not up to the pocket of retired people. Seeking political support, finance ministers in transition countries often succumbed to the social pressure and allowed for higher spending in the health care system (look at [table in the appendix](#)), which diverted funds that could have been channeled to worthwhile investment projects. In that case, a persistent increase in health expenditure could decrease future growth prospects.

Moreover, there is a need for structural reform in the ways hospitals are managed. The subsidies should be discontinued. More should be spent on preventing instead on treating diseases. The whole image of the hospital as a dreadful place has to be changed. A person experienced in business should head each hospital and not a doctor, as it was the practice till recently. The viability of this option, however, depends on the development of the market for managers, which is still in its early stage.

The social security system is burdened as well. The state budgets are already tight, and there is no way to increase pensions. Under the old system, called pay-as-you-go (PAYG), pensioners were promised by the government that they would be given the purchasing power to afford goods produced by younger people after their retirement (Barr 2000). That kind of arrangement stated that current workers support current pensioners. In the initial years of transition pension funds were the first ones to be depleted by government officials. Together with the fact that one current worker was supposed to

contribute to the pensions of up to four retired people, it was a matter of time when the social security system was about to explode.

Pensioners became an important social group that pressed for increase in pensions, thus blocking any attempt for market reform. They were enough in number to elect or dethrone governments. There was a need to change the way people in the region thought about pensions. Those were not something the government was obliged to grant, but rather based on the wage saving one has made during his working period.

In some of the countries, e.g. Bulgaria and Kazakhstan, the three-pillar system was introduced. (For more details, look at the table below).

Progress of pension reforms in the transition countries

Country	Fund. reforms	Second pillar	First pillar	Third pillar
Hungary	***	***	***	***
Poland	***	***	***	***
Kazakhstan	***	***	***	—
Ltvia	***	***	***	**
Croatia	**	**	**	**
Estonia	**	**	***	***
Romania	**	*	***	*
Macedonia	**	***	***	*
Russia	**	**	**	**
Slovenia	*	—	***	***
Bulgaria	**	**	**	**
Czech Rep.	*	—	***	***
Slovakia	*	*	**	***
Ukraine	**	**	**	**
Armenia	*	—	***	*
Georgia	*	—	***	***
Lithuania	*	—	***	**
Albania	—	—	***	***
Kyrgyz Rep.	*	—	***	—
Uzbekistan	*	—	*	—
Azerbaijan	*	—	*	—
Moldova	*	*	**	**
Belarus	—	—	*	—
Bosnia&Herzegovina	—	—	*	—
Tajikistan	—	—	*	—

Note: *in preparation, **approved, ***legislated
Source: Rutkowski (2000)

This reform arrangement was proposed by Western advisors and was gradually implemented in the social safety net. The first pillar represented the old system, those born after 1969. The others, born after that year were to choose a pension fund, where they contributed money for their future pensions. If they had no preference for one, a fund was appointed to them at random. That is a funded scheme, it is based on the accumulation of financial assets through time. By saving part of the wage, a sum of money is built up, that will be used by the worker after s/he retires. The third pillar is voluntary, the worker can decide to contribute more now so that a higher pension is received in the future. The risks connected with the above mentioned system is the underdeveloped financial market and the high market risk because of the great uncertainty in the environment

Together with the implementation of the system, the retirement age was increased, so workers had to exercise labor for a couple of years more. That decreased the number of pensioners and the retired people a worker should 'take care after', but not the quality and productivity of labor. Moreover, there is a hot debate whether the old pension ceiling should be abolished. On the one hand, there are people, who are hurt by the law, such as miners. They are not compensated for the hard conditions they worked in. But on the other hand there are the former Nomenklatura managers who gave themselves excessive bonuses without exercising too much effort. So this problem has no easy solution; a careful cost-benefit analysis should be performed before trying to abolish the status quo.

TOT90, which measures the initial price ratio in the pre-transition years, is negatively correlated to subsequent growth. That fact conforms to economic theory and reality. The old Soviet system featured no real exchange rate since no decentralized trade was allowed. In the last years of the pre-transition periods, as Aslund (2002) notes, different exchange rates existed for particular goods and enterprises. Such exchange rates played the role of tariffs or taxes. In countries like Hungary, Czechoslovakia and Poland there was black market exchange rate, commercial rate, and an official one. During the transition to market economy, a process of unification of the exchange rates, but that was only implemented gradually. The liberalization of exports was the easy part because people were already

suffering from the shortage of goods. The liberalization of exports, however, proved to be more controversial and involved more complications.

A depreciated exchange rate was beneficial in encouraging exports, but it also implied significant losses in the terms of trade and thus depressed domestic demand. Moreover, as Bosworth and Ofer (1995) claim it caused foreign capital measured in domestic wage units to increase and thus pushes transition economies to reorient toward labor-intensive way of goods production. In most of the cases that was not a very appropriate measure in the post-transition period, because foreign competition cannot put a cap on domestic prices or provide any effective guidance on the domestic price system.

As a consequence, in the East European countries, state trade persisted for a long time and hindered external liberalization. Central European countries, on the contrary, performed rapid trade liberalization and reoriented their production to the West. This divergence lead to a structural difference between the EU accession countries and newly independent states (NIS).

When most of the tariffs protecting state industries from competition have been removed, enterprises realized they were not competitive on the world markets. Traditional markets were lost, and new ones had to be regained. The transition cost of restructuring is extremely high, though. NIS suffered from chronic CA deficit that persisted for a long time (table). This necessitated borrowing from abroad to finance the imports. The developed countries' governments willingly provided such financing. The outcome of those loans is that taxpayers in transition countries are still contributing to those debts (table).

Complete trade liberalization poses barriers to restructuring as well. Workers from current industries form a strong pressure group. They already have well-established lobbies that push politicians to delay some reforms keep the status quo at the expense of future growth prospects. Voters want significant increase in their real incomes and they want it as soon as possible. That is additional hindrance to reforms, since the reforms include painful effects in the short to medium run.

The political system always favors incumbents versus businesses that are not there yet. Employment for all workers was the social goal of the state, instead of pursuing

maximum profit. Managers were given explicit and implicit subsidies to maintain such an excess employment. As a result, that produced an inefficient outcome.

NETSAV are another vital prerequisite for growth in an economy. The more is saved, the higher the level of the funds that could be channeled to investment. The level of savings in transition countries was not determined by the forces of supply and demand. Former socialist countries administratively set level of savings too high, without regarding investment side. There were no private businesses to demand funds at that time, all investment decisions were made by party officials.

People from the region had holdings of cash in order to insure themselves in cases of adverse income shocks. Money under mattresses was the only option at that time in the form of forced savings. People held them but there were no goods they could purchase with them. Then it was easy to wipe out a significant part of people's savings was by monetary inflation (which was different from structural one) in the end of pre-transitional years.

Moreover, citizens from such countries are very risk averse. Still, they do not fully trust financial intermediaries; and we must admit they had bad experience with financial institutions e.g. Ponsy schemes - pyramidal structures that lured with excessive rates of return citizens to deposit their money in their bank, with no intention to pay back. The very first depositors were paid out of the incoming deposits, but the majority lost everything. There was no way for such structures to generate such an excessive return. Bank runs and currency crises during the initial years of transition wiped out private savings mostly because of the underdeveloped financial system and not well established boundary between state and private property. It is understandable then, why people do not invest so much; almost all of their income goes to finance present consumption. The marginal value of their savings is extremely high, and every unit of currency is treasured.

Aside from private savings, we should think about government savings. They are significant, but significantly negative, especially for former socialist countries. The state had the liability to cover the losses of the unprofitable enterprises. That is why IMF advises such countries to follow austerity regimes, which is basically to increase taxes and cut spending. Increased taxes would discourage investment and would drive up the interest rate. Most of the citizens, being 'target savers' will realize that today they have to put less

money in a deposit in order to obtain the same future value. Foreign advisors expect that the overall effect on national savings will be positive, because if not so, the country can be drawn into a deep recession since most of the propositions impede growth instead of fostering or sustaining it. That is one of the critiques of IMF for trying to curb inflation, that arose from monetizing the government debt, which is printing money, in transition countries, using such harsh measures.

M2Gr has the expected negative impact on growth. In order to respond to the adverse output shock in the 1990s, Communist central bankers printed money to regain output but at the cost of hyperinflation. They claimed following John Maynard Keynes that expansionary monetary policy would speed up growth. They did not pay much attention to the long-run inflationary effect, however. It must be made clear that no Central Banker at that time was a specialist in monetary economics but rather a loyal party member, who strictly followed all orders from the country rulers.

The heads of the national banks in transition countries used the seigniorage tax to pay the budget deficit. That monetization produced huge distortions. It led not only to a decrease in the real purchasing power of the households but also to lower real incomes over time. The so called “lost decade” in Latin America fully deserved its name.

The growth in M2 captures the effect of excessive credit, mostly in the form of connected lending. The state banks were a lot similar to Western non-for-profit organizations. They were not really screening worthwhile projects, but allocating credit to the loss-making state enterprises. When the loans were not repaid, the debt was rolled over and a new loan was granted. In this way whole credit lines existed in 1991 in most of the transition countries.

That factor is important from an institutional point of view as well. There was no clear notion of private property. The existence of soft budget constraints, which meant that almost infinite amounts of money could be spent regardless of the funds at hand, was a hindrance for the establishment of bankruptcy laws and liquidation procedures. Enterprise directors, which were appointed loyal Communist party members and incompetent in financial issues in most of the cases, engaged in rent-seeking activities instead of managing the enterprises in the best way they could. The absence of profit motive led to

the degradation of the equipment and human capital. There was no innovation, no new practices, etc.

Some of the managers used the existing loopholes in the law and sold enterprise assets, thus enriching themselves a great deal. The gap in the budget exploded from the abysmal inter enterprise debts that were never paid. At one moment the debts of the enterprises exceeded manifold their market price, which made them unattractive for privatization later on.

Even nowadays, insecurity of property rights makes firms reluctant to reinvest their profits even when they are high because of the fear of the predatory environment. Managers are very risk-averse and prefer to play safe. Institutional economics explains the collapse of the market but it does not say how to make one.

In my view, experts in financial law in collaboration with the Western advisors have to draft the necessary laws to be passed through the Parliaments of the transition countries in the very near future. The major loopholes, allowing for arbitrage opportunities have to be closed. Some of the most problematic areas in this aspect are building, renting and leasing, which are vital for everyday business practices.

V. Concluding remarks

Our study found significant the 1991 net savings, life expectancy, terms of trade in 1990, growth of M2 aggregate in explaining growth in the subsequent decade. The results follow the basic Solow's logic. Our findings also complement the results obtained by Barro (1991) and Mankiw et al. (1992). The value-added of this paper is that it provides a new perspective on the growth process in the transition countries on their way to EU. Special emphasis is paid on health care and social security as potential threats to the upward trend in the national income.

This paper provides some important policy implications. The expected accession to NATO, and subsequently, EU will act as a signaling tool to the investors. That however, is not enough for a significant inflow of foreign direct investment (FDI). Some soft factors, such as court system and financial regulations are of higher importance for the prospective investor in defining property right and enforcing the rule of law. The author was pleased to

notice that Bulgarian 2004 state budget featured greater proportion of money to be allocated to the Ministries of Justice and Education.

Larger and better-educated labor force, with skills demanded by the market conditions would also bring higher growth. Thus, a bigger portion of the funds from the state budget should be directed towards these spheres, as the marginal returns there are highest. Here is the business social role to establish the connection with the institutions for higher education. Companies have to convey the message of professions currently in demand, as it was done with lawyers in Bulgaria. A ranking done by the very businesses should be published so that it becomes transparent graduates from which universities are of higher quality.

More savings, low inflation and macroeconomic stability, together with better financial intermediation will result in more loanable funds available. The latter should be directed to the owners of small and medium enterprises that need fresh capital in order to expand. More taxes will enter the state budget, and more money will be available for government investment and spending. A virtuous circle will take place, which would result in increased growth overtime.

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Appendix I Regression output

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
GROWTH	28	-8,50	4,50	-1,1214	3,36841
DEATH	28	6,00	16,00	10,0357	3,12080
NETSAV	28	-9,50	26,80	7,3571	7,47026
TOT90	28	,00	145,00	40,9286	53,23945
M2GR	28	-10,50	83,30	25,1321	20,00704
Valid N (listwise)	28				

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,810 ^a	,657	,579	2,18685

a. Predictors: (Constant), TOT90, M2GR, DEATH, NETSAV, LIFE_EXP

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	201,137	5	40,227	8,412	,000 ^a
	Residual	105,211	22	4,782		
	Total	306,347	27			

a. Predictors: (Constant), TOT90, M2GR, DEATH, NETSAV, LIFE_EXP

b. Dependent Variable: GROWTH

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-33,583	9,143		-3,673	,001
	NETSAV	,285	,064	,633	4,458	,000
	LIFE_EXP	,506	,128	,567	3,970	,001
	M2GR	-4,6E-02	,024	-,274	-1,894	,071
	DEATH	-,339	,147	-,314	-2,297	,032
	TOT90	-1,7E-02	,008	-,263	-1,967	,062

a. Dependent Variable: GROWTH

Appendix 2 Auxiliary Regression: Test for Heteroscedasticity

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,277 ^a	,077	-,133	4,02286

a. Predictors: (Constant), M2GR, TOT90, DEATH, NETSAV, LIFE_EXP

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29,511	5	5,902	,365	,867 ^a
	Residual	356,034	22	16,183		
	Total	385,545	27			

a. Predictors: (Constant), M2GR, TOT90, DEATH, NETSAV, LIFE_EXP

b. Dependent Variable: SQRES

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,291	16,820		,077	,940
	NETSAV	3,50E-02	,118	,069	,297	,769
	TOT90	8,83E-03	,016	,124	,568	,576
	DEATH	,129	,271	,107	,477	,638
	LIFE_EXP	-2,3E-03	,235	-,002	-,010	,992
	M2GR	2,84E-02	,045	,150	,634	,533

a. Dependent Variable: SQRES

Table 1: Countries in Transition: Annual percent change in Real GDP

	1981-91	1992	1993	1994	1995	1996	1997	1998	1999
Albania	-2.6	-7.2	9.6	9.4	8.9	9.1	-7.0	7.9	7.2
Belarus	n.a	-9.7	-7.0	-12.6	-10.4	2.8	10.5	11.6	-2.4
Bosnia & Herz.	n.a	n.a	n.a	n.a	32.4	85.8	39.9	12.8	8.6
Bulgaria	0.3	-7.3	-1.5	1.7	2.2	-10.9	-6.9	3.5	2.4
Croatia	n.a	n.a	8.0	5.9	5.7	5.9	6.8	2.5	-0.3
Czech Republic	n.a	n.a	0.1	2.2	5.9	4.8	-1.0	-2.2	-0.2
Czechoslovakia	0.3	-8.5	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Estonia	n.a	-21.6	-8.2	-2.0	4.3	3.9	10.6	4.7	-1.1
Hungary	-0.4	-3.1	-0.6	2.9	1.5	1.3	4.6	4.9	4.5
Latvia	n.a	-35.2	-16.1	0.6	-0.8	3.3	8.6	3.9	0.1
Lithuania	n.a	-21.3	-16.2	-9.8	3.3	4.7	7.3	5.1	-4.1
Macedonia	n.a	n.a	-7.5	-1.8	-1.1	1.2	1.4	2.9	2.7
Moldova	n.a	-29.7	-1.2	-31.2	-1.4	-7.8	1.3	-6.5	-4.4
Poland	0.2	2.6	3.8	5.2	7.0	6.0	6.8	4.8	4.1
Romania	-0.8	-8.8	1.5	3.9	7.1	3.9	-6.1	-5.4	-3.2
Slovak Rep.	n.a	n.a	-3.7	4.9	6.9	6.6	6.5	4.4	1.9
Slovenia	n.a	n.a	2.8	5.3	4.1	3.5	4.6	3.9	4.9
Ukraine	n.a	-17.0	-14.2	-22.9	-12.2	-10.0	-3.0	-1.9	-0.4
Yugoslavia	-2.3	-34.0	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Russia	n.a	-19.4	-10.4	-11.6	-4.2	-3.4	0.9	-4.9	3.2
Armenia	n.a	-52.6	-14.1	5.4	6.9	5.9	3.3	7.2	3.3
Azerbaijan	n.a	-22.7	-23.1	-19.7	-11.8	1.3	5.8	10.0	7.4
Georgia	n.a	-44.9	-29.3	-10.4	2.6	10.5	10.7	2.9	3.3
Kazakhstan	n.a	-5.3	-9.2	-12.6	-8.2	0.5	1.7	-1.9	1.7
Kyrgyz Rep.	n.a	-13.9	-15.5	-19.8	-5.8	7.1	9.9	2.1	3.6
Mongolia	3.5	-9.5	-3.0	2.3	6.3	2.4	4.0	3.5	3.3
Tajikistan	n.a	-28.9	-11.1	-21.4	-12.5	-4.4	1.7	5.3	3.7
Turkmenistan	n.a	-5.3	-10.0	-17.3	-7.2	-6.7	-11.3	5.0	16.0
Uzbekistan	n.a	-11.1	-2.3	-4.2	-0.9	1.6	2.5	4.3	4.4

Note: Data for some countries refer to real net material product (NMP) or are estimates based on NMP. For many countries, figures for recent years are IMF staff estimates. The figures should be interpreted only as indicative of broad orders of magnitude because reliable, comparable data are not generally available. In particular, the growth of output of new private enterprises of the informal economy is not fully reflected in the recent figures.

World Economic Outlook

Table 2 Countries in Transition: Annual percent change in Consumer Prices

	82-91	1992	1993	1994	1995	1996	1997	1998	1999
Albania	3.1	226.0	85.0	22.6	7.8	12.7	33.2	20.6	0.4
Belarus	n.a	969.0	1,190.2	2,434.1	709.3	52.7	63.8	73.0	293.7
Bosnia& Herz	n.a	n.a	n.a	n.a	-4.0	-25.0	14.0	10.8	5.0
Bulgaria	21.3	82.0	72.8	96.0	62.1	123.0	1,082.2	22.3	2.1
Croatia	n.a	n.a	1,516.6	97.5	2.0	3.5	3.6	5.7	4.2
Czech Rep	n.a	n.a	20.8	10.0	9.1	8.8	8.5	10.6	2.1
Czechoslovak.	7.0	11.0	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Estonia	n.a	1,069.0	89.8	47.7	29.0	23.1	11.2	8.2	3.3
Hungary	13.5	22.8	22.4	18.8	28.3	23.5	18.3	14.3	10.0
Latvia	n.a	951.3	109.1	35.8	25.1	17.6	8.0	4.7	2.4
Lithuania	n.a	1,021.0	410.4	72.1	39.5	24.7	8.8	5.1	0.8
Macedonia	n.a	n.a	338.7	127.5	15.7	2.3	2.6	-0.1	-0.7
Moldova	n.a	1,276.0	788.5	329.6	30.2	23.5	11.8	7.7	39.3
Poland	77.7	43.0	35.3	32.2	27.9	19.9	14.9	11.8	7.3
Romania	22.5	210.4	256.1	136.7	32.3	38.8	154.8	59.1	45.8
Slovak Rep	n.a	n.a	23.0	13.4	9.9	5.8	6.1	6.7	10.7
Slovenia	n.a	n.a	32.9	21.0	13.5	9.9	8.4	8.0	6.1
Ukraine	n.a	1,210.0	4,734.9	891.2	376.4	80.2	15.9	10.6	22.7
Yugoslavia	155.9	6,146.6	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Russia	n.a	1,734.7	874.7	307.4	197.4	47.6	14.7	27.7	85.9
Armenia	n.a	824.5	3,731.8	5,273.4	176.7	18.7	14.0	8.7	0.7
Azerbaijan	n.a	912.6	1,129.7	1,664.0	412.0	19.7	3.5	-0.8	-8.3
Georgia	n.a	887.4	3,125.4	15606.5	162.7	39.4	7.1	3.6	19.1
Kazakhstan	n.a	1,515.7	1,662.3	1,879.9	176.3	39.1	17.4	7.3	8.4
Kyrgyz Rep	n.a	853.8	772.4	190.1	39.1	31.9	23.4	10.3	35.7
Mongolia	2.1	202.6	268.4	87.6	56.8	46.8	36.6	9.4	7.6
Tajikistan	n.a	1,156.7	2,194.9	350.4	610.0	418.2	88.0	43.2	27.6
Turkmenistan	n.a	492.9	3,102.4	1,748.3	1,005.2	992.4	83.7	16.8	23.5
Uzbekistan	n.a	645.2	534.2	1,568.3	304.6	54.0	70.9	29.0	29.1

Note: For many countries, inflation for the earlier years is measured on the basis of a retail price index. Consumer price indices with a broader and more up-to-date coverage are typically used for more recent years.

World Economic Outlook

Table 3 Countries in Transition: initial conditions, 1989 - 1991

Country	PPP adjusted GDP per capita ¹ (1989)	Share of CMEA trade in 1990 GDP ²	Share of agriculture ³	Natural Resource Endowment ⁴	Distance from Dusseldorf (km)	Years Under Communism	Foreign Debt in Pre-Transition Years(% of GDP)	Secondary School enrollment in pre-transition years(share of school-age population)
Albania	629	102	26	0	1494	45	36.9	0.78
Armenia	2453	21	11	0	3143	74	0	n.a
Azerbaijan	2466	33	22	2	3270	75	0	0.9
Belarus	6667	45	22	0	1435	75	0.1	0.92
Bulgaria	5740	15	11	0	1574	43	50.6	0.75
Croatia	6919	6	10	0	913	44	74.7	0.85
Czech Rep.	8207	10	7	0	559	43	12.2	0.91
Estonia	6475	27	20	0	1449	51	0	1
Georgia	2203	19	22	1	3069	70	0	0.89
Hungary	6081	10	14	0	1002	41	64	0.75
Kazakhstan	4133	18	29	2	5180	75	0	0.96
Kyrgyz Rep.	2770	21	33	0	1293	75	0	0.99
Latvia	5204	31	19	0	1293	51	0	0.89
Lithuania	3603	34	27	0	1299	51	0.2	0.88
Macedonia	3720	6	12	0	1522	44	0	0.57
Moldova	3562	25	32	0	1673	52	0	0.77
Poland	5687	17	13	1	995	42	63.4	0.82
Romania	3535	3	14	1	1637	43	2.9	0.92
Russia	5627	18	15	2	2088	74	12.1	0.91
Slovak Rep.	6969	10	7	0	824	43	6.8	0.96
Slovenia	11525	5	5	0	815	44	0	0.9
Tajikistan	1778	22	27	0	4938	75	8.6	1.01
Turkmenistan	3308	34	29	2	4254	75	0	n.a
Ukraine	4658	25	21	1	1664	75	0	0.91
Uzbekistan	2577	24	31	1	4788	75	0	0.98
Memorandum Items ⁵								
All transition	4660	23	19	1	2087	58	13.3	0.88
All CEE	5901	18	12	0	1134	43	31.1	0.82
CEE: early reformers	7565	9	9	0	851	43	36.8	0.87
CEE: late reformers	3406	32	16	0	1557	44	22.6	0.76
Baltics	5094	31	22	0	1347	51	0.1	0.93
Other FSU	3517	25	25	1	3066	73	1.7	0.92

Notes:

1. Calculated by dividing PPP adjusted GDP by total population
2. Share of intra-FSU trade in 1990
3. Share of agriculture in 1989 according to DDGT
4. Natural resource endowment according to DDGT (1997); 0 = poor, 1 = moderate, 2 = rich
5. CEE: early reformers refer to Croatia, the Czech Republic, Hungary, Poland, the Slovak Republic and Slovenia. CEE: late reformers refer to Albania, Bulgaria, Macedonia, Yugoslavia and Romania. Baltics refer to Estonia, Latvia and Lithuania. Other former Soviet Union refer to Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, The Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. Simple average for values.

Sources: World Development Indicator; World Economic Outlook; de melo et al. (DDGT) (1997); Krajnyak and Zettelmeyer (1997)

Table 4 Gross fixed investment, 1992 – 1999 (Annual percentage growth)

	1992	1993	1994	1995	1996	1997	1998	1999
<i>Central Europe</i>								
Poland	3.6	4.3	8.3	16.6	19.7	21.7	14.5	6.9
Czech Rep.	16.5	0.2	9.1	19.8	8.2	-4.3	-3.8	-5.5
Slovakia	-3.3	-5.4	-4.6	5.3	39.8	14.5	11	-18.2
Hungary	-2.6	2	12.5	-4.3	6.7	8.8	11.4	5.8
<i>South-East Europe</i>								
Romania	11	8.3	20.7	6.9	3.9	-15.9	-19.2	-10.8
Bulgaria	-7.3	-17.5	1.1	16.1	-21.2	-23.9	16.3	28.8
<i>Baltics</i>								
Estonia	-43.7	6.3	8.5	0.3	11.4	17.5	8.1	-14.1
Latvia	-28.7	-15.8	n.a.	n.a.	22.3	20.7	11.1	-9.1
Lithuania	n.a.	n.a.	-14.4	7.1	-2.4	4.8	11.2	n.a.
<i>CIS</i>								
Russia	27.2	-25.8	-26	-7.5	-16	-5	-3.2	-1.7
Belarus	-18.6	-7.5	-13.7	-29.5	-3.3	23.6	11.8	n.a.
Ukraine	-15	-30.5	-41	-30.8	-22.7	2.1	-4.3	n.a.
Moldova	-32.4	-5.4	-12.9	-18.5	12.4	3.7	0.7	-19.5
Armenia	-87.2	-7.8	-23.9	-17.3	10.3	2.1	11.9	n.a.
Azerbaijan	n.a.	n.a.	n.a.	-34.5	102.4	50.3	16.8	n.a.
Georgia	n.a.	n.a.	n.a.	618.6	57.7	41.4	10.3	n.a.
Kazakhstan	n.a.	-10.2	-13	-36.6	-24.7	3.6	1.7	n.a.
Kyrgyzstan	n.a.	n.a.	-66.4	248.7	17.3	-38.7	-0.8	-11.9
Tajikistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Turkmenistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Uzbekistan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Sources: World Bank

Table 5 General Government Balances, 1992-1999 (as percentage of GDP)

	1992	1993	1994	1995	1996	1997	1998	1999
<i>Central Europe</i>								
Poland	-4.9	-2.4	-2.2	-3.1	-3.3	-3.1	-3.2	-3.3
Czech Rep.	-3.1	0.5	-1.1	-1.4	-0.9	-1.7	-2	-3.3
Slovakia	-11.9	-6	-1.5	0.4	-1.3	-5.2	-5	-3.6
Hungary	-7.2	-6.6	-8.4	-6.7	-5	-6.6	-5.6	-5.6
<i>South-East Europe</i>								
Romania	-4.6	-0.4	-2.2	-2.5	-3.9	-4.6	-5	-3.5
Bulgaria	-2.9	-8.7	-3.9	-6.3	-12.7	-2.5	1.5	-1
<i>Baltics</i>								
Estonia	-0.3	-0.7	1.3	-1.3	-1.9	2.2	-0.3	-4.6
Latvia	-0.8	0.6	-4.4	-3.9	-1.8	0.3	-0.8	-4.2
Lithuania	0.5	-5.3	-4.8	-4.5	-4.5	-1.8	-5.8	-8.6
<i>CIS</i>								
Russia	-18.9	-7.3	-10.4	-6	-8.9	-7.6	-8	-1
Belarus	-3.3	-5.2	-1.3	-6.9	-1.9	-1.2	-0.6	-5.6
Ukraine	-25.4	-16.2	-7.7	-6.1	-6.1	-5	-3	-2.5
Moldova	-26.6	-7.5	-5.9	-5.8	-9.7	-7.5	-3.3	-3.2
Armenia	-13.9	-54.7	-16.5	-9	-8.6	-5.8	-3.7	-5.9
Azerbaijan	2.7	-15.3	-12.1	-4.9	-2.8	-1.6	-4.2	-5.4
Georgia	-25.4	-26.2	-7.4	-5.3	-4.9	-7	-6.5	-6.7
Kazakhstan	-7.9	-4.1	-7.7	-3.4	-5.3	-7	-7.7	-5.3
Kyrgyzstan	-17.4	-14.4	-5.7	-8.4	-8.8	-8.8	-11.2	-12.8
Tajikistan	-30.5	-20.9	-5.2	-5.3	-5.8	-3.3	-3.8	-3.1
Turkmenistan	-9.4	-4.1	-2.3	-2.6	0.3	0	-2.7	0.9
Uzbekistan	-18.3	-10.4	-6.1	-4.1	-7.3	-2.4	-3	-1.8

Source: EBRD

Table 6 Private Sector as Share of GDP, 1991-2000 (percentage of GDP)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Central Europe										
Poland	40	45	50	55	60	60	65	65	65	70
Czech Rep.	15	30	45	65	70	75	75	75	80	80
Slovakia	15	30	45	55	60	70	75	75	75	75
Hungary	30	40	50	55	60	70	75	85	80	80
South-East Europe										
Romania	25	25	35	40	45	55	60	60	60	60
Bulgaria	20	25	35	40	50	55	60	65	70	70
Baltics										
Estonia	10	25	40	55	65	70	70	70	75	75
Latvia	10	25	30	40	55	60	60	65	65	65
Lithuania	10	20	35	60	65	70	70	70	70	70
CIS										
Russia	5	25	40	50	55	60	70	70	70	70
Belarus	5	10	10	15	15	15	20	20	20	20
Ukraine	10	10	15	40	45	50	55	55	55	60
Moldova	10	10	15	20	30	40	45	50	45	50
Armenia	30	35	40	40	45	50	55	60	60	60
Azerbaijan	10	10	10	20	25	25	40	45	45	45
Georgia	15	15	20	20	30	50	55	60	60	60
Kazakhstan	5	10	10	20	25	40	55	55	60	60
Kyrgyzstan	15	20	25	30	40	50	60	60	60	60
Tajikistan	10	10	10	15	15	20	20	30	30	40
Turkmenistan	10	10	10	15	15	20	25	25	25	25
Uzbekistan	10	10	15	20	30	40	45	45	45	45

Source: EBRD(2000)

The estimates are midyear.

Table 6 Real Total Consumption Expenditure, 1989-1999 (Indices, 1989 = 100 or earliest year available thereafter)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Central Europe											
Poland	100	88.3	94.9	98.2	103	107	110.5	118.4	125.6	130.8	136.4
Czech Rep.	100	104.9	85.5	88.4	90.2	94.5	97.2	103	104.6	102.3	103.2
Slovakia	100	103.3	76.9	75.4	74.2	71.5	73.9	82.4	86.5	91.1	89.2
Hungary	100	97.3	92.2	92.8	97.9	95.6	89.3	86.6	88.6	91.7	95.6
South-East Europe											
Romania	100	108.9	96	90.7	91.8	95.3	105.5	112.9	108.1	103.7	99.1
Bulgaria	100	100.6	92.3	89.4	86.2	82.3	80.7	75.3	64	68.8	72
Baltics											
Estonia	n.a.	n.a.	n.a.	n.a.	100	101.2	110.4	116.5	124.4	131.3	131.8
Latvia	n.a.	100	76.7	49.2	46.5	47.4	47	50.8	52.7	56	55.5
Lithuania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	100	108.2	116.4	135.4	120.2
CIS											
Russia	n.a.	100	93.9	89	88.1	85.8	83.3	80.7	82.7	76.7	72.6
Belarus	n.a.	100	93.4	84	82.1	72.1	65.3	67.4	73.8	81.2	84.6
Ukraine	n.a.	100	94.3	88.6	72	65	62.6	57.4	56.4	56.3	56.6
Moldova	n.a.	n.a.	n.a.	n.a.	100	82.6	90.3	99.7	111.5	109.3	92.9
Armenia	n.a.	100	97.4	84.9	66.4	68.9	74.5	76.8	81.7	85.4	85.7
Azerbaijan	n.a.	n.a.	n.a.	n.a.	100	80.3	78	84.3	93.2	103.8	n.a.
Georgia	n.a.	100	79.2	77.1	45.4	42.4	46.1	n.a.	n.a.	n.a.	n.a.
Kazakhstan	n.a.	100	96.8	96.1	84.9	67.7	55	51.3	51.8	49	48.3
Kyrgyzstan	n.a.	n.a.	100	87.2	77.1	62	52	55.3	50.8	58.5	60.9

Source: ECE (2000) qt. in Aslund (2002)

Table 7 Unemployment, 1991-1999(Percentage of labor force)

	1991	1992	1993	1994	1995	1996	1997	1998	1999
Central Europe									
Poland	11.8	14.3	16.4	16	14.9	13.2	8.6	10.4	13
Czech Rep.	4.1	2.6	3.5	3.2	2.9	3.5	5.2	7.5	9.4
Slovakia		10.4	14.4	14.6	13.1	12.8	12.5	15.6	19.2
Hungary*	7.4	9.3	11.9	10.7	10.2	9.9	8.7	7.8	7
South-East Europe									
Romania*	3	8.2	10.4	10.1	8.2	6.5	7.4	10.4	11.5
Bulgaria	11.1	15.3	16.4	12.8	11.1	12.5	13.7	12.2	16
Baltics									
Estonia	n.a.	n.a.	6.6	7.6	9.8	10	9.7	9.9	12.3
Latvia	0.6	3.9	8.7	16.7	18.1	19.4	14.8	14	14.4
Lithuania	0.3	1.3	4.4	3.8	17.5	16.4	14.1	13.3	14.1
CIS									
Russia	0	5.3	6	7.8	9	9.9	11.2	13.3	11.7
Belarus*	0.1	0.5	1.4	2.1	2.7	3.9	2.8	2.3	2.1
Ukraine	0	0.2	0.3	0.3	0.5	1.3	2.3	3.7	4.3
Moldova*	n.a.	0.7	0.7	1.1	1.4	1.8	1.5	1.9	2
Armenia*	4	3.5	6.3	5.8	8.4	10.1	11.3	8.9	11.6
Azerbaijan	n.a.	15.4	9.6	10.4	11.7	12.1	12.7	12.9	13.9
Georgia**	0.2	5.4	9.1	3.6	3.1	2.8	7.5	14.7	14.9
Kazakhstan	0	0.4	0.6	7.5	11	13	13	14	14.1
Kyrgyzstan*	0	n.a.	n.a.	3.1	4.4	6	4.3	n.a.	n.a.
Tajikistan*	n.a.	0.3	0.8	1.2	1.3	1.6	1.8	1.8	1.8
Turkmenistan***	2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Uzbekistan*	0	0.1	0.3	0.4	0.4	0.4	0.4	0.5	0.6

*Officially registered unemployment

** Up up 1996, registered unemployment, total unemployment thereafter

*** Every Turkmen citizen is guaranteed employment, thus official unemployment does not exist. 1991 and 1995 figures are household survey estimates, but do not take account of substantial public sector overemployment.

Source: EBRD (2000)

Table 7 Current Account Balance, 1990-1999 (Percentage of GDP)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Central Europe										
Poland	1	-2.6	1.1	-0.7	0.7	4.5	-1	-3.2	-4.4	-7.6
Czech Rep.	-2.8	1.2	-1	1.3	-1.9	-2.6	-7.4	-6.1	-2.4	-2
Slovakia	n.a.	n.a.	n.a.	-4.7	4.6	2.1	-10.6	-9.6	-9.7	-5.5
Hungary	0.4	0.8	0.9	-9	-9.4	-5.6	-3.7	-2.1	-4.9	-4.2
South-East Europe										
Romania	-9.6	-3.5	-8	-4.5	-1.4	-6.3	-8.9	-6.8	-7	-3.8
Bulgaria	-8.2	-1	-4.2	-10.1	-0.3	-0.2	0.2	4.2	-0.5	-5.5
Baltics										
Estonia	n.a.	n.a.	3.3	1.3	-7.3	-4.4	-9.1	-12.2	-9.2	-5.7
Latvia	n.a.	n.a.	1.7	19.1	5.5	-0.4	-5.4	-6.1	-10.7	-10.3
Lithuania	n.a.	n.a.	10.6	-3.2	-2.2	-10.2	-9.2	-10.2	-12.1	-11.2
CIS										
Russia	n.a.	n.a.	n.a.	n.a.	2.1	1.4	1.7	0.1	0.8	13.6
Belarus	n.a.	n.a.	n.a.	-11.9	-9.1	-4.4	-3.7	-5.8	-6.9	-3.3
Ukraine	n.a.	n.a.	-2.9	-2.4	-3.1	-3.1	-2.7	-2.7	-3.1	2.7
Moldova	n.a.	n.a.	-3	-11.9	-7	-6.8	-11.9	-14.8	-19	-2.8
Armenia	n.a.	n.a.	-70.4	-14.3	-16	-17	-18.2	-18.7	-20.6	-15
Azerbaijan	n.a.	n.a.	-12.2	-12.2	-9.4	-13.2	-25.8	-23.1	-32.6	-15
Georgia	n.a.	n.a.	-33.5	-40.2	-22.3	-7.5	-6.1	-11	-11.2	-7.9
Kazakhstan	n.a.	n.a.	-31.5	-7.2	-7.8	-1.3	-3.6	-3.6	-5.6	-1.1
Kyrgyzstan	n.a.	n.a.	-1.8	-18.5	-7.6	-15.7	-23.3	-7.9	-22.4	-14.9
Tajikistan	n.a.	n.a.	18.4	-28.9	-20.2	-12.8	-7.4	-6.1	-9.2	-3.3
Turkmenistan	n.a.	n.a.	68.5	14.1	4	0.9	0.1	-24.2	-38.8	-28.2
Uzbekistan	n.a.	n.a.	-12	-8.4	2.1	-0.2	-8.1	-5.1	-0.4	-2.7

Source: EBRD(1999, 2000)

Table 8 External Debt, 1991-1999 (Percentage of GDP)

	1991	1992	1993	1994	1995	1996	1997	1998	1999
Central Europe									
Poland	61.5	56.4	54.9	47.1	38	35.2	36	36.2	38.3
Czech Rep.	26.4	23.8	24.3	26	31.8	36	40.6	43.1	42.3
Slovakia	n.a.	24.1	26.6	32	30.9	38.8	48.5	55.9	53.1
Hungary	67.8	58.1	63.7	68.7	70.4	61.1	51.9	56.9	59.9
South-East Europe									
Romania	7.4	16.5	16.1	18.3	24.1	29.5	30.1	24	27.1
Bulgaria	157.4	160.4	127.7	116.8	77.4	97.7	95.8	83.7	80.5
Baltics									
Estonia	n.a.	n.a.	18.2	23.4	22.1	31.8	55.3	55.6	56
Latvia	n.a.	n.a.	n.a.	n.a.	31.8	39.4	48.4	50.3	60.7
Lithuania	n.a.	3.1	12.2	12.4	22.8	26.4	32.8	33.3	40.8
CIS									
Russia	161.2	128.2	66.9	43.7	36.6	32.3	29.8	58.6	87.1
Belarus	n.a.	10.7	27.7	45.2	25.8	15.5	17.2	18.3	31.1
Ukraine	n.a.	2	11.2	19.1	22	20.6	23.5	28	37.3
Moldova	n.a.	1.3	20.4	53.1	46.3	48.1	54.3	59.7	105.7
Armenia	n.a.	n.a.	n.a.	30.9	29.2	38.4	48	42.9	46.3
Azerbaijan	n.a.	n.a.	4	18.3	17.6	14.7	10.2	12.1	24.1
Georgia	n.a.	12.8	67.8	80	63.7	44.9	44.6	47.2	63
Kazakhstan	n.a.	24.5	33.4	28	21	21.3	28.6	37.3	50.1
Kyrgyzstan	n.a.	n.a.	33	37.3	51.2	63.2	76.8	89.5	138.7
Tajikistan	n.a.	n.a.	73.3	93.8	158	83.8	98.5	90	94.9
Turkmenistan	n.a.	n.a.	3.6	207.8	36.6	34.3	65.3	75.6	112.2
Uzbekistan	n.a.	n.a.	n.a.	20	20.2	30.6	56.5	72.7	109.5

Source: EBRD

Table 9 Foreign Direct Investment Inflow per Capita, 1993-1999 (US\$)

	1993	1994	1995	1996	1997	1998	1999
Central Europe							
Poland	9	14	23	71	79	128	172
Czech Rep.	59	83	243	123	124	256	476
Slovakia	30	35	34	33	33	70	130
Hungary	214	111	432	195	163	144	140
South-East Europe							
Romania	2	19	16	9	54	92	42
Bulgaria	7	12	12	12	60	65	98
Baltics							
Estonia	76	158	132	71	89	397	154
Latvia	22	57	64	92	206	124	136
Lithuania	11	16	15	41	89	249	129
CIS							
Russia	7	7	10	14	25	12	5
Belarus		1	1	7	19	14	22
Ukraine		2	2	10	12	15	10
Moldova		5	15	13	15	20	8
Armenia		1	5	6	14	58	34
Azerbaijan		7	28	87	144	129	64
Georgia			1	5	44	41	18
Kazakhstan	18	19	43	67	84	74	106
Kyrgyzstan		6	20	7	18	23	8
Tajikistan		2	2	2	5	4	3
Turkmenistan		26	25	28	23	13	18
Uzbekistan	2	4	5	2	7	9	8

Source: EBRD

Table 10 Male life expectancy, 1989-1998

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Central Europe										
Poland	66.8	66.5	66.1	66.7	67.4	67.5	67.6	68.1	68.5	68.9
Czech Rep.	68.1	67.5	68.2	68.5	69.3	69.5	70	70.4	70.5	71.1
Slovakia	66.9	66.6	66.8	67.6	68.4	68.3	68.4	68.8	68.9	68.6
Hungary	65.4	65.1	65	64.6	64.5	64.8	65.3	66.1	66.4	66.1
South-East Europe										
Romania	66.6	66.6	66.6	66.6	66.1	65.9	65.7	65.3	65.2	65.5
Bulgaria	68.6	68.1	68	68	67.7	67.2	67.1	67.1	67.2	67.4
Baltics										
Estonia	65.7	64.6	64.4	63.5	62.4	61.1	61.7	64.5	64.5	64.4
Latvia	65.3	64.2	63.8	63.3	61.6	60.7	60.8	63.3	64.2	64.1
Lithuania	66.9	66.6	65.3	64.9	63.3	62.8	63.6	65	65.9	66.5
CIS										
Russia	64.4	63.8	63.5	62	58.9	57.3	58.3	59.6	60.9	61.3
Belarus	67.1	66.3	65.5	64.9	63.8	63.5	62.9	63.1	62.9	62.7
Ukraine	66.1	65.6	64	64	63	62.8	61.8	61.9	61.9	61.9
Moldova	65.5	65	64.3	63.9	64	62.3	61.8	62.9	62.9	62.9
Armenia	69	68.4	68.9	67.7	67.9	68.1	68.9	69.3	70.3	70.8
Azerbaijan	66.6	67	66.3	65.4	65.2	65.2	65.2	66.3	67.4	67.9
Georgia	68.1	68.7	n.a.	68.5	n.a.	n.a.	n.a.	n.a.	68.5	68.7
Kazakhstan	63.9	63.8	63.3	63	61.8	60.6	57.9	58.5	59	59.2
Kyrgyzstan	64.2	64.2	64.6	64.2	62.9	61.6	61.4	62.3	62.6	63.1
Tajikistan	66.2	66.8	67.6	65.4	n.a.	63.4	65.5	65.5	65.6	65.7
Turkmenistan	61.8	62.9	62.3	n.a.	n.a.	n.a.	n.a.	n.a.	62.3	62.5
Uzbekistan	66	66.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	66.1	66.3

Table 11 Monetization (M2/GDP) in transition countries, 1997

Country	Monetization (%)
Georgia	6
Armenia	9
Kazakhstan	10
Ukraine	14
Kyrgyz Rep	14
Azerbaijan	14
Belarus	16
Russia	18
Lithuania	19
Moldova	22
Mongolia	23
Romania	25
Latvia	28
Bulgaria	34
Poland	40
Hungary	41
Estonia	42
Slovenia	42
Croatia	43
Slovak Rep.	68
Czech Republic	71

Source: IMF, International Financial Statistics; Jarocinski (1999)

Table 12 Total Expenditure on Health, 1990-1991 and 1997(Percentage of GDP)

	<i>1990-1</i>	<i>1997</i>
Central Europe		
Poland	5	6.2
Czech Rep.	5.9	7.1
Slovakia	5.4	6.7
Hungary	6.7	6.4
South-East Europe		
Romania	2.9	4.2*
Bulgaria	5.1	4.3
Baltics		
Estonia	n.a.	6.4
Latvia	2.5	6.2
Lithuania	3	8.3
CIS		
Russia	2.6	5.7**
Belarus	3.5	6.3
Ukraine	3.3	5.4
Moldova	4.8	6.7
Armenia	2.7	7.8**
Azerbaijan	2.9	7.2
Georgia	3.2	4.7
Kazakhstan	4.4	4.8
Kyrgyzstan	4.4	3.6

*1996 data

**1995 data

Source: World Bank

Appendix 3: Graphs



