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A tale of two republics: Estonia and Georgia.

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Abstract[1]

We compare and contrast the economic growth performance of Estonia and Georgia since the collapse of the Soviet Union in 1991 in an attempt to understand better the extent to which the growth differential between the two countries can be traced to increased efficiency in the use of capital and other resources (intensive growth) as opposed to brute accumulation of capital (extensive growth). We infer that advances in education at all levels, good governance, and institutional reforms have played a more significant role in raising economic output and efficiency in Estonia than in Georgia which remains marred by various problems related to weak governance in the public and private spheres.

Keywords: Economic growth, governance, transition economies

JEL numbers: O16

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1 Introduction

Looking at the fate of the fifteen states that emerged from the Soviet Union, we find it striking how different their economic evolution has been since the collapse of the Soviet Union in 1991. One especially interesting feature is that the three Baltic States that are now members of the European Union (EU) have fared so much better in economic terms than any of the other Former Soviet Union (FSU) states, including Russia (Figure 1). The question is Why

This paper aims to shed light on this question by applying standard growth economics to a comparison of the recent growth performance of two of the FSU countries, Estonia and Georgia, one from each tier in Figure 1. Both countries are small (4,226 km², population 1.4 million, and 69,700 km², population 5.7 million, respectively). Both are poorly endowed with natural resources, which may be good for their growth potential as suggested by Sachs and Warner (199) and others, and both share a distant history of prosperity which, at the time, brought them considerable wealth. Estonia prospered when Tallinn (Reval) became part of the Hanseatic League, from 12 onward. Georgia also prospered it its Golden Era from the 11th to the 1 th century when the Georgian kingdom expanded to include most of the Caucasus before disintegrating in the 1 th century following the Mongol invasions. Imperial Russia illegally annexed Georgia in 1801. Estonia's fortune did not last either. Having first been brought under Swedish rule in the turbulent 16th and 17th centuries (southern Estonia briefly also came under Polish Lithuanian rule), Estonia, like Georgia 0 years later, was annexed by Russia in 1721.

Both countries became independent in 191 . Estonia retained its independence until 1940, when it was annexed by the Soviet Union under the Hitler Stalin Pact. At the time, Estonia's national income per capita was roughly on par with that of Finland across the bay. Georgia's independence was much more short lived, because the Red Army invaded the country in 1921 on the orders of Joseph Stalin, a native Georgian (and, incidentally, against the wishes of Lenin). The reversal of fortune experienced by both countries accords with the view advanced particularly clearly by Acemoglu, Johnson, and Robinson (2002) that institutions in the present case, bad institutions matter for economic growth. Geography isn't everything.

Under Soviet rule, the economic decline of the three Baltic republics Estonia, Latvia, and Lithuania was substantial but, overall, their economic situation remained

better than in other Soviet republics, not least the Caucasus republics. However, official statistics may have overstated the differences because of Georgia's larger underground – that is, unrecorded – economy. In any case, the initial conditions for economic catch-up following Estonia and Georgia's secession from the Soviet Union in 1991 were more favorable in Estonia than in Georgia. Even so, Estonia's gross domestic product (GDP) per capita adjusted for purchasing power parity had sunk from approximate parity in 1970 to about one third of that of Finland in 1991. Estonia, after regaining independence in 1991, quickly embarked on bold and decisive political, institutional, and economic reforms that were carried out by successive coalition governments from different parts of the political spectrum. Within less than fifteen years, Estonia was able to accede to the EU and its gross national income (GNI) per capita rose to a half of that of Finland. Today, Estonia is on a strong, sustainable path of rapid real growth and convergence to Finland and the rest of the EU membership. Moreover, apart from its inflation rate that, according to the Maastricht criteria, remains too high, Estonia is ready to adopt the euro and discard the kroon.

In contrast, Georgia, after regaining independence, was torn by civil war, was caught in a low-income trap, and suffered from pervasive corruption as well as from a conspicuous lack of economic and institutional reforms. It was not until the Rose Revolution in 2003, which led to the fall of the Shevardnadze government, that the situation of the country changed enough to rekindle hopes for fundamental political, institutional, and economic reforms that could at last make economic catch-up feasible. In 2007, Georgia became "the number one economic reformer" according to World Bank (2007). Between 2006 and 2007 Georgia skyrocketed from 112th place to 11th by the World Bank's Ease of Doing Business Index where Georgia is now just one place behind Estonia, which ranks 17th (same source).

The national economy of the Soviet Union and its constituent republics is now widely acknowledged to have been stagnant or worse for quite some time before the economic collapse that commenced in 1989. The severity of the plunge during and after 1989 varied from republic to republic and was probably closely related to the extent of the systemic failure of central planning as well as to local mismanagement that preceded the plunge. As Figure 2 shows, the plunge was significantly deeper and lasted longer in Georgia than in Estonia. In Georgia, GDP per capita measured in constant US dollars at 2000 prices and adjusted for purchasing power parity

contracted by almost □0 percent from 19□□ to 199□ while in Estonia the contraction amounted to □□ percent from 19□9 to 199□. Even so, since 199□, Estonia□s G□P per capita has subse□uently grown more rapidly than that of Georgia, or by 6.6 percent per year compared with 6.1 percent in Georgia.

Estonia□s more rapid growth after the initial plunge may seem surprising because it might have appeared easier for Georgia to grow more rapidly from such a low initial level of output after the fall. The fact that Estonia grew more rapidly than Georgia after the collapse suggests that initial output was only one of several determinants of the two countries□growth tra□ectories during this period. In 19□0, Estonia□s G□P per head was about 1.□times that of Georgia. Since 199□, the income differential between the two countries has exceeded four, approaching five. □ logarithmic representation of the evolution of G□P per capita in □igure □suggests that the income differential between the two countries in 200□, the latest year for which comparable G□P figures are available from the World □ank□s *World Development Indicators* 2007 at the time of writing, stems mostly from the fact that, of the two, Georgia suffered a much deeper contraction of measured output after 19□9. The puzzle here is□Why, then, did Georgia not grow more rapidly than Estonia thereafter□

To repeat, Estonia has had a double advantage over Georgia. Estonia grew much more rapidly from 1991 to 2006 both because the initial slump of output was shallower and more short□lived than in Georgia and also because, after the slump, Estonia managed to grow more rapidly than Georgia despite Georgia□s much lower initial level of output per person when growth resumed in 199□.

The remainder of the paper is organized as follows□Section 2 lays out, in the simplest possible terms, the theoretical framework guiding the discussion to follow. In Section □, selected economic, political, and social indicators are employed to illuminate the possible reasons for the divergent economic developments in the two countries under review. In Section □, before summarizing our main findings, we briefly discuss the policy implications of the growth experiences of the two countries and suggest potential lessons for other countries that lag behind their erstwhile e□uals.

□□T□eoretical □ac□ground

Economic growth can be either *extensive*, driven forward by the accumulation of dead capital, or it can be *intensive*, by which is meant growth that springs from more

efficient use of existing capital and other resources. □mong the numerous alternative ways of increasing economic and social efficiency, one of the most obvious is the accumulation of live capital □that is, human capital □through education, on□the□□ob training, and health care. There are many other ways as well to increase efficiency and thereby economic growth. □dam Smith and □avid Ricardo showed how free trade can enable individuals and countries to break outside the production frontiers that, under autarky, would confine them to lower standards of life. Other examples abound, as the theory of endogenous economic growth and its empirical implementation in recent years have made clear. Today, for instance, in view of the rapidly advancing theoretical and empirical literature on economic growth, it is now widely recognized that the □uality of institutions and good governance can help generate sustained economic growth and so can also various other factors that are closely related to economic organization, institutions, and policy (□cemoglu and Johnson, 200□□see also □ixit, 200□). We want to ascertain whether the growth differential between Estonia and Georgia since 1991 can be traced mostly to efficiency (i.e., intensive growth), as we suspect, rather than accumulation (i.e., extensive growth).

To set the stage, consider the constant□returns□to□scale production function□

$$Y = AH^{a}K^{b}N^{c}L^{1-a-b-c}$$

Here □ is national economic output, □ is a parameter that reflects total factor productivity (T□P), or efficiency, that is, the ability to convert inputs into output, H is human capital, □ is real capital, N is natural capital, including land, and □ is raw labor. The four exponents are the output elasticities of the inputs and lie between zero and one. □y dividing through the production function by labor, we obtain this standard expression for output per person□

$$\frac{Y}{L} = A\left(\frac{H}{L}\right)^{a}\left(\frac{K}{L}\right)^{b}\left(\frac{N}{L}\right)^{c}$$

Hence, output per capita depends on four factors□

(i) Efficiency

(ii) Human capital per person

(iii) Capital□labor ratio

(iv) Natural capital per person

□

There are two things to note about this classification. First, if it so happened that human capital, real capital, and natural capital all grew at the same rate as the labor force, then advances in efficiency ( ) would remain as the sole source of economic growth, by which we mean the rate of growth of output per person. The second point is that just as, in nature, some plants grow faster than others, so do different types of capital grow at different rates. While experience suggests that real capital grows at roughly the same rate as output over long periods, rendering the capital output ratio constant over time, human capital can easily grow more rapidly than real capital, while natural capital certainly that part of it that is nonrenewable, but also some renewable natural capital such as fish in the sea tends to grow less rapidly than real capital. This, by the way or think of fixed land, if you prefer is why increased population growth, against common intuition, tends to slow down economic growth.

Different growth rates of the different determinants of economic growth mean that the rate of growth of output per capita must be a weighted combination of the growth rates of the different inputs. We could simplify the story by imposing on the production function the requirement that capital and output grow in tandem. If we did, as is customary in parts of the growth literature, this would reduce the number of the determinants of long run growth from four to three efficiency, human capital per person, and natural capital per person. We do not, however, pursue this simplification here because we want to emphasize not so much long run growth of potential output as the medium term growth of the actual level of output. In our equations above, the efficiency parameter comprises a variety of factors, among them technological advances and other types of efficiency gains from various sources, including internal as well as external trade, good institutions, and good governance (Williamson, 200 see also Marsiliani and Renstrm, 2007). Governance, in turn, is a broad concept, and subsumes managerial, fiscal, monetary, financial, and external governance, each of which comprises several components.

The examination of some of these unbundled governance factors is at the core of our attempt to answer the question of why Estonia has grown so much more rapidly than Georgia. This requires a comparative review of a number of different economic, political, and social indicators to which we now turn.

□□ Empirical E□idence

We are aware that fifteen years of macroeconomic data following the collapse of the Soviet Union that started in 19□9 is too short a period to be amenable to a fully fledged long□run economic growth analysis in the spirit of, for example, Hall and Jones (1999). Instead, against the background provided in the preceding section, we intend to ask whether the pattern of those macroeconomic variables that recent growth research has identified as potentially important determinants of output per person and thereby also ultimately of long□run economic growth in cross□country comparisons have behaved in ways that can shed some light on economic developments in Estonia and Georgia since independence. □ull□fledged growth accounting in which output growth could be traced in □uantifiable proportions to the underlying inputs and the efficiency with which they were used is beyond the scope of the present exercise.

A□□n□estment and Education

□et us start with domestic investment, a key determinant of the capital□labor ratio and of economic growth. Which of the two countries has put aside more resources for capital formation since 19□9□□s □igure □shows, Estonia invested 29 percent of G□P in machinery and e□uipment on average from 19□9 to 200□compared with 20 percent in Georgia. The same applies to investments in human capital. With 9□ percent enrolment at the primary□school level, Georgia has not □uite achieved parity with Estonia□s 100 percent primary□school enrolment rate. Moreover, □igure □shows that nearly all Estonian youngsters attend secondary schools compared with four fifths of Georgians. In 200□, nearly two thirds of young Estonians attended colleges and universities compared with □2 percent in Georgia. In recent years, public and private expenditure on education amounted to about six percent of G□P in Estonia compared with two percent in Georgia.

Other indicators point in the same direction. In Estonia, there were □□□ personal computers per 1,000 inhabitants in 200□, almost the same figure as in □inland, compared with □2 personal computers in Georgia in 200□. □ikewise, in Estonia, there were □1□ internet users per 1,000 inhabitants in 200□, the same as in □inland in 200□□ the Georgian figure for 200□ is □9 internet users per 1,000 inhabitants. Estonia now has more mobile phone subscribers than people, surpassing even □inland next door, while Georgia has □26 mobile phone subscribers per 1,000 inhabitants. Education and

technological sophistication are clearly conducive to a business-friendly climate for domestic as well as foreign investment.

Understandably, foreign investment was virtually nonexistent in the early 1990s, but since then Estonia has attracted more capital from abroad than Georgia. Specifically, net inflows of foreign direct investment in Estonia amounted to seven percent of GDP 1992–2000 on average compared with four percent in Georgia (figure 6). Estonia has clearly been more open toward the influx of foreign capital.

Domestic and foreign investment and education at all levels are key sources of the accumulation of real capital and human capital. Together as well as separately, they are important determinants of output per person and economic growth. As far as those two time-honored pillars of productivity and growth are concerned, Estonia outperformed Georgia during the transition period, so there is perhaps little wonder, then, that Estonia's output per person has grown more rapidly than that of Georgia. Today, the people of Estonia enjoy a markedly higher standard of life than they did under Soviet rule whereas the people of Georgia remain significantly worse off (recall figures 1 and 2).

Exports, Inflation, and Economic Structure

Estonia has also been more open than Georgia toward foreign trade. Exports of goods and services from Estonia were equivalent to 70 percent of GDP on average 1992–2000 compared with 30 percent in Georgia (figure 7). The export figures include re-exports. While Estonia eliminated all import duties after 1994, Georgia has continued to depend on such import restrictions for about ten percent of its tax revenues (figure 8). Further, it takes, on average, twice as long for importers to clear customs in Georgia (3.3 days) as in Estonia (1.7 days). Free trade is good for growth.

Price stability is also good for growth. Figure 9 shows that in the 1990s Georgia managed to bring inflation down almost as far as Estonia. However, in the early 1990s inflation was much higher in Georgia than in Estonia as a result of severe initial monetary overhang and other problems. It is, therefore, not surprising that the process of monetization of economic transactions has been slower in Georgia than in Estonia (figure 10). Most African countries have a higher ratio of broad money to GDP – that is, greater financial depth – than Georgia. High inflation tends to hold back economic growth through various channels. It tends to do so by reducing financial depth, among

other things, or, if you prefer, by discouraging the accumulation of financial capital, thus depriving the economic system of necessary lubrication in the form of ade□uate li□uidity, and insufficient lubrication hampers economic efficiency and growth.

Even though inflation has been largely brought under control, macroeconomic management and organization remain problematic in Georgia. The interest□rate spread □ that is, the interest rate charged by banks on loans to prime customers minus the interest rate paid by commercial or similar banks for demand, time, or savings deposits □is a simple measure of the efficiency of the banking system the commercial part of which, by the late 1990s, had in both countries been put into private hands. In Estonia foreigners own almost all banks assets compared with about two thirds in Georgia. In 200□, the interest spread was three percent in Estonia like in □inland in 200□, a respectable figure by international standards. In Georgia, on the other hand, the interest spread in 200□ was fourteen percent, suggesting continued inefficiency and lack of competition in the banking system, or high credit risks, despite full privatization (see Clark, Cull, and Shirley, 200□). Privatization and foreign ownership may not be enough, however, to increase competition and efficiency in the banking system. What matters most is the transfer of know□how, managerial experience, and fresh capital. Still, the Georgian figure of fourteen percent constitutes a significant improvement from earlier years when, from 2000 to 200□, the interest spread was between 20 percent and 2□ percent even if inflation had been brought down to single digits (recall □igure 9).

□lso, the Georgian economy remains heavily dependent on agriculture that still accounts for about a fifth of G□P as it did in the 19□0s. □y contrast, Estonia has little by little managed to diminish the share of its agriculture in G□P down to five percent which is only a little more than the EU average (□igure 11). This suggests both a stronger effort by the government to modernize the economy □ by reducing farm support, for example □ as well as greater mobility of labor and other factors of production between industries in Estonia than in Georgia. □ccordingly, manufacturing and services have grown more rapidly in Estonia than in Georgia. □uring 199□200□, manufacturing accounted for almost three fourths of Estonia□s exports compared with about a third in Georgia (□igure 12). This matters because a strong manufacturing sector is ordinarily an important contributor to economic growth, partly because it is conducive to research and technological progress far beyond agriculture as well as to the buildup of human capital. Estonia□s infrastructure is being modernized at a rapid

pace. Electrical outages are rare□in 200□, electrical power was interrupted for one day compared with □9 days in Georgia. While, in 2006, it took □□ days to start a business in Estonia against 16 days in Georgia, more recent figures (World □ank, 2007) show that the time re□uired to start a business in Estonia has fallen to a maximum of 7 days compared with 11 days in Georgia. □urther, the cost of registering a business is much lower in Estonia than in Georgia, or five percent of GNI per capita in Estonia in 2006 against eleven percent in Georgia, down from 2□ percent in 200□ (same source). The World □ank□s Ease of □oing □usiness Index that ranks 17□ countries by how conducive the regulatory environment is to business operation now puts Estonia in 17th place and Georgia in 1□th, up from 112th place in 200□, as mentioned before (see http□□www.doingbusiness.org).

To give one more example, in Estonia, tax rates were cited as a ma□or business constraint by three percent of the managers surveyed in 200□ compared with □6 percent in Georgia. These numbers suggest that different standards of governance may help explain why the transition from agriculture to manufacturing, trade, and services has been slower in Georgia than in Estonia.

To recapitulate, economic growth re□uires capital to be accumulated and to be efficiently used□real capital, human capital, foreign capital, and financial capital, all of which we have covered thus far, and also social capital to which we now turn.

□□□emocracy□Go□ernance□and □emograp□y

□ue to the difficult status of its Russian citizens, Estonia does not score as high in surveys of democracy as its neighbors, □atvia and □ithuania. □ccording to political scientists at the University of Maryland (the Polity IV Pro□ect□see Marshall and Jaggers, 2001), □ithuania has scored a perfect ten since reclaiming its independence in 1991, □atvia eight, and Estonia six. □or comparison, Georgia has scored between four and five since 1992 and, more recently, in 200□, seven (□igure 1□). □emocracy, we think, is good for growth because it improves governance. □emocratization can be viewed as an investment in social capital by which we mean the infrastructural glue that holds society together and keeps it working harmoniously and well. Social capital comprises several other ingredients, including trust, the absence of rampant corruption, and reasonable e□uality in the distribution of income and wealth (see Paldam and Svendsen, 2000). The idea here is that political oppression, corruption,

and excessive ine□ualities tend to diminish social cohesion and thereby also the □uantity or □uality of social capital.

□ccording to the World □ank□s Enterprise Surveys, about the same proportion of managers surveyed in 200□ said they lacked confidence in the court system to uphold property rights (□0 percent in Estonia, 29 percent in Georgia). Even so, in Estonia, only two percent of the managers surveyed described their lack of confidence in the courts as a ma□or business constraint compared with twelve percent in Georgia. In Estonia, two percent of the managers surveyed described crime as a ma□or business constraint compared with 2□ percent in Georgia. □urther, according to Transparency International, there is a marked difference between Estonia and Georgia in terms of corruption. □igure 1□ shows a three□to□four□point difference between the corruption perceptions indices for Estonia and Georgia. The World □ank reports a similar finding. In 200□, 20 percent of managers surveyed in Georgia described corruption as a ma□or constraint on their business operations compared with four percent of managers in Estonia. Since 1999, Estonia has made some progress in the battle against corruption. However, Georgia has not, and remains one of the most corrupt countries in the region, and the world. This probably makes a difference because corruption is not good for growth (Mauro, 199□□see also □ardhan, 1997). Georgian managers say they have to spend three percent of their time dealing with officials compared with two percent in Estonia.

The distribution of income has become somewhat less une□ual in Estonia than in Georgia□in 200□, the Gini index of ine□uality was □6 in Estonia and □0 in Georgia, whereas in the late 1990s it was □□in both countries.

□igure 1□ shows that both countries have suffered a collapse in fertility as measured by the number of live births per woman since 19□7. Estonia has had a partial recovery since 1996, but Georgia has not. The population of both countries continues to decline. Even if excessive fertility holds back economic growth in many developing countries, population decline is not likely to increase per capita growth in Estonia and Georgia, on the contrary. □ife expectancy at birth took a deep dive in Estonia before 1990, did not recover until a decade later, and then sailed past that of Georgia in the late 1990s (□igure 16). Public and private health expenditures in Estonia have exceeded those in Georgia in recent years, but the gap between the two countries has narrowed. In 2001, Estonia had 6.7 hospital beds per 1,000 inhabitants compared with □.□ in Georgia. In recent years, all child births in Estonia have been

attended by skilled medical staff compared with 92 percent in Georgia. Public health and fertility are closely related to human capital and hence important to economic growth over time.

□□□onclusion

Our comparison of the different development tra□ectories of Estonia and Georgia since 1991 suggests policy implications that seem especially relevant to Georgia and other second□tier □SU states as well as to other countries elsewhere that have lagged behind their erstwhile e□uals (recall □igure 1). In brief, rapid economic growth re□uires

(i) Public policies that support education and training, free trade, and domestic as well as foreign investment in a business□friendly environment.

(ii) Monetary and fiscal policies that support price stability and sound private banking and other financial intermediation, sustainable government budget positions, and international, consumer□friendly competition.

(iii) Sound and transparent societal institutions that support the rule of law.

(iv) Good governance of both the public sector and the private sector.

□y and large, it seems that on all counts Estonia, up to now, has surpassed Georgia. While recent developments and data suggest that Georgia, at last, has begun to catch up, doubts remain regarding the country□s institutional reform agenda as well as the still unresolved territorial disputes.

Referring back to the classification of the main determinants of economic efficiency and growth implied by the aggregate production function presented in Section 2, we can now summarize our findings as follows.

□irst, Estonia has invested significantly more relative to G□P than Georgia and also attracted more foreign investment than Georgia, thereby accumulating capital and increasing output per person. Increased high□□uality investment contributes to more rapid growth over long periods, other things being the same.

In second place, Estonia sends more young people to secondary schools as well as to colleges and universities than Georgia does, thereby building up precious human capital that, like real capital accumulation, helps lift output per person to higher levels and encourage long□term growth. Estonia□s strong emphasis on education at all levels is reinforced by its rapidly increasing technological sophistication as evidenced by

widespread personal computer and mobile phone ownership.

Third, Estonia has done more than Georgia to increase economic efficiency □that is, total factor productivity. This effort has taken many different forms. □et us start with the important trinity of liberalization, privatization, and stabilization. Estonia has managed to

(i) Increase its openness to trade in goods, services, and capital,

(ii) Privatize its banks and other erstwhile state enterprises while ensuring competition through, among other things, foreign ownership, and

(iii) Stabilize prices following the temporary bout of inflation that was bound to follow the rapid liberalization of prices at the beginning of transition.

Georgia has not managed to liberalize trade to the same extent, nor has Georgia managed to privatize its banks and other state□owned enterprises while ensuring strong competition. On the other hand, Georgia has successfully stabilized prices, albeit a bit less rapidly than Estonia. On top of all this, according to almost all the different governance indicators that we compared for the two countries, Estonia has moved farther and faster in a growth□friendly direction. Most notably, corruption and associated problems are much less of an issue in Estonia than in Georgia.

In view of all this, we are not surprised that Estonia has grown more rapidly than Georgia, despite Georgia□s advantage of starting from a much lower level of initial income after the plunge following independence. Our story suggests that the growth differential between the two countries since 199□ would probably have been significantly larger than half a percentage point □ that is, the difference between Estonia□s 6.6 percent growth per year and Georgia□s 6.1 percent □had both countries started out in the same initial position. The proportions in which these many different factors account for the growth differential between the two countries since 1991 remain to be □uantified. Even so, we think the □ualitative point we have made is pretty clear. □ou □udge.

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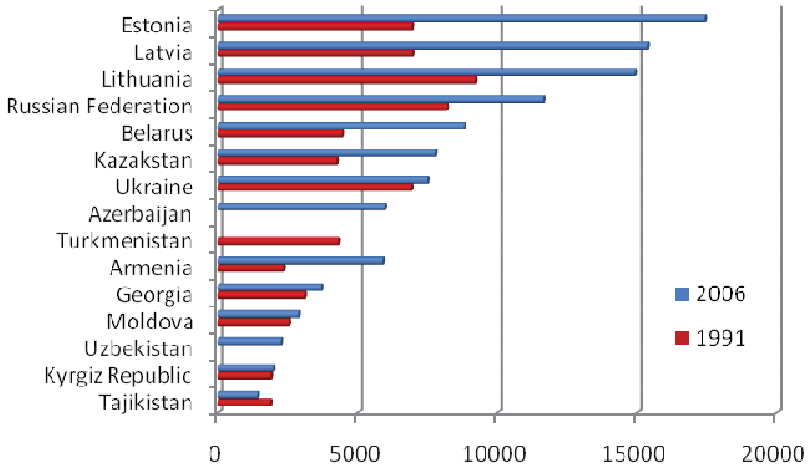
□igure 1 □Gross □ational □ncome per capita 1□□1 and □□□□

(International dollars at purchasing power parity)

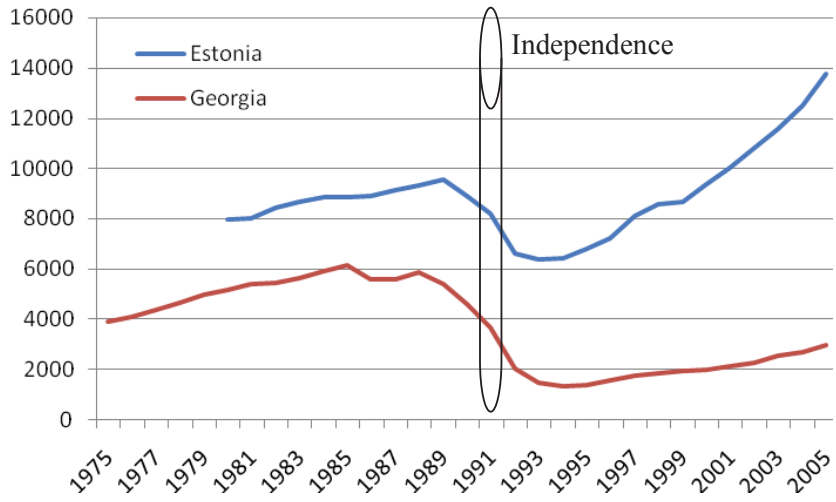


Note□□ata for Turkmenistan 2006 and □zerbai□an and Uzbekistan 1991 are not available.

Source□World □ank, *World Development Indicators 2007*.

□igure □□Gross □omestic □roduct per capita 1□□□□□□□

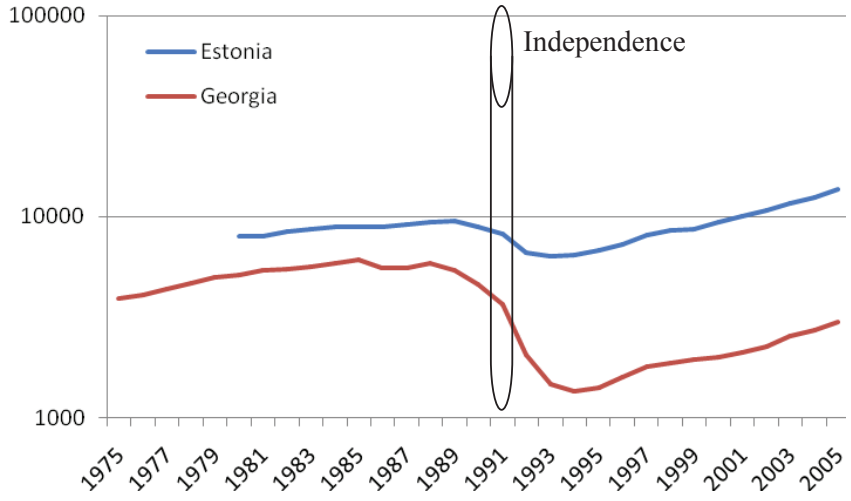
(Constant 2000 international dollars at purchasing power parity)



Source□World □ank, *World Development Indicators 2007*.

□igure □□Gross □omestic □roduct per capita 1□□□□□□□□

(Constant 2000 international dollars at purchasing power parity, logarithmic scale)



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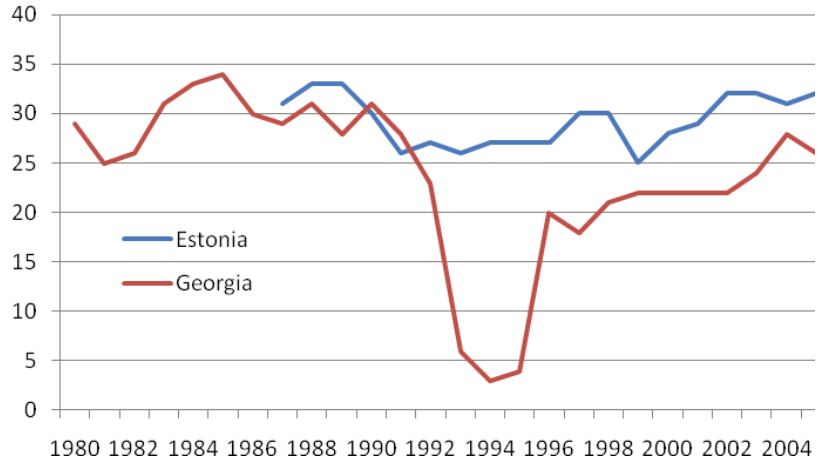

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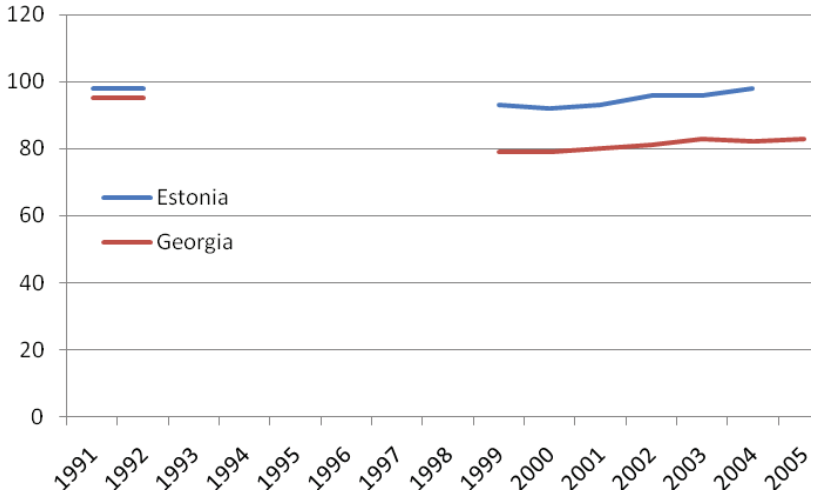

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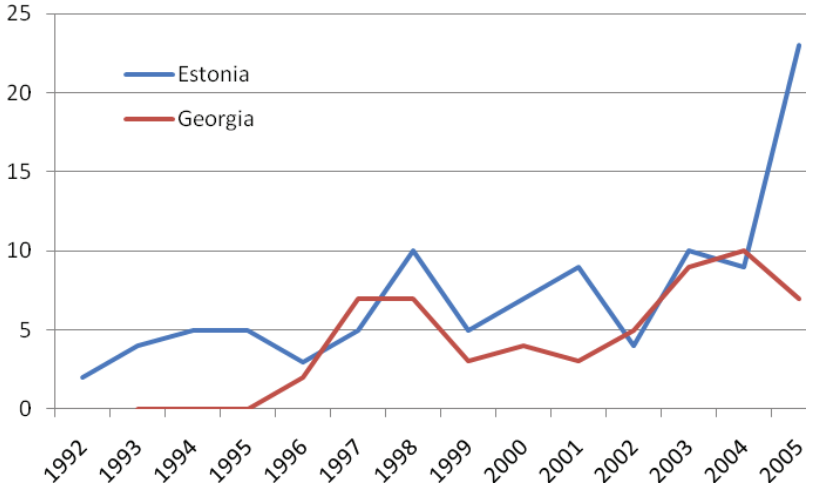

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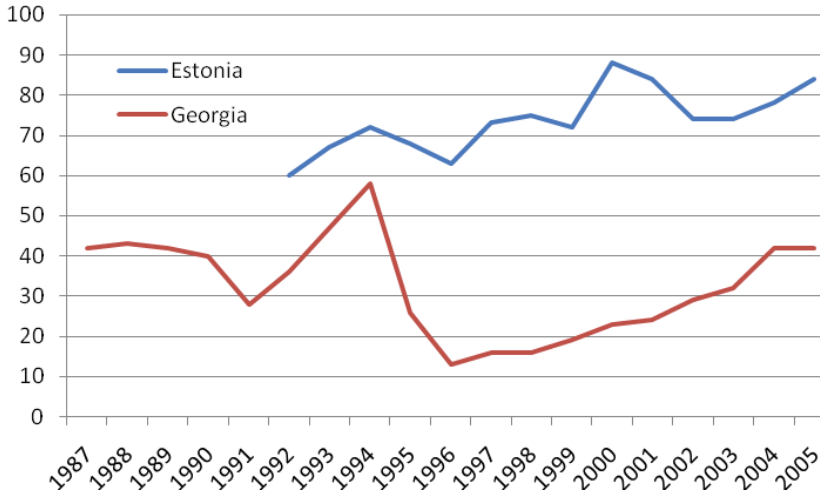

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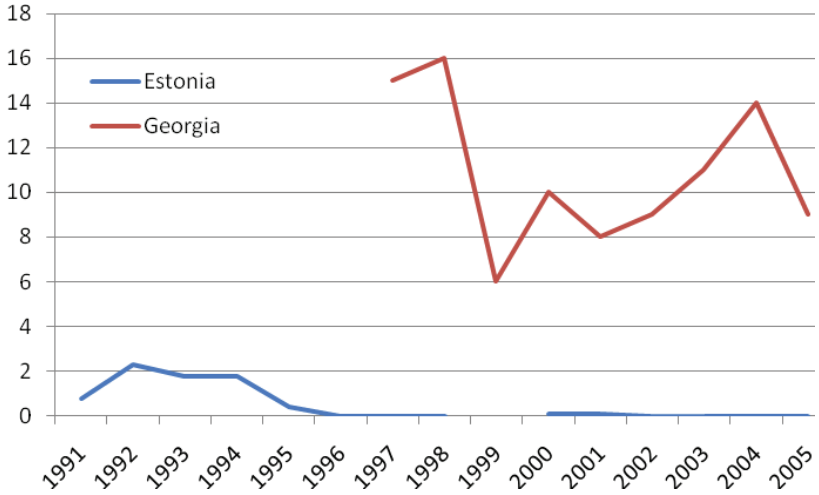

Source□World □ank, *World Development Indicators 2005* and *2007*.

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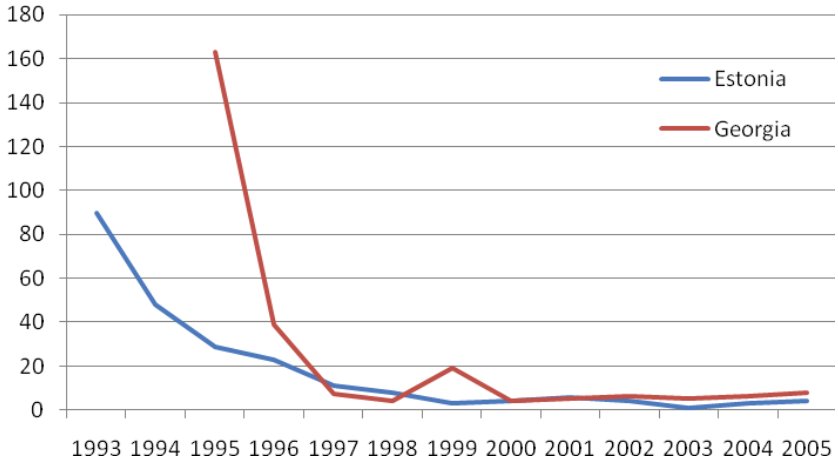

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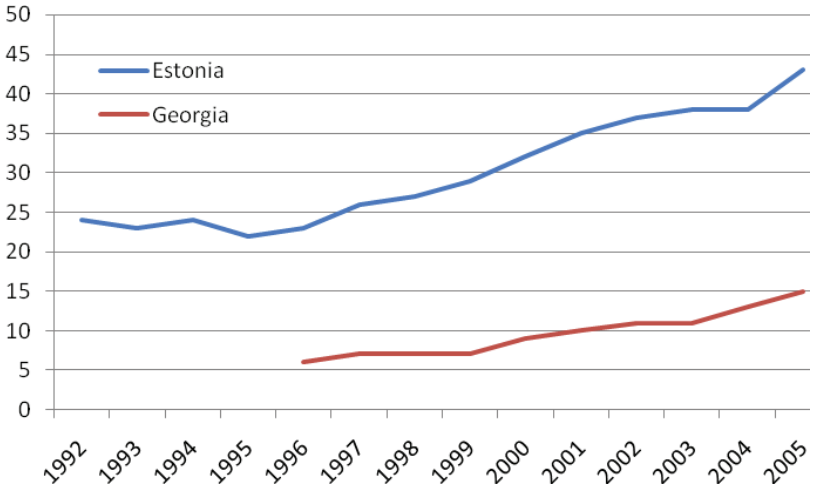

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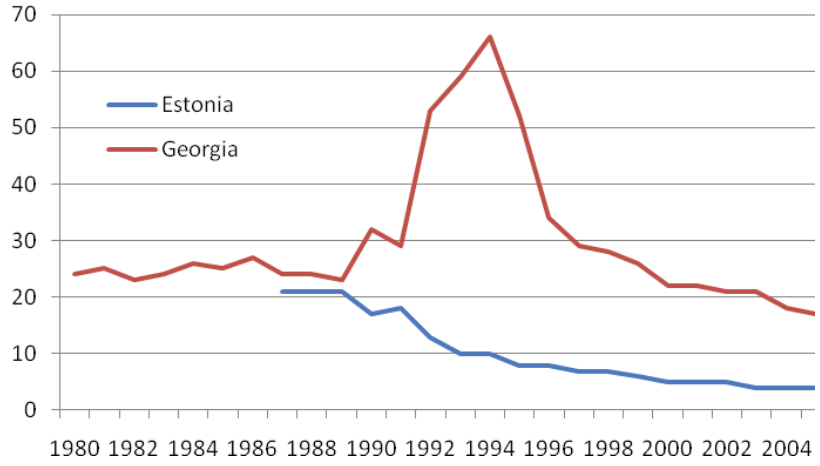

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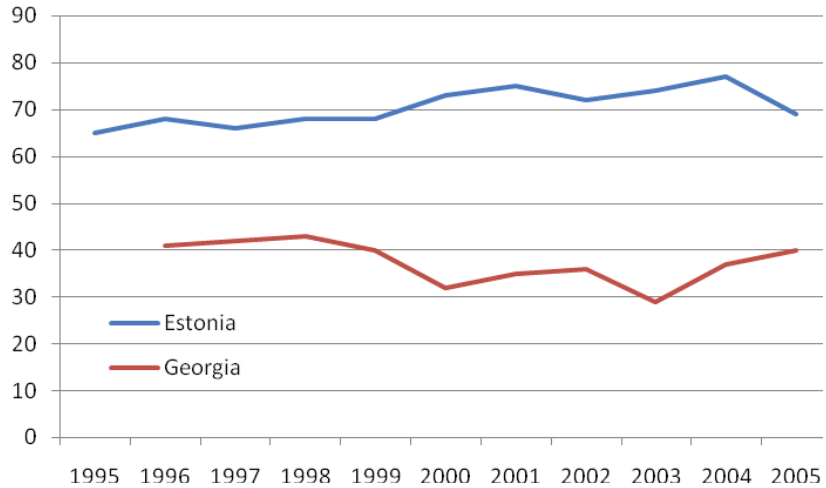
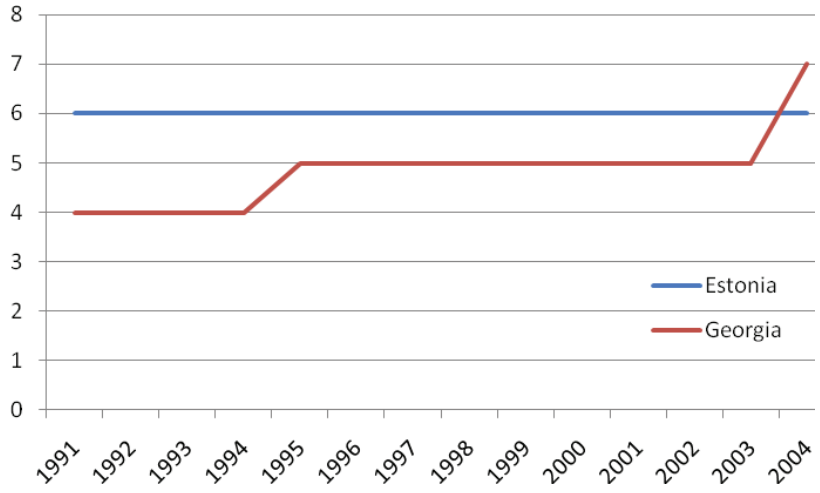


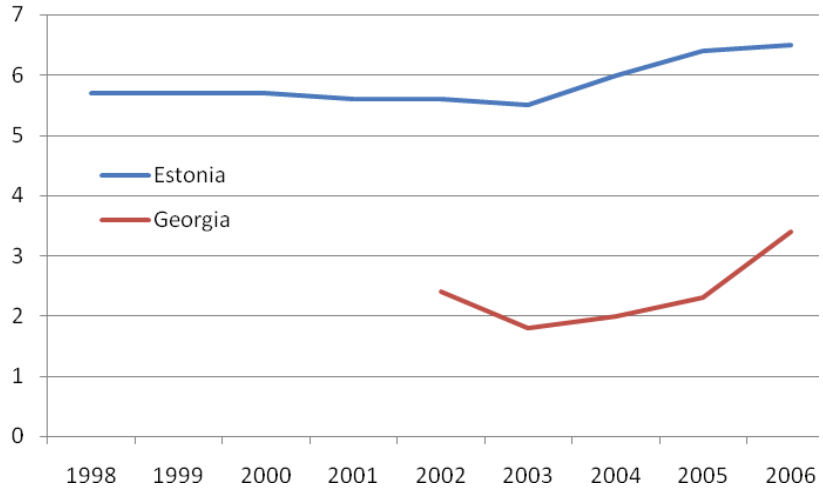
Source□World □ank, *World Development Indicators 2007*.

Figure 1 Democracy 1 Index from 1 to 1



Source: World Bank, *World Development Indicators 2007*.

Figure 1 Corruption Perception Index from 1 to 1



Source: Transparency International, 1999-2007.

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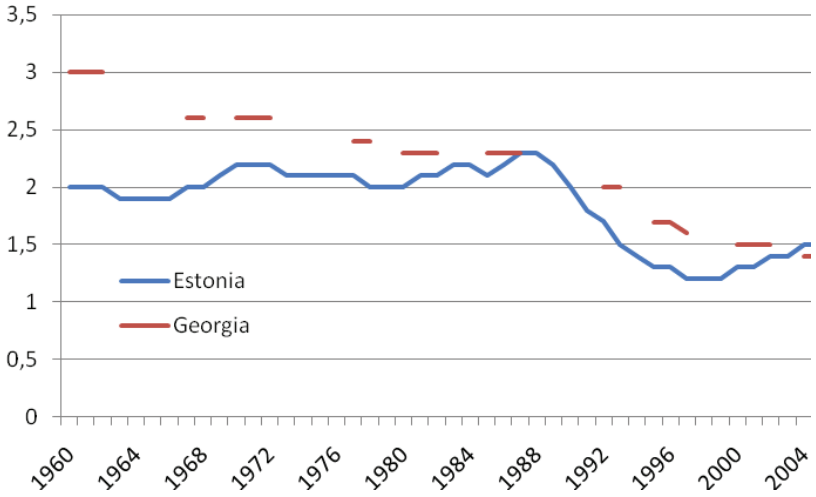

Source□World □ank, *World Development Indicators 2007*.

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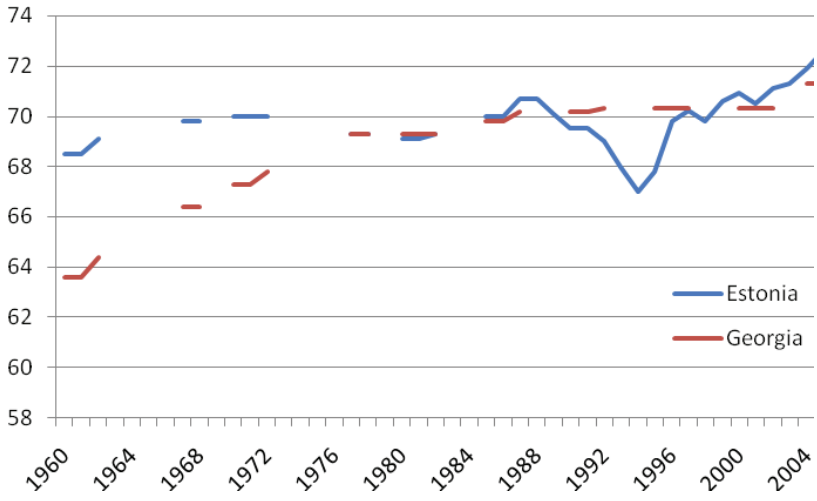

Source□World □ank, *World Development Indicators 2007*.

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