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ABSTRACT

Human Capital and the Future of Transition Economies*

Transition economies have an initial condition of high human capital relative to GDP *per capita*, giving them high growth potential. In the model, at a good equilibrium a large number of children of well-educated parents take advantage of their family backgrounds and invest substantially in their own human capital. At a bad equilibrium, past educational achievements are wasted as children fail to build upon their parents' achievements. Policies affecting the education system and the returns to human capital can be decisive in determining the outcome. The model provides a basis for distinguishing development economics from transition economics.

JEL Classification: D10, I20, J24, O10, O15 and P2

Keywords: development, education, growth, human capital, multiple equilibria and transition

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1. Introduction

What is special about countries in transition from communism? They are unusual in many ways, but a vital fact is that educational achievements in transition economies are out of all proportion to per capita GDP. Educational levels are as high or even higher than in many rich countries yet the typical transition economy has a per capita GDP similar to that of a middle income developing country.¹

The empirical growth literature [e.g., Barro and Sala-i-Martin (1995) and Krueger and Lindahl (2000)] indicates that education is very important for economic growth so one might suppose transition economies are in great shape. This is an important insight but not decisive. I argue that human capital in some transition economies may fall to meet current living standards rather than living standards rising to meet human capital levels. In particular, the model below will exhibit two types of equilibria; a good equilibrium can be associated with rapid growth while a bad equilibrium portends deterioration.

Empirical literature provides support for the notion of two sharply different types of educational paths in transition economies.² Micklewright (1999) shows that enrollment rates in kindergarten, which is noncompulsory, have dropped sharply during the transition in the Caucasus, Central Asia, Southeast Europe and the Western CIS while

¹ Gros and Suhrcke (2000) systematically investigate this question using cross-section regressions on 148 countries including transition countries and find that these countries have much higher secondary and tertiary enrollment rates than their per capita GDP would predict. The existence of a positive educational legacy of communism is documented in a variety of studies, e.g., World Bank (1995 & 1996).

² Note one of the conclusions of a recent EBRD report: "...firms in transition economies lag behind advanced industrialized countries in terms of the quality of their workforce. Such quality gaps are larger in the CIS than in CEE. This finding qualifies the view that the region has abundant human capital resources, despite considerable achievements in formal education. Moreover, the lack of restructuring in the less reformed economies of the region means that many skilled workers are performing jobs that do not reflect their levels of education. Over time, there will be a continuing loss of skills, leading to an even greater gap in quality." (EBRD, 2000, p. iii of executive summary)

falling only slightly in Central Europe and the Baltic States.³ Noncompulsory general secondary education enrollment rates have held up more widely but have still dropped sharply in the Caucasus and Central Asia.⁴ Educational expenditure figures are also roughly consistent with this pattern according to which the Caucasus and Central Asia are in collapse, Central Europe and the Baltic states are in reasonable condition and the rest of the European transition economies are marginal to bad.⁵

A multiple equilibrium perspective is also potentially valuable in a variety of other dimensions. Micklewright (1999) documents substantial differences in within-country educational opportunities based on family background and location, with rural locations particularly disadvantaged.⁶ Thus, for example, some countries could plausibly consolidate into dual economies, with very poor education in rural areas and good education in urban areas, particularly in capital cities.

The good equilibrium of this paper's model is natural for transition economies but not for typical developing economies. This is because the results rely strongly on an initial condition of high human capital relative to living standards. So, while transition economics and development economics surely have much to learn from each other, this work provides one plausible basis of separation between the two fields.

³ The material in the next two paragraphs is based most closely on Micklewright (1999) but is also supported by UNICEF (2000) and UNICEF (2001).

⁴ Enrollment rates in vocational education have plummeted throughout the transition world reflecting an extreme mismatch between the skills taught in these institutions and the needs of the labor market. There is now an empirical literature on the adjustment process of individuals whose human capital acquired under communism was not consistent with the needs of the new labor market [Sabirianova (2000), Campos and Dabušinskas (2002), Druska, Jeong, Kejak and Vinogradov (2002)]. However, my paper is about the transmission of human capital from one generation to the next so is not closely connected to these papers aside from sharing a concern about the antiquated character of post-communist education systems.

⁵ All the figures can be downloaded directly from the TransMONEE database at <http://www.unicef-icdc.org/documentation/index.html>.

⁶ These conclusions are supported by a wide variety of studies, including OECD (1998), UNICEF (2000) and UNICEF (2001) and World Bank (2000).

Alexeev and Kaganovich (1998) is one of the few theoretical papers on human capital and transition.⁷ It uses an adverse selection argument to show how uncertainty over whether or not a major reform will be implemented can lead more able people, the “good guys”, to prepare relatively little for the possible change compared to less able people. This is because the good guys do better in the unreformed system than the bad guys. If reform is actually implemented, good guys finish last due to their lack of preparation. In the present paper good guys will not finish last but the two papers share a general concern about underinvestment in human capital.

Fan, Overland and Spagat (1999) (FOS) argues that educational restructuring should have high priority early in Russia’s transition process, emphasizing the potential for loss of human capital without such a policy. Like the present paper, FOS studies the dependence of children’s human capital acquisition decisions on the human capital of their parents. However, FOS focuses on Russia rather than transition economies in general and does not allow for two types of equilibria.

On the empirical side, Münich, Svejnar and Terrell (1999) is a good recent paper showing that the transition to communism has brought a significant increase in the returns to human capital in the Czech Republic.⁸ It also summarizes most of the earlier empirical work for a variety of transition countries that tends to draw similar conclusions. The present paper relies on the existence of such a premium in transition economies and studies the microeconomics of converting it plus high initial human capital into high human capital for a new generation.

⁷ Roland (2000) is an excellent general survey of theoretical work on transition but without any emphasis on human capital.

⁸

There have been some transition economics papers with multiple equilibria. Johnson, Kaufmann and Shleifer (1998) has multiple equilibria with transition economy firms deciding either to pay taxes and benefit from public goods or to pay for mafia protection and operate unofficially. There must be a sufficient number of firms operating officially for the state to attain the necessary scale to induce firms to reject mafia protection. Roland and Verdier (2000) has multiple equilibria in a transition economics setting based on coordination problems in law enforcement. They argue that their bad equilibrium can be broken by the prospect of early entry into the European Union. Certainty that the law will be enforced after entry causes agents to prepare themselves by becoming producers rather than predators even before the entry date. Redding (1996) presents a model of a low skills trap based on complementarity between human capital investment by individuals and R&D by firms. Although he did not consider transition economies his model might be applied to that context. My model is rather different, keying off of the initial human capital distribution without invoking R&D plans at all.

The model of the present paper can have multiple pareto-ranked equilibria for a fixed set of parameter values. To realize the best equilibrium in this case would require coordinating a large number of agents on making investments in human capital. There is some interest in this situation but I dismiss it in section four because there seem to be more systematic factors determining human capital paths of transition economies than flukes of equilibrium selection. So this paper is in the end not about multiple equilibria. Rather, the point is that at least some transition economies have sufficiently favorable initial conditions that, together with the right policies, they can achieve a good equilibrium. Other transition economies will have a poor enough combination of policies

and initial conditions that they will look increasingly like typical developing economies that cannot reach a good equilibrium.⁹

The plan of the paper is as follows. I present the model in section 2. Section 3.1 contains an example indicating that the economic problem facing transition economies might be fundamentally different than that of typical developing countries. In particular, an initial condition of high human capital creates the possibility of a good equilibrium with high human capital investment. Section 3.2 has some general results for the model. Section 4 studies when a high-investment equilibrium does and does not exist, focusing on policy issues that might be decisive. I conclude in section 5.

2. The Model

There are N families indexed by i , consisting of a parent and a child. The human capital of parent i is denoted h_{i0} while his child's human capital is h_{i1} . There is intergenerational intellectual continuity, i.e., children of well-educated parents have a better chance of becoming well educated than children of poorly educated parents have.¹⁰ We take a particularly simple formulation. Each child will either chose education or not chose education. The human capital of child i is:

$$h_{i1} = \begin{cases} (h_{i0})^a & \text{if } i \text{ chooses education} \\ \underline{h} & \text{otherwise} \end{cases} \quad (1)$$

where $0 < a, \underline{h} < 1$. The main notion is that the better is the education of the parents the easier it will be for children to invest in human capital. There can be many reasons for

⁹ Barry (2002) makes a strong case that EU Accession countries have very high potential growth rates if they follow good policies. My paper stresses much more than his does the potential for deterioration.

¹⁰ Many papers have demonstrated this for a wide range of countries (Heyneman, 1995).

this to be true. Well-educated parents might have more money to invest in their children than do poorly educated ones. Parents with good education might value education more than parents with poor education do. The former group might also know better how to transfer education to children than the latter group does. Those who do not make a special investment get \underline{h} , the basic level of education that is prevalent in the society.

The parameter \mathbf{a} can be interpreted as a measure of the quality of the educational system with this quality decreasing in \mathbf{a} . The idea is that with a bad system (high \mathbf{a}) children who invest in human capital end up with levels that differ little from parental human capital because the educational system is not a major influence on children. With a strong education system (small \mathbf{a}) even children with little parental human capital can achieve high standards if they use the system. There are other ways that educational quality could be introduced into the model but the present one is simple and sensible.

There are two sectors: a skilled sector and an unskilled sector. Children who do not invest in education earn a wage of 1 in period 0 and a wage of $1 + \frac{k^u N^s}{N}$ in period 2 for a lifetime income of $2 + \frac{k^u N^s}{N}$ where k^u is a constant and N^s is the number of children who choose education. Thus, the work of educated people in the skilled sector spills over to create technological and organizational improvements that increase the productivity of the unskilled sector. Educated people earn nothing in period 0 when they are studying. Educated individual i earns $\left(w + \frac{k^s N_i^s}{N} \right) (h_{i1})$ in period 1 where w and k^s are

constants. Note that skilled workers are directly productive as well as creating spillovers in both sectors.¹¹ The income of individual i is:

$$I_i = \begin{cases} \left(w + \frac{k^s N^s}{N} \right) (h_{i0})^a & \text{if } i \text{ chooses education} \\ 2 + \frac{k^u N^s}{N} & \text{otherwise} \end{cases} \quad (2)$$

Individuals make their educational choices to maximize their incomes, therefore individual i chooses education if and only if:

$$h_{i0} \geq \left(\frac{2 + \frac{k^u N^s}{N}}{w + \frac{k^s N^s}{N}} \right)^{\frac{1}{a}} \equiv h^c(N^s) \quad (3)$$

that is, a child's human capital investment decision will depend on whether or not parental human is above a cut-off level that depends on the relative wages of skilled and unskilled workers and the parameter a .

We assume $wk^u < 2k^s$. This assumption implies that the skill premium is increasing in the number of skilled workers implying, in turn, that the cut-off level of parental human capital, $h^c(N^s)$, is decreasing in the number of skilled workers. This effect is likely to be large in transition economies because the potential for technological and organizational catch-up with the advanced nations of the world is very large and highly dependent on the availability of skilled workers.

¹¹ I can make wages depend on the total quantity of skills rather than the number of skilled agents and reproduce all the results with only a slight modification in Proposition 4.

Suppose further that: $\underline{h} < \left(\frac{2+k^u}{w+k^s} \right)^{\frac{1}{a}} < \left(\frac{2}{w} \right)^{\frac{1}{a}} < 1$. This implies that children of

parents with basic education will always choose basic education, because even with the maximum possible skill premium their family background is too weak to make it worthwhile for them to invest. It also implies that children of parents with one unit of human capital will always choose to invest in human capital, because their family background is so good that they will invest even with the worst possible skill premium. We also assume the skill premium is necessarily positive, i.e., $w > 2$

Finally, we define an equilibrium in the model using the standard Nash concept. This set-up can be viewed as a game in which every player has two strategies; “invest” or “do not invest”. An equilibrium is a profile of strategies, one for each of the N children, such that each child is maximizing his own income taking as given what all the other children are doing. For convenience we will assume that any agent who is indifferent between investing and not investing will choose to invest.

3. Analysis

3.1. An Example

In this section I compare a stylized transition economy with a stylized developing economy and argue that multiple equilibria are plausible for the former but not for the latter. An interpretation is that the typical transition economy has the potential, but not a guarantee, for rapid growth based on high human capital while the typical developing economy must rise gradually over a long period of time.

Consider the following illustrative example. At time zero there are three groups labeled “High”, “Medium” and “Low”. Each individual in the high group has parental human capital of 1, while those in the Medium and Low groups have parental human

capital of $2/3$ and $1/3$ respectively. The sizes of the groups are 20, 60 and 20 respectively. Table 1 summarizes the initial conditions in this transition economy. This

Table 1. Human Capital Distribution for a Typical Transition Economy

	High	Medium	Low
Number	20	60	20
Human Capital	1	$2/3$	$1/3$

distribution is meant to reflect the idea that in a typical transition economy there are many people who have attained a good educational standard.

We contrast the transition economy with a developing economy at a similar per capita GDP. The latter stochastically dominates the former.¹²

Table 2. Human Capital Distribution for a comparable non-Transition Economy

	High	Medium	Low
Number	20	30	50
Human Capital	1	$2/3$	$1/3$

Fix the parameter values as in table 3.

Table 3. Parameter Values for the Transition and Developing Economies

\mathbf{a}	w	k^s	k^u
.5	2.3	1.5	1

The transition economy has two equilibria, a good one and a bad one. In the bad equilibrium only the High group invests in human capital. In the good equilibrium both the High group and the Medium group invest. There is no equilibrium in which the low

¹² It is reasonable to consider these economies as experiencing similar per capita GDP. Much of the human capital in the transition economy would have low market value, having been acquired under communism when priorities (the military above all else) were very different from what they are now. However, it is crucial to note that while a Russian rocket scientist might earn very low wages, he still can do much to facilitate his children's human capital acquisition.

group invests.¹³ There is only one equilibrium in the non-transition economy. In it, only the High group invests.¹⁴

The good equilibrium of the transition economy is, of course, robust to small changes in parameters and initial conditions. However, it can be eliminated by moderate changes that can, in turn, derive from government policy. For example, increasing \mathbf{a} to .6, corresponding to deterioration in the educational system, will spoil the good equilibrium. Decreasing w to 2.2, a decrease in the wage premium perhaps due to increased macroeconomic instability driving away foreign investment, will have the same effect. So the existence of a high-investment equilibrium in transition economies can depend on government policy. Thus, the example suggests that in the transition economy case, in contrast with the developing economy case, there is much at stake.

Finally, in the event that the transition economy does have multiple equilibria for fixed parameters and initial conditions everything can depend on whether or not expectations can be coordinated on a positive vision of the future. If so, many people will invest in human capital and the economy will take off. Pessimism can be lethal.

3.2. General Results

¹³ When only the High group invests we have $h^c = \left(\frac{2.2}{2.6}\right)^2 = .72$ so only the High group will want to invest.

When both High and Medium groups invest then $h^c = \left(\frac{2.8}{3.5}\right)^2 = .64$ both of these groups but not the low group will want to invest. If all three groups invest then $h^c = \left(\frac{3}{3.8}\right)^2 = .62$ so investment by the low group will not be sustainable.

¹⁴ When only the High group invests we have $h^c = \left(\frac{2.2}{2.6}\right)^2 = .72$ so only the High group will want to invest.

When both High and Medium groups invest then $h^c = \left(\frac{2.5}{3.05}\right)^2 = .67$ so investment by the Medium group will not be sustainable. If all three groups invest then $h^c = \left(\frac{3}{3.8}\right)^2 = .62$ so investment by the low group will not be sustainable.

Now consider the general case, beginning with the following observations.

Proposition 1. At least one equilibrium always exists.

Proof. Consider the strategy profile in which no agent invests. If this is an equilibrium, the proof is finished. If not, there is at least one agent who wishes to invest even when no one else is investing. Consider now the profile in which all such agents invest. If this is an equilibrium, again the proof is finished. If not, at least one agent now wishes to invest. Continue this procedure until every agent is satisfied. (This might only occur when everyone is investing.)

Proposition 2. Every equilibrium can be characterized by a human capital level, h^e , with the property that every child with parental human capital weakly above h^e will invest and every child with parental human capital strictly below h^e will not invest.

Proof. Take any equilibrium and take the child with the lowest parental human capital who is still investing. Suppose there is another child with higher parental human capital who is not investing. That child must be able to earn at least as much income by investing as she currently earns by not investing so she must be investing.

The next result indicates that when there are multiple equilibria only the one with the lowest h^e is efficient.

Proposition 3. When there are multiple equilibria they are Pareto ranked. More children investing always means more efficiency.

Proof. Consider two equilibria with cut-off levels $h_1^e > h_2^e$ and strictly more children investing in the second equilibrium compared to the first. Then in the second equilibrium both skilled and unskilled workers earn higher wages than their counterparts in the first equilibrium. Moreover, some children who are unskilled in the first equilibrium are

skilled in the second equilibrium so they also earn higher wages in the latter case than they do in the former case.

The last proposition shows there is wide scope for increasing human capital in the middle range while maintaining multiple equilibria in the model. Intuitively, increasing the human capital of individuals will not upset an equilibrium unless they move from one side to the other side of the cut-off point.

Proposition 4. Consider an economy with two equilibria characterized by $h_1^e > h_2^e$.

Transform this economy into another one by increasing the human capital of all parents, i , such that $h_2^e \leq h_0^i < h_1^e$ while maintaining the inequalities $h_2^e \leq h_0^i < h_1^e$. Then in the new economy there will still exist equilibria characterized by the same $h_1^e > h_2^e$.

Proof. Consider the equilibrium in the original economy characterized by h_1^e . In this equilibrium all the children who have different parental human capital in the new economy are not investing. If they still choose not to invest in the new economy, wages of both skilled and unskilled workers will be the same in the new economy as they are at the equilibrium characterized by h_1^e in the old economy. Therefore, the choices at this equilibrium will also be equilibrium choices in the new economy. A similar argument shows that the equilibrium characterized by h_2^e also survives the transformation from the old economy into the new one.

Proposition 4 indicates that the example of section 3.1 has some robustness. In particular, there is wide latitude to vary the parental human capital of the middle group, including dropping its homogeneity, while maintaining both the good equilibrium and the bad equilibrium.

Proposition 4 does not show that increasing the bulk of middle range human capital cannot add new equilibria. The above example has already shown that, starting from an economy with a single equilibrium, increasing the number of children with moderate parental human capital can add a new Pareto-superior equilibrium.

4. IMPLICATIONS

The multiple equilibrium perspective suggests that two transition countries with similar initial conditions may get distinctly different results with one preserving and enhancing its human capital and the other experiencing significant deterioration. The determining factor could merely boil down to whether or not agents are able to coordinate their beliefs on a high-investment equilibrium. There may be some insight here but it is limited. At the country level it has generally been the countries with the best initial conditions where education has done the best and vice versa. If coordination of expectations were a key factor we would not expect human capital paths in better prepared countries to outperform those in the other countries so systematically. Similarly for urban-rural differences. If we break up a country into a set of relatively closed urban and rural areas we might expect some areas to flourish and others to perform badly, and indeed this is the case in many transition economies. However, good performance occurs overwhelmingly in urban and not rural areas, i.e., observed differences are too systematic to be explained by flukes of expectation coordination. Therefore, for the rest of this paper we will assume that *when there are multiple equilibrium the economy will solve the coordination problem and realize the best one.*

4.1. Bad Equilibria in the Basic Model

Consider now the extent to which the simple model above can account for the observed variation in transition economies. Assume, following the pattern of the above example, that the parental human capital distribution has three levels, low, middle and high. The fraction \mathbf{m}^k of the population has parental human capital h_0^k with $k = l, m, h$ and $h_0^l < h_0^m < h_0^h$. We focus on two equilibria; the one where only offspring of high human capital parents invest (the bad equilibrium) and the one where offspring of both high and middle human capital parents invest (the good equilibrium). Since we are not allowing coordination problems the issue is whether or not the good equilibrium will exist. Using equation (3) this requires:

$$h_0^m \geq \left(\frac{2 + k^u (\mathbf{m}^m + \mathbf{m}^h)}{w + k^s (\mathbf{m}^m + \mathbf{m}^h)} \right)^{\frac{1}{a}}. \quad (4)$$

Condition (4) points to three possible reasons why a good equilibrium may fail to exist. These are pure considerations and the good equilibrium can fail for a combination of the three.

First, the distribution of parental human capital may be inadequate. Specifically, $\mathbf{m}^m + \mathbf{m}^h$ might be too small, or in other words perhaps the human capital distribution in some transition economies is really closer to that of middle income developing economies than it appears to be at first glance. This could easily be the case in some countries, particularly in the Caucasus and Central Asia. Several of these countries have seen large emigration of skilled workers, often victims of wars or ethnic discrimination. Moreover, Central Asia had less than the average amount of human capital at the

beginning of the transition. These negative factors may have eliminated the possibility of establishing a good equilibrium.

A second possible problem is an inadequate skill premium to sustain a good equilibrium. This could arise due to w not being sufficiently bigger than 2, k^s not being sufficiently bigger than k^u , $m^m + m^h$ being too small or a combination of the three. This is theoretically possible but empirical evidence does not suggest that skill premia have been particularly small [Münich, Svejnar and Terrell (1999)].

Finally, the good equilibrium can fail because of the inadequacy of the educational system as captured by a being too small. This is a real issue because, despite the educational achievements of the past, educational structures in transition economies require major reforms as documented, e.g., in World Bank (1995), OECD (1998) and World Bank (2000).¹⁵

It is useful to recall the evidence presented previously about growing urban-rural educational gaps [Micklewright (1999)]. Thus, average educational provision might be reasonably high in some countries but if quality is well below average in rural areas these places can become ghettos from which it is difficult to escape. Similarly, high national skill premia may be of little relevance to residents of desolate areas if there is little regional mobility in the society.

4.2. Educational Capacity Constrains

¹⁵ All three publications criticize the education systems in transition economies for producing the wrong mix of specialties, i.e., primarily scientists and engineers to serve the Soviet military-industrial complex, for overemphasis on specialization and for overreliance on rote learning. One need not accept all of these points in order to agree with our general point that the education system is not suited to the needs of a modern market economy and that reform can unlock much underlying potential. Other transition economies are in a similar situation.

Small extensions of the model allow us to investigate the effect of other educational problems in eliminating good equilibria. First, consider educational capacity constraints, which can easily be introduced as an upper limit on $m^m + m^h$ in condition (4).¹⁶ Clearly such a constraint can eliminate a good equilibrium, causing a substantial loss of human potential. It is worth noting that this constraint is leveraged so its impact is much greater than might be expected. If enough agents from the middle group are forced out of educational investment, then the remaining ones can drop out voluntarily. In this situation there would seem to be insufficient demand for education while potentially there is excess demand. This is important because one often encounters the view that returns to education are generally high in transition economies and therefore there is no problem with human capital accumulation. But people must have both the incentive and the opportunity to accumulate human capital if they are to do so.

4.3. Financial Constraints

Another simple but important extension is to introduce financing constraints. Suppose each child has a money endowment m_i in addition to her parental human capital endowment h_{i0} . Suppose further that educational investment requires a money expenditure c . Then investment in human capital requires both that $m_i \geq c$ and that

$$h_{i0} \geq \left(\frac{2 + \frac{k^u N^s}{N} + c}{w + \frac{k^s N^s}{N}} \right)^{\frac{1}{a}} \quad (5)$$

¹⁶ It is reasonable to consider an educational capacity constraint because of the collapse of vocational secondary education in many transition economies. These schools were often merely appendages of particular factories that now have no market outlet for their products. There is very little demand for this

Then even children who would maximize their lifetime income by investing might still not invest due to insufficient resources in the short run. The effect in eliminating the good equilibrium would be similar to that of a constraint on educational capacity

This may be the most vital extension of the model since financing constraints appear extremely important in practice as shown in great detail in OECD (1998) and UNICEF (2000 & 2001). OECD (1998, pp. 78-79) gives graphic examples of the importance of family resources and connections in Russian education including the rise of private schools, state teachers charging tuition for private tutorials, state schools allocating spaces to paying students and the emergence of special clubs on a paying basis.

5. Conclusion

This paper is about the long-run future of countries in transition from communism. Unfortunately, there has been very little analytical economic work along these lines. These countries are undergoing major structural transformations while creating a large array of new institutions from scratch. Making mistakes at the beginning of the transition process can cause problems a long time. More positively, getting things right now can pay large dividends for decades. Rich countries have already established workable if not always optimal institutions and can survive an overemphasis on the short run. Transition economies must think about the future.

The communist world stressed education, mainly in pursuit of military goals. At the beginning of the transition, human capital stocks were highly distorted from the perspective of the world market economy. Nevertheless, this legacy is something

type of education and substantial investment would be required to convert these schools into more useful ones [Micklewright (1999), UNICEF (2000 & 2001)].

positive that can underpin a long period of rapid economic growth. At the same time, the great human potential of transition economies can easily be lost.

Some countries, notably those from Central Europe and the Baltic countries seem to be well on their way to converging with Western Europe. Other countries, particularly those from Central Asia and the Caucasus appear to be losing their human potential, sliding into the status of middle income developing country with a long road to prosperity. Moreover, there is reason to believe that various countries may be dividing into high-human-capital urban areas, often concentrated in capital cities, and backward rural areas with little potential for growth.

The analysis give various reasons why the human capital of a transition country or region may deteriorate. They include a poor education system either in terms of quality or capacity, inadequate returns to education, financial constraints impinging on people's ability to benefit from education and an insufficiently strong initial distribution of human capital. All of these factors, including even the last one, depend on government policy. Initial human capital conditions in some countries have been hurt by government policies that that discriminate against minorities causing emigration of well-educated people. Governments policies directly affect all aspects of schooling including quality, capacity and the cost of attendance. The returns to education depend on the development of a good market environment that protects contracts, minimizes corruption, attracts foreign investment, etc.. Thus, while initial conditions are less favorable in some countries than in others, policy also matters and can be decisive.

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