

Transition in the Baltic Countries

The Economic Effects of Institutions and Uncertainty

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Preface

The Baltic countries have been through enormous changes in the less than 20 years following the fall of communism. They have had to build the institutional framework of independent nations almost from scratch.

My Master Thesis has given me the opportunity to learn a lot about the importance of institutions for economic growth, a subject I find both interesting and important. I have also learned a lot about Estonia, Latvia and Lithuania, three countries with a difficult past, but apparently, and hopefully, a bright future.

I would like to thank my tutor Halvor Mehlum for good advice and help. In addition, I thank Erik Reinert, Rainer Kattel and Uku Hänni for conversations which have been helpful in providing me with interesting views and extra motivation.

I am also grateful for a grant from ESOP, which has helped me in finding information.

Summary

In my thesis I look at the experiences of the Baltic countries (Estonia, Latvia and Lithuania) after the fall of communism and the collapse of the Soviet Union. The main weight is put on exploring the choices taken when the countries set up a new institutional system, to find if differences in these choices can explain differences in economic performance between the countries.

The background for this thesis is the fact that there's been a marked difference in the economic performance of the Baltic countries since their independence. In 1990 Estonia was the wealthiest of the Baltic countries, measured in GDP per inhabitant, a bit above Latvia in the middle and with Lithuania as the poorest. Now the difference between Estonia and the two others is much greater, real growth 1990-2006 has been respectively 76.7%, 20.6% and 24.6%. Most of this difference came in the early years following communism, 1991-1995, between 1995 and 2006, growth has been almost similar. Therefore, the early years of transition receive most of my attention.

My hypothesis is that qualitative differences in the countries' institutions and the uncertainty around their development have led to different rates of growth. I look at different theories about how different institutions are important to achieve growth, and then see how they fit with empirics from the three countries.

I find that Estonia's better economic performance in the transition years can be explained by its success in building better institutions than Latvia and Lithuania, and by lower uncertainty over its future, due to more consistent policies leading towards a market economy. Fast and effective reforms such as opening of trade, strict fiscal policy, the implementation of a currency board and banking reform helped to facilitate the introduction of hard budget constraints in Estonia, and the inflow of FDI, large as the uncertainty was low, made restructuring easier and more effective. Thus Estonia was able to get out of the transition slump faster than the other two, and the advantages gotten then seem to have remained.

The thesis is organised as follows: In section 2, I look at the history of the Baltic countries, with focus on the inheritance left by the years of Soviet economic policy and the problems faced in the transition from plan economy to market economy. Section 3 explores several

theories of why some countries are richer than others, mainly focusing on institutional explanations. I look at initial conditions, the level of corruption, price liberalisation, privatisation, competition policy and banking regulation in the three countries, and find that mostly, Estonia has followed a policy that, according to the theories I use, is better for economic growth than the policies followed by Latvia and Lithuania, or at least as good.

In section 4, I use a model, taken from Dani Rodrik's article "Policy Uncertainty and Private Investment in Developing Countries", to show how uncertainty about a country's economic policy might affect investment and thus growth in the country, and look at the Baltic countries' experiences within this framework. While uncertainty concerning foreign relations was probably higher in Estonia and Latvia than in Lithuania, I find that Estonia was the fastest and most consistent country in introducing reforms. This implies that the perceived chance of the emergence of a well functioning market economy most likely was seen to be higher in Estonia, leading to more investment and thus higher growth. Finally, in section 5, I draw conclusions and mention factors that could be explored further or that I might have overlooked.

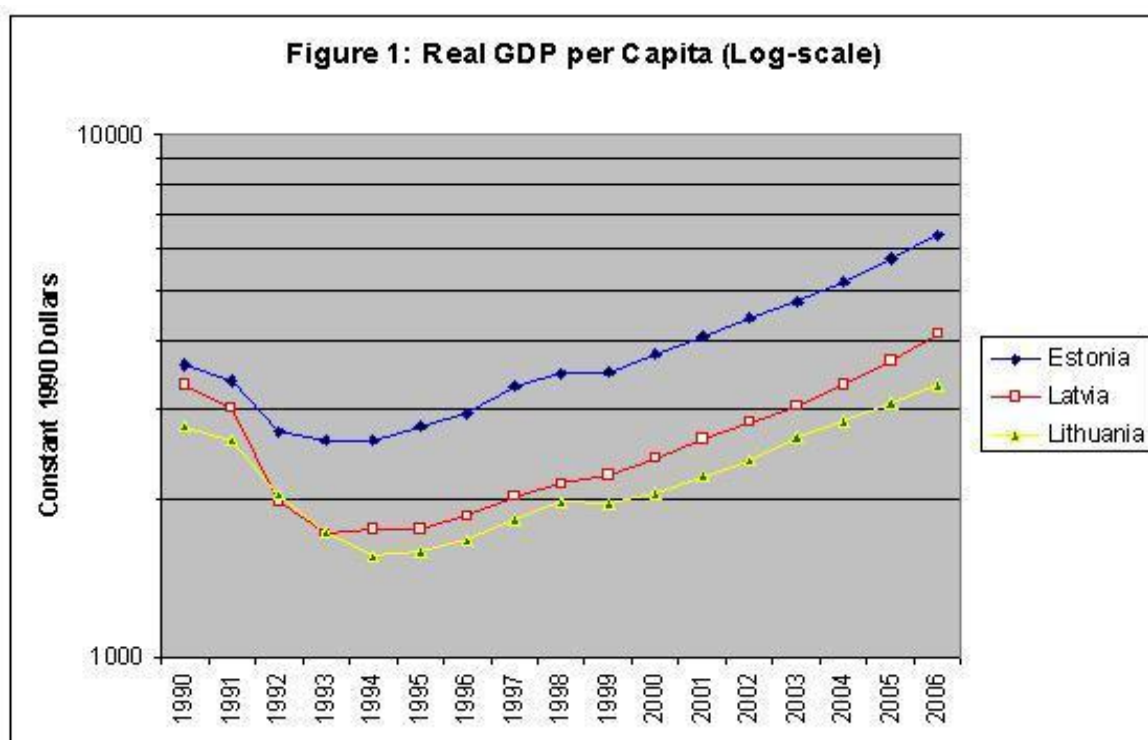
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1. Introduction

In this thesis I will look at the experiences of the Baltic countries (Estonia, Latvia and Lithuania) after the fall of communism and the collapse of the Soviet Union. The main weight will be put on exploring the choices taken when the countries set up new institutional systems, and if differences in these choices can explain differences in economic performance between the countries.

The background for this thesis is the fact that there's been a marked difference in the economic performance of the Baltic countries since their independence. Estonia has done quite a lot better than the other two. In 1990 Estonia was the wealthiest of the Baltic countries, measured in GDP per inhabitant, a bit above Latvia and with Lithuania as the poorest. Now (2006 is the latest year for which I have numbers) the difference between Estonia and the two others is even greater, while Lithuania has still not reached the level of Latvia (growth respectively 76.7%, 20.6% and 24.6% measured in GDP per inhabitant in constant 1990-prices in US dollars, numbers from UN-Stat (2008)). This is shown in Figure 1.



When inspecting Figure 1, it is interesting to note that it was the period between 1991 and 1995 that showed the largest divergence in growth, with particularly Latvia's GDP falling extremely fast, and Estonia experiencing a less severe recession and earlier stabilisation. Then, between 1995 and 2006, growth has been almost similar. I will talk more about possible reasons for this in section 2.

In this thesis I will explore why Estonia has been growing faster than Lithuania and Latvia, and why Lithuania is lagging slightly behind. I will do this by looking at different theories (articles) about how different institutions are important to achieve growth, and then see how they fit with empirics from the countries. My hypothesis is that qualitative differences in the countries' institutions and different levels of uncertainty concerning their development have lead to different rates of growth.

This paper is organised as follows: In section 2, I will examine the history of the Baltic countries, with focus on the inheritance left by almost 50 years of Soviet economic policy and the problems faced in the transition from plan economy to market economy. Section 3 will explore several theories of why some countries are richer than others, mainly focusing on institutional explanations. I will also shortly mention how the theories fit with the data from the Baltic countries. In section 4, I will look at a model about how uncertainty around a country's economic policy might affect investment and thus growth in the country, and look at the Baltic countries' experiences within this framework. Then I will conclude with section 5, drawing conclusions and mentioning factors that could be explored further or that I might have overlooked.

2. The Baltic Countries: The Inheritance from Communism

The Baltic countries consist of, from North to South, Estonia, Latvia and Lithuania, three small countries west of Russia, at the east side of the Baltic Sea, with a combined population of about 7 million (1.3, 2.3 and 3.4 (2007) respectively; EIU, 2008a, b, c) The three countries had a period as independent republics from ca 1920 following some years of struggle for independence from Russia after the Russian revolution. This period lasted until they were occupied by Soviet in 1940, they were then held by Germany for a period during WWII, before being reoccupied by Soviet. Thereafter they were a part of the Soviet Union until 1991.



2.1 A Communist Economy

When the Baltic countries became independent in 1991, they had a great challenge ahead: changing their ineffective plan economies into modern economies. This was a daunting task. A typical communist planned economy was characterised by: The economy almost completely regulated by a central plan. Industries were in principle given a certain amount of input and had to supply a certain amount of output; A strictly vertical command and control

system where goals from the central plan were to be implemented at all levels. Autonomy at lower level was low; State ownership of almost all firms, resources and land; Fixed prices. Prices were decided by the needs of the central plan, not by the scarcity of the good. They were not real, but only meant for accounting and measurement (Ericsson, 1991; de Melo/Denzier/Gelb, 1996).

The basic result of these characteristics was an economy where incentives were not playing the right role. Prices did not reflect scarcity, but political considerations. Firms did not have to maximise profit as they were given an amount of input, and had no bearing on who would buy their output or to which price. There was no reason to improve quality as long as it was adequate. Lack of property rights and an ideology of egalitarian pay meant workers' and managers' incentives to work hard and get rich lacked. Also, the possibilities, and incentives, for innovation were lacking. If a firm invented new technology to increase production or use input more effectively, the next year the plan would require it to produce more or give it less input, the so-called ratchet effect (Roland, 2000). This led to a system where resources were not used in the most effective way, as the incentives to use them efficiently lacked.

With the enormous amount of resources to be distributed, even a large bureaucracy could not manage to make a consistent plan for the economy (Roland, 2000). The lack of a consistent plan and the desire for economic growth, avoiding unemployment and utilising resources, combined with soft budget constraints for firms, which gave them incentives to hoard resources, led to massive shortages in the economy (Kornai, 1979).

So the tasks facing the newly independent countries were to liberalise prices, to restructure and privatise state owned businesses and to replace the control by planning with a system where different agents make their own decisions. Reforms inducing these changes, the theory went, would lead to increased output and efficiency by utilising resources in a more effective way.

But this was not what happened following the fall of communism. The Baltic countries went into deep recessions (as did all of the other transition countries). GDP was decreasing until 1994 (1995 for Latvia), and was at its worst 67% of 1990 level for Estonia, 56% for Lithuania and 50% for Latvia (GDP in constant 1990-prices in US dollars, numbers from Un-Stat, 2008), though the real decline was probably smaller, due to a large informal

economy and measurement errors (Campos and Coricelli, 2002; de Melo, Denzier and Gelb, 1996).

The dramatic decline in GDP was somewhat unexpected (Campos and Coricelli, 2002; Svejnar, 2002; UNDP, 1999). As previously noted, a communist economy suffers from a large number of distortions. As these were removed, according to theory one could expect growth in GDP, not decline. So why didn't the fall of communism lead to growth, but to what the UNDP (1999) call a great depression?

A certain fall in GDP was not unexpected. Communist economies had concentrated on heavy industry, especially military equipment, while the service sector was underdeveloped (Blanchard, 1997; Roland, 2000). So some reallocation between sectors, from manufacturing to services, and from state to private ownership, was seen as unavoidable (de Melo, Denzier and Gelb, 1996). But this was expected to be short-term distortion of the economy, and not so severe.

There are several different explanations in the literature for the unexpected magnitude of the output fall, listed by Svejnar (2002) as: too tight macroeconomic policies; a credit crunch caused by high interest rates, reduction in subsidies from the state and lack of a financial sector; disorganisation as central planning collapsed and new relationships had to be built between suppliers, producers and consumers in an economy lacking the legal institutions for enforcing contracts (this is the explanation favoured by Roland (2000)); the emergence of uncontrolled monopolies as the state gave up control of large parts of the economy; labour market frictions as lots of workers had to switch jobs in an imperfect labour market; and disturbance of trade patterns as a consequence of the dissolution (in 1990) of the Council for Mutual Economic Assistance (CMEA) which facilitated trade within the Eastern Bloc.

All of these reasons are probably parts of the explanation for the severe transition recession, and in general I see them as consequences of the lack of the institutions that a market economy needs to function well. I will write more about different institutions and their impact on the economy in part 3.

2.2 Results of Reform

For the Baltic countries, the start of the reform process was slow. Breaking all bonds with the old Soviet system took time (Russian troops were present in the countries until 1993-1994), and in for example the classification by de Melo, Denzier and Gelb (1996) (based on World Bank/EBRD Transition Indicators) all three of the countries are put in the category “High intermediate reformers” with Bulgaria, Rumania, Albania and Mongolia. It should though be said that in the countries doing best (Slovenia, Poland and Hungary) the communists had lost control already in 1989, so the low status given data from 1989-1994 might not mean much.

In the end the reforms seem to have worked relatively well. In EBRD numbers from 2006, Estonia ranks second on average value of Transition indicators, Latvia and Lithuania a little lower. Quite consistently, during the whole process of transition, Estonia has been seen as the front-runner of the Baltic countries. Today the Baltic countries are all members of the EU (since 2004), they were among the first East European countries admitted. The EU has rather strict rules for countries wanting to join. These requirements include a functioning market economy and stable institutions guaranteeing democracy (European Commission, 2008). Accession to the EU can therefore be seen as an indication that a country has the same standards as the richer West European countries. This was important, not only for the inhabitants of the Baltic countries, who wanted to re-establish the pre-war contacts with the West and make sure their countries remained independent of Russia, but also for investors from abroad (Roland 2000).

All three countries have markedly higher GDP per capita than in 1990 and especially Estonia is seen as one of the most successful among the Ex-communist countries. According to a survey conducted by the EBRD and the World Bank in 2006, the Baltic countries, with Estonia on top, are all among the 4 ex-communist EU-countries where the populations are most satisfied with the economic situation today compared with 1989 (World Bank, 2008).

Starting almost from scratch with making laws and regulations, and building institutions, also represented an opportunity for the Baltic countries. They could look at the different developed countries and choose the institutions that functioned best, something that due to vested interests is hard for other countries which already have a set of institutions (as can be

seen e.g. by how unpopular proposed reforms of labour market regulations are in Germany and France).

The fact that it is easier to choose before one has a established set of institutions than to change the institutions when they are in place means that most likely, the difference between the Baltic countries follows decisions made quite soon after independence. This could also explain the previously noted pattern of Figure 1, where divergence is clearest in the early years.

With this in mind, the transition process in Eastern Europe and the CIS can be seen as an unprecedented experiment for testing how well different institutions function and how easy they are to build. Therefore, the experiences of transition are not only relevant for countries still under a communist system (not too many of those are left), but also for all other countries in the world that want to achieve long-term growth (I do agree that different countries might need different solutions, but believe that well-functioning institutions are needed to have a successful society in all cases).

3. The Importance of Institutions

One of the main theories of development economics, the part of economics dealing with why countries grow at a different rate or why some countries are wealthier than others, is that institutions (or what Hall and Jones (1999), including some other factors, call social infrastructure) are different (Hall and Jones, 1999; Acemoglu, Johnson and Robinson, 2001 and 2004) and that these differences affect a country's economic performance. Rodrik (2000) argues that the question of whether institutions are important has now been replaced by the question of which institutions are important. Roland (2000) notes the importance of developing institutions for transition economies.

The well-known economist Douglass North (1991) defines institutions in this way:

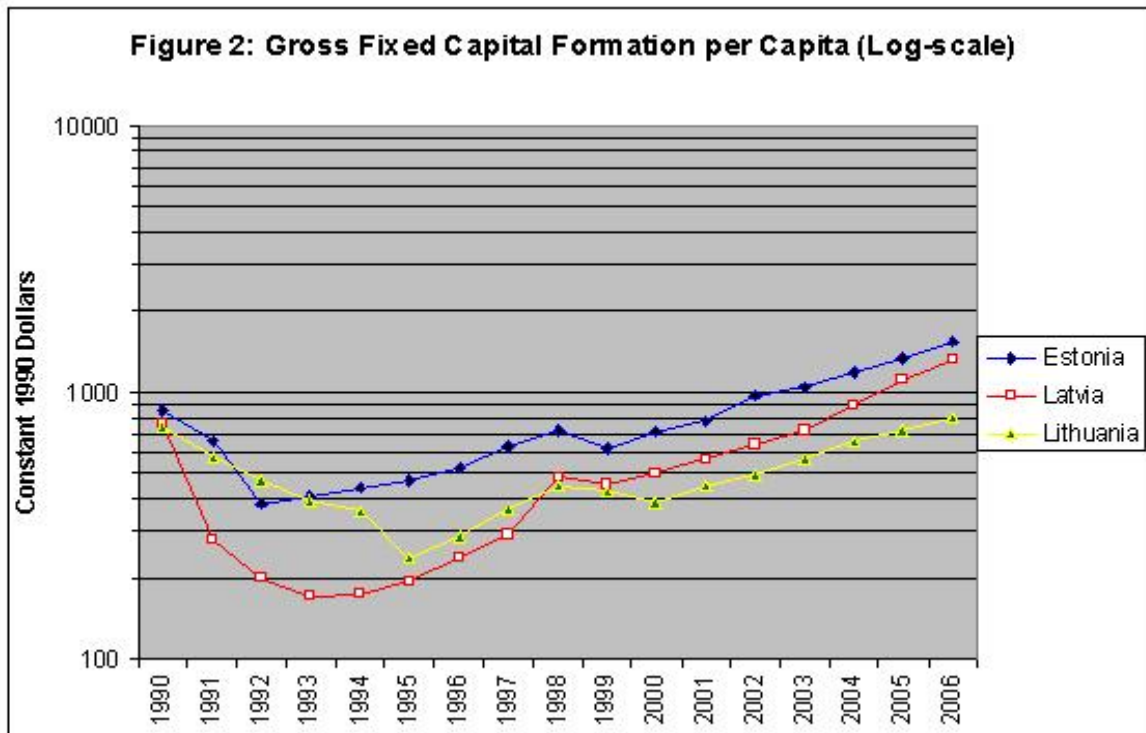
” Institutions are the humanly devised constraints that structure political, economic and social interaction. They consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights)... Institutions provide the incentive structure of an economy; as that structure evolves, it shapes the direction of economic change towards growth, stagnation, or decline”.

So a country's institutions basically determine how effective the country will be in using its resources. No surprise then that good institutions will lead to a high level of wealth.

The theory that institutions decide the wealth of a country is quite wide, it can also be reconciled with e.g. Solow's classical growth model (Solow, 1956), where growth depend on the level of capital, by making the level of investment conditional on a country's institutions. Investors are interested in investing where the government protects their investments by having well defined property rights and effective courts to deal with disputes, not where a constant stream of bribes is needed to keep a business running or where their property can be suddenly expropriated. A large part of this paper will look at theories that can explain differences in GDP growth through the investment channel.

Looking at UN-Stat (2008) numbers for gross fixed capital investment (Figure 2), it seems like Estonia has had the highest investment of the countries. This figure seems to correlate

quite closely with the figure for GDP earlier in the text. Especially, the numbers for the first few years could explain the larger slump in Latvian GDP compared with the others.



A question that could be posed concerning Figure 2 is whether investment is demand- or supply-constrained. In the first case, there is a lack of good investments to be made, leading to low investment. In the second, good projects are not financed due to a lack of funds. In both cases, reforming institutions is important. If there are few profitable investment opportunities, better institutions will, due to the reduced costs of entrepreneurship mentioned earlier, lead to higher returns and an increased demand for investment. At the same time, institutions facilitating lower inflation, open capital markets and the rule of law will increase access to funds from foreign investors.

For the Baltic countries, I would argue that both constraints seem to have been effective, one after another. At first, with inflation and disruptions in trade-networks cutting profits and causing uncertainty about the future there were probably few profitable investment opportunities. Following stabilisation programs, profitable projects emerged, but tightening financial policy due to stabilisation, and lack of credit markets lead to a credit crunch (Campos and Coricelli, 2002).

In the literature there are quite a lot of theories of why some transition countries (previously communist countries in Eastern Europe and Central Asia) are doing better than others, and more generally, of why some of the world's countries are richer than others. Since my hypothesis is that Estonia is growing faster than the two others because of better institutions, I will look at some of these theories, and explore if there are differences between the institutions in the three countries that can explain this divergence. In section 4, I will take a look at a model that explains how uncertainty about institutional development can be a factor influencing investment and growth.

3.1 Initial Conditions

Before I start with the theories, I will take a look at the initial conditions in the countries. Because one reason for the less dramatic fall in output in Estonia compared with Latvia and Lithuania could be a starting point more suited to a transition from communism to market. One difference could be between the relative weights of economic sectors in the economies. It would for example be reasonable to assume that a country dependent on raw materials would handle the transition relatively better than one producing mostly Soviet-type (inferior) machinery. Also different institutions during the Soviet period could be expected to influence the institutions that emerged after independence.

As for institutional differences, they seem to have been small. Although the Baltic countries were separate republics under the formally federal Soviet system, run by leaders of indigenous nationality, they were in practice controlled by a very centralized system (Brown, Kaser and Smith, 1994). The Politburo had the power to appoint or remove most important bureaucrats, and central ministries controlled much of the industry, so the local authorities had only a limited role in shaping policy and institutions. During the Soviet period, several local leaders were replaced for expressing wishes for more local influence (Küng, 1973).

Concerning the structure of the economy, it's not easy to find detailed numbers for the structure of the economies of the different countries within the Soviet Union. An article by de Melo, Menzier, Gelb and Tenev (2001) reports that the three Baltic countries had a similar amount of overindustrialisation (a higher share of industry than common for a

country given income), and almost the same share of industry in GDP (44-45%). They also class all the countries as poor in resources and note that they are roughly as dependent on trade within the CMEA (Estonia the least though). In their article, the three Baltic countries have rather similar values of the two main indicators of initial conditions, representing the amount of macroeconomic distortions and the overall level of development, but it should be noted that Von Hirschhausen and Hui (1995) reports that Latvia was the most industrialised of the countries.

It should though be noted that Estonia has a natural resource, Oil-shale, which provided the country with roughly 60 percent of its primary energy supply during each of the transition years, though it does not contribute a large part of GDP (Ministry of Economic Affairs and Communications, 2001). None the less, looking at numbers from 1989 and 1990 for export and import disaggregated into 15 and 105 sectors, taken from Tarr (1993) gives the impression that exports from and imports to the three countries are concentrated on broadly the same sectors. All in all it seems like the countries had industry structures that were quite similar. The most important sectors (based on the information from Tarr (1993)) in all countries were machinery, light industry, chemicals and food.

I therefore conclude, with the caveat that the information is limited, that there are few reasons to believe that different initial conditions were the reason for Estonia's better performance during transition. The main reason for differences between the countries I therefore believe to be differences in the institutions developed after independence. The effects of changes in institutions often come in the long term. The Baltic countries were part of the same country and system until 1991, and, as I have argued, in terms of institutions they had a quite similar starting point following their independence from the Soviet Union. Thus I have to look for developments that have made Estonia relatively richer in a quite short period of time.

3.2 Corruption

Based on the theory that corruption is damaging (Shleifer and Vishny, 1993), Mauro (1995) surveys corruption, the amount of red tape and the efficiency of the judicial system in

different countries empirically. Shleifer and Vishny's theory says that corruption is damaging as a more distorting type of taxation than ordinary taxes. It is additionally distorting because of the need to keep the corruption hidden. Thus investment will be led by bureaucrats into the sectors where it is easiest to extract bribes, not where the investment is most valuable to the economy. Looking at around 70 countries, with a data set consisting of the opinions of analysts at the firm Business International, Mauro finds that corruption lowers growth, especially by lowering the amount of investment.

Applying this theory to the Baltic countries, data from Transparency International (2008), for all the years the three countries are included (from 1999) and Kaufmann et al. (2007) suggests that Estonia has a marked lower level of corruption than Latvia and Lithuania, which are quite similar. Though not certain, it is quite likely that this applied also prior to 1999. It has to be noted that comparisons between countries are difficult to make, as data are mostly subjective, and perceptions of the level of corruption might not equal the real level of corruption. With this caveat though, this could be a decent explanation for the income differences, but as the main divergences between the countries came just after the dissolution of the Soviet Union, it might not hold. But it can certainly be an explanation for the lack of convergence. If Estonia, as indicated by the surveys, has established a system with less tolerance for corruption, that might mean that there might be growth-convergence between the countries, with equal growth, but with Estonia at a higher income level as it is able to attract more investment. This would be a fitting description for the situation that has been observed since 1995-96.

3.3 Price Liberalisation, Inflation and New Currencies

Prices, previously set due to political decisions, needed to be liberalised, to reflect supply and demand and thus facilitate a functioning market. This was done in all three countries from 1991 as the Soviet Union dissolved. In Estonia and Latvia, prices were quickly liberalised, with EBRD (2007) reporting complete price liberalisation, score 4+, from 1993 on. Lithuania liberalised prices a bit slower, food prices were fully freed in 1995 (EIU, 1996) and a 4+ transition score was not achieved before 2002 (4 from 1993).

Due to shortages and price controls in the Soviet Union, the Baltic countries faced repressed inflation as prices were liberalised. De Melo, Denzier, Gelb and Tenev (2001) report that wages had been growing almost 26 percentage points faster than GDP in the Soviet Union between 1987 and 1990. So following price liberalisation, and aggravated by the weakness of the rouble, inflation exploded, to levels around 1000% per year in 1992 (De Melo, Denzier and Gelb, 1996). Inflation rates at this level are severely damaging to the economy, so the reduction of inflation was important. The countries managed to reduce inflation, but Lithuanian inflation stayed high for a longer time, being a lot higher in 1993 and 1994 (De Melo, Denzier and Gelb, 1996). From the late 90's, inflation has been low.

With the rouble being unstable, and also as a mark of independence, new currencies were introduced in the Baltic countries. The introduction of these currencies differed. Already before formal independence, the Estonian government introduced monetary reforms, allowing the rouble to deflate locally (Kukk, 1997). This preparation let Estonia introduce kroons, convertible and pegged to the D-mark through a currency board, already in June 1992, the two other countries did not introduce permanent currencies before 1993 (Savchenko, 2002). Latvia and Lithuania exchanged roubles for temporary currencies in May 1992 before introducing lats and lits in March and June 1993, at first floating, then pegged respectively to IMF standard drawing rights (a basket of currencies) and US dollars from 1994 (EIU, 1996). Following the closer ties with EU, all three countries have switched their currencies' pegs (Latvia's currency now floats within a narrow band) to Euro (EIU, 2008a, b, c).

In a currency board arrangement, the local currency is convertible (in Estonia by law) at a given rate to another currency and the monetary base is entirely covered by foreign reserves (De Haan, Berger and van Frassen, 2001). This system almost eliminates the central bank's possibility to print money, e.g. to finance the government's budget deficit or otherwise inflate demand, as the supply of money is determined by foreign reserves (Korhonen, 1999). This conceivably helps to get inflation under control, and a peg to a solid currency will also help stabilising the local currency. But at the same time, a currency board reduces the possibility for the central bank to act as a lender of last resort, and a strict fiscal policy is necessary. If inflation is driven too much higher than in the country of the currency peg, by loose fiscal policy or misalignments between the economies, the country's competitiveness

will be reduced, in the worst case making the peg unsustainable (De Haan, Berger and van Frassen, 2001).

The introduction of a currency board in Estonia has been credited with helping to reduce inflation. But it also led to a credit squeeze in late 1992 early 1993 (Sutela, 1994). At the same time, Latvia was battling inflation by having very high interest rates (real interest rates up to 100%), while in Lithuania, interest rates were high, but not so high in real terms and there was less evidence of a credit crunch (Sutela, 1994). Sutela (1994) also does not see much difference between Estonia's and Latvia's solution to fighting inflation (success for both depended on strict monetary policy), except that Estonia's solution was more sustainable, less dependent on political will. This is not inessential; the extra credibility of Estonia's willingness to curb inflation appears to have had real effects. Estonia had substantially lower interest rates than Latvia and Lithuania in the early 90's, which might have been because the credible currency board lowered inflation expectations (De Haan, Berger and van Frassen, 2001). Lower (real) interest rates are good for the economy as it facilitates investment, and might have helped Estonia recover from the post-communism slump faster. As a side-note, Estonia also choose its peg better than Latvia and Lithuania, as Germany's economy has been better aligned to the economies Baltic countries than USA's or the weighted economy of the countries which currencies constitute SDR (De Haan, Berger and van Frassen, 2001).

3.4 Privatisation

A typical communist economy was, as explained in subsection 2.1 almost completely state-controlled. In 1990, the estimated private sector share of GDP in the Baltic Countries was 10% (EBRD, 2007). As almost all companies were owned by the state during the communist period, and run in a very ineffective way, privatisation was wanted and needed¹ in all three countries. The way privatisation was achieved had certain implications for the efficiency of

¹ Roland (2000) explains the expected advantages of privatisation.

the newly privatised companies. How much more efficient the firms would become would obviously be very important for the growth of the economies.

The efficiency gains from privatising a state owned enterprise (SOE) come from improving the incentives of managers, which, as noted in section 2.1, were severely disturbed by soft budget constraints and the ratchet effect. Hoarding of labour and old, inefficient technology were also serious problems. So the ideal new owner of a state firm would cut costs and unnecessary unemployment, and introduce new technology.

Boycko, Shleifer and Vishny (1996) argue that since the cause of most inefficiencies in SOEs is political inference (especially keeping employment too high), the closer the new shareholders' views on employment are to the politicians', the less efficiency gains. Thus, large outside investors are more efficient than management control which is again more efficient than worker control (as workers will certainly not want to decrease employment).

Roland (2000) focuses more on the possibility of getting the right managers and providing them with the right incentives. He analyses sale to outside investors as a good way of getting enough capital for restructuring a firm and, if necessary, getting rid of bad managers. Mass privatisation on the other hand, either to outsiders or insiders (vouchers or management/employee buyout respectively), does not give the same incentives. With dispersed ownership management will often have much control and bad managers will therefore stay (as they will if they own the firm). Funds for restructuring might also be hard to find. The combination of the lack of outside control and few opportunities to restructure might make asset stripping a tempting option for managers. The advantage of outside ownership seems to be confirmed empirically in a metaanalysis by Djankov and Murrell (2002).

Table 1 shows the privatisation score given by the EBRD Transition Reports to the Baltic Countries. This score is the average of the large scale and small scale privatisation transition indicators, ascending from 1; little private ownership, to 4+; Standards and performance typical of advanced industrial economies (EBRD, 2007). It is interesting to note that Estonia scores clearly higher than the others after 1993. After 2001 the difference decreases.

Table 1: Transition Indicator: Privatisation (1991-2000)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Estonia	1.00	1.50	2.50	3.50	4.00	4.17	4.17	4.17	4.17	4.17
Latvia	1.00	2.00	2.50	3.00	3.00	3.67	3.67	3.67	3.67	3.67
Lithuania	1.00	2.00	2.50	3.00	3.00	3.50	3.50	3.50	3.50	3.67

Note: For a value with -; 0.33 is subtracted, for +; 0.33 is added, i.e. 4+ equals 4.33.

Source: EBRD

This reflects that the Baltic countries differed in privatisation methods, with Estonia mostly selling to foreign investors, while Latvia and Lithuania used voucher privatisation as their main method (Havrylyshyn and McGettigan, 1999, World Bank, 1996). More specifically,² in Estonia, an organisation was set up to restructure and then sell the SOEs, the German Treuhand model. When it, in 1993, became clear that the financial and human capital for this was lacking, the Ministry of Finance took control, and a new institution, Estonian Privatisation Agency were charged with the process. Tenders for the sale of SOEs to foreign investors became the main way of privatisation. SOEs were then sold without being restructured, to core investors, the investors that had the best plan for investing in new technology and keeping employees (Terk, 2000). Firms that were deemed hopeless to restructure were quickly closed down. Vouchers were used to privatise housing and to purchase minority shares in firms (Mygind, 1999).

Latvia at first failed to implement stable institutional and legal structures for privatisation. This meant that insiders often had the opportunity to take over firms, particularly through leasing (Mygind, 1999). Vouchers were supposed to be used a lot, but the interest turned out to be mostly for housing. In 1994, wanting to speed up the slow process, a centralised privatisation agency, modelled on the Estonian one, was created. The remaining firms were then mostly sold through tenders (Mygind, 1999).

In Lithuania, using vouchers supplied to all citizens was seen as the fastest and fairest way of privatisation. The implementation of voucher privatisation started already in 1991, and soon most SOEs were privatised. A number of large enterprises were for political reasons kept in state ownership (EIU, 1996). But since there very no bankruptcy rules or regulatory framework for privatisation, the authorities ended up bailing out firms that went bankrupt.

² The details of the privatisation process come from Von Hirschhausen and Hui (1995). I write here about privatisation of large firms, as small enterprises in all countries were mostly sold to their owners (Mygind, 1999).

Additionally, since many citizens did not really see the value of vouchers and due to lack of regulation, a few investment funds ended up with acquiring a large part of the economy for a relatively low price. From 1997 on, larger enterprises started being sold following the Estonian model (Mygind, 1999).

As previously noted, the choice of privatisation method is often seen to affect the efficiency gains of the privatisation process. When comparing the countries against the theories mentioned, Estonia, selling to strategic, often foreign, investors have done better than Latvia, giving much away to managers, or Lithuania, where the state was involved for a longer term and voucher privatisation giving dispersed ownership was the norm. But how big a part in Estonia's performance this plays is uncertain. Zinnes, Eilat and Sachs (2001) stresses that without the right institutional framework, gains from privatisation might not materialise, and states that this framework was better in Estonia in some early years. And Havrylyshyn and McGettigan (1999) note the importance of new firms in the GDP of transition economies, the performance of which might not depend on the method of privatisation.

3.5 Competition Policy

In the Soviet economy there was virtually no competition. All businesses within a certain part of the economy were controlled by the same ministry, which had responsibility for fulfilling the goals of the plan (Ericson, 1991). So these ministries were monopolies, but under government control, so they could not use their monopoly power fully to maximise profit. Markets with little competition are according to standard microeconomic theory less effective than competitive markets. This is because prices will be higher and output lower than in the case of perfect competition. At least at the first sight, the privatisation of firms, allowing them to fully exploit their monopoly power seems like a possible explanation for the output fall and price rises of the early years of transition.

There are however some problems with this interpretation. Brown, Ickes and Ryterman (1994) estimate the industrial concentration of Russia in 1989, and find that it is no greater than in the US, though there are fewer small firms. On the other hand, what constitutes a medium-size firm in Russia might have large market power in the smaller Baltic countries.

I would nonetheless argue that the drastic fall in output was more a consequence of disorganisation in the production networks caused by price liberalisation (Roland, 1997; Von Hirschhausen and Hui, 1995) than the negative effects of a change from joint to independent monopoly pricing (Shleifer and Vishny, 1993). The problem seems to have been the lack of contracts and relationships with suppliers, meaning that when no longer being allotted by a plan, intermediate goods could suddenly only be bought if paid in cash.

The negative effects of the disorganisation were aggravated by the dissolution of the CMEA and the opening for freer trade with the west lead to decreased sales, as products were often of a too poor quality to compete with Western goods. According to Kaminski, Wang and Winters (1996) exports were in 1994 reduced to between 26% (Latvia) and 42% (Estonia) of the 1991-level. This suggests that there was a rather limited amount of monopoly power amongst Baltic firms. With increasing competition from Western firms and decreasing demand, the concern was more of selling anything than at which price to sell.

This is not to say that a competitive market is unimportant. Certainly, it is important for the long-term wealth of the countries. According to the EBRD score for competition policy (EBRD, 2007), the Baltic countries have been following a rather similar course. The reason for this can be that to achieve the goal of EU accession, the countries had to fulfil the same EU criteria for competition (Hölscher and Stephan, 2004). Therefore, competition policy does not seem to be a good explanation for the difference between the performances of the Baltic countries.

3.6 Banking Regulation

The financial sector, including banks, has a special role in an economy, as intermediaries between savers and borrowers, by maximising efficiency in the presence of information and transaction costs, thus improving growth (Levine, 1997). As seen in most developing countries, the regulation of banks becomes special attention, due to fear that the failure of one bank can spread and have negative effects for the whole financial sector and thus damage the real economy.

Banks in the Soviet Union did not serve the same role as banks do in a capitalist economy. Their role was not to make profits by channelling funds to their most effective use, but to provide funds to state firms according to the plan (Roe, Siegelbaum and King, 1998). So a Western-type banking sector was absent in Estonia, Latvia and Lithuania. The process of reforming the banking system started in all countries with the establishment of a central bank already in 1990, before regaining independence. The countries, following independence, had lax requirements for the licensing of new banks, as they hoped competition would help providing more funds to the emerging private sector (Fleming, Chu and Bakker, 1996). Can differences in the banking regulation³ that evolved explain the differing paths of the Baltic countries?

A lot of private banks emerged in the early 1990s, and operated together with the state banks, which more or less just waited to be privatised and were often run quite independently. The problem was that most of the state banks sat on bad loans to state owned firms, and many of the new banks lacked the capital, risk management and human resources to run a successful bank (Fleming, Chu and Bakker, 1996; Koivu, 2002). The result was lots of bad loans and, starting at different times, banking crises in all three countries. Although the very start of banking reform was rather similar in the countries, differences appeared as they dealt with problems in distinct ways.⁴

In Estonia, a banking crisis erupted already in 1992, partially because of Russian banks freezing the assets of some Estonian banks, and partially because of stricter monetary policy following the introduction of a currency board. In November 1992, the three largest commercial banks (with 40% of banking assets) faced liquidity problems. The response of the Estonian government and the Bank of Estonia (BoE) was to liquidate a bank that had only itself to blame, while the banks that had assets frozen in Russia were nationalised. In the first case, shareholders received nothing, depositors around 60% of their deposits as the bank's asset were sold. For the nationalised banks, deposits were guaranteed by the state, while shareholders received next to nothing. Following the crisis, BoE went through the

³ Here I concentrate on banking, as the non-banking part of the financial sector is small in the Baltic countries, and was even smaller in the 1990s (Koivu, 2002).

⁴ The next sections follow Fleming, Chu and Bakker (1996).

licenses of the remaining banks, leading to a consolidation of the banking sector. A new law passed in December 1994 increased the powers of BoE and the standards of bank auditing.

A second, smaller crisis followed in 1994-1995. Two medium-size banks encountered problems due to mismanagement and bad loans. This time the BoE did not act so decisively, and at first supplied liquidity, but in the end the problems were solved with the result that the shareholders were liquidated while the depositors were mostly made whole.

Latvia ran into a banking crisis in early 1995. The reason was mismanagement and fraud in Latvia's largest bank (Bank Baltija), revealed when it failed to implement International Accounting Standards (IAS) auditing as required by the Bank of Latvia (BoLat). This led to failing trust in several other banks, eventually banks holding 40% of total banking assets were in trouble. Due to BoLat's lacking legal power to interfere in banks, a period followed where the owners of Bank Baltija and Latvian authorities discussed possible solutions. BoLat and several private firms provided Bank Baltija with funds, while at the same time asset stripping was going on in the bank. After some months, when the size of the insolvency in Bank Baltija became known, it was nationalised, and later liquidated. The shareholders received no compensation, while the depositors received some ad-hoc compensation from the government. A new law on banking, giving increased powers to the BoLat was enacted in October 1995.

The first Lithuanian banks experienced liquidity problems in the summer of 1995, when some small banks went bankrupt or were taken into administration. Amongst the reasons was the implementation of a currency board in 1994, and the government's pressure on some banks to provide loans to state owned enterprises. The Bank of Lithuania (BoLit) and the government provided support to keep the banks liquid, without conditions. During the autumn of 1995, it was revealed in the press that two private banks had not been reporting their problems properly. This led to a bank run on these two banks and a third, the three holding 29% of total bank deposits. The response to the crisis was not very coordinated, with plans by the government being disturbed by emergency laws being enacted by parliament, e.g. giving compensation to depositors. A political crisis followed, with the resignation of the prime minister and the head of BoLit. Lithuania also failed to restructure banks as a condition of providing liquidity, leading to further losses in some banks (Tang, Zoli and Klytchnikova, 2000).

Thus, it seems, according to Fleming, Chu and Bakker (1996), that Estonia was faster and more consistent in solving its banking crisis. Especially in making sure bad banks were quickly nationalised or declared bankrupt, without compensating their shareholders and managers. In this way, the incentives for providing risky loans and the problem of moral hazard were diminished. Tang, Zoli and Klytchnikova (2000) note the benefit of only helping banks affected by external shocks, while liquidating those being badly managed, which is what Estonia did and what Latvia and Lithuania failed to do, or did belatedly.

In addition, Estonia might have had an advantage by experiencing a crisis, motivating more efficient and stricter banking regulation as early as 1992. This might be reflected in the EBRD-score for Banking reform & interest rate liberalisation, which is mostly higher for Estonia, including between 1992 and, compared to Latvia and Lithuania respectively, 1994 and 1995 (EBRD 2007). The early scrutiny of and reforms in the banking sector also helped Estonian banks, as opposed to Latvian and Lithuanian, to avoid building up a portfolio of non-performing loans (Tang, Zoli and Klytchnikova, 2000). This could indicate that banks in Estonia were better than their neighbours at their main purpose, channelling funds to where the returns are greatest.

With the need for capital to reform state-owned firms and to build a new private sector, a more efficient banking sector, caused by stricter banking regulation could certainly be an explanation for the shorter slump in Estonian GDP in the early 1990s. Table 2 shows the amount of Banking Credit to the Private Sector (BCPS) as a percentage of GDP for the three countries. It seems to confirm the notion that it was easier to find capital in Estonia than in the other two countries. Especially when considering that the amount of non-performing loans was much higher in Latvia and particularly Lithuania in the early years (Tang, Zoli and Klytchnikova, 2000).

Table 2: BCPS as Percent of GDP (1993-2004)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Estonia	12.4	14.5	16.2	21.9	32.0	32.0	32.0	36.4	39.3	44.8	50.7	61.4
Latvia	16.7	16.6	8.0	7.1	10.8	14.7	15.7	19.2	26.3	32.5	40.2	50.8
Lithuania	17.4	20.1	15.2	11.2	11.1	12.5	14.3	13.2	13.5	16.1	22.8	28.8

Source: IMF International Financial Statistics

Although banking regulation, as argued, might be one reason for Estonia's better performance, Table 2 also shows that the amount of bank loans was very limited, particularly

in the early years, compared for example to the Euro-areas average in 2001 of 95.3% (Cottarelli, Dell'Araccia and Vladkova-Hollar, 2003). It therefore seems unlikely that better banks, meaning greater access to capital for good investments in Estonia than in Latvia and Lithuania can explain more than a small part of the performance gap between the countries.

In section 3 I have looked at several theories of how differences in institutions between the Baltic countries can explain their different fortunes after communism. When exploring the evidence, the introduction of currencies, banking regulation and privatisation seem to have some explanatory power while the other theories seem less important. But none of the theories seem to fully explain the whole difference. Now I will explain how the difference between the countries can be magnified by uncertainty.

4. Uncertainty

For the Baltic countries, as for other ex-communist countries where no private sector existed, attracting investment was very important. While investment is important in itself in countries with a lack of capital, Foreign Direct Investment (FDI) is seen as especially important. This is because of its perceived role as technology transferred (Campos and Kinoshita, 2002), bringing modern technology and know-how, sorely needed in the transition countries. Using a regression over 25 transition countries from 1990 to 1998, Campos and Kinoshita (2002) find that FDI is a positive and significant determinant for economic growth. The level of FDI could also be a better indicator of the political, economic and legal environment in a country than domestic investment (Svejnar, 2002). Even a country with bad institutions (institutions leading to inefficient investments) might have a high level of domestic investment,⁵ but this would not translate to economic growth. Foreign investors on the other hand, will want to invest in a country where the environment is attractive, the institutions good.

However, right after the Baltic countries' independence there was a large amount of uncertainty about their future and to which degree they would manage to turn into market economies (Sutela 1994). If they would descend into a long economic crisis or, even worse, turn back to communism or be annexed by Russia, investing would not be a good idea. If, for some reason, foreign investors thought the reforms enacted in Estonia were more likely to lead to a stable, well-functioning economy than the reforms in Latvia and Lithuania, there would be more capital invested in Estonia leading to higher growth. Table 3 shows FDI as a percentage of GDP. It's clear that Estonia have had a markedly higher level. Considering that Estonia is the smallest of the countries, this is rather strange, as the size of the market is often seen as an important reason to invest in a country (Resmini, 2000). To explain the difference in FDI, I will use a model to show how uncertainty negatively affects investment. Thereafter I will be looking at policies and reforms in the Baltic countries to try to find factors indicating that the level of uncertainty was different.

⁵ Svejnar (2002) notes that the communist countries often had investment rates exceeding 30% of GDP.

Table 3: FDI as Percentage of GDP (1992-2003)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Estonia	1,88	3,85	5,11	4,51	3,16	5,26	10,20	5,33	6,88	8,75	3,89	9,29
Latvia	0,53	0,94	4,37	3,63	6,72	8,33	5,30	4,76	5,27	1,59	2,73	2,68
Lithuania	0,10	0,44	0,49	1,12	1,86	3,55	8,29	4,45	3,32	3,67	5,18	0,96

Source: United Nations Economic Commission for Europe's Economic Survey of Europe (2005, No.1) and UN-Stat.

The model I will use comes from Dani Rodrik's 1991 article "Policy Uncertainty and Private Investment in Developing Countries". There he builds a model that explains how a reform facilitating investment can be rendered less effective by the probability of its reversal or even the perceived probability of its reversal. The goal of the article is to explain capital flight in developing countries in the 1980s, but I will use the same framework to look at the investment pattern in the Baltic countries in the 1990s. Rodrik also use this as a model for structural changes within a country following reforms in certain sectors of a its economy. I will only look at it at the country level.

The article points to the importance of political stability for attracting investment. Rodrik's model involves a reform inducing a reduction of policy-induced distortions to investment. If investors believe this policy has a large chance of being reversed, then they will invest somewhere else. This applies even if they are risk-neutral, as long as there are entry and exit costs for an investment. So, as investors withhold investment until they are convinced the reforms are stable, good reforms may fail to have effect, or even have a negative effect, discouraging potential investors, if they increase uncertainty enough.

4.1 The Model

A reform in the country (macroeconomic or microeconomic) increases the return of investment. Previously, the return to capital was $r - t_o$, after the reform it is $r - t$. Here, r stands for the marginal product of capital, and t_o and t stands for distortions. These distortions could be things like taxes, red tape or capital controls in the country. The reform decreases the distortion, so $t < t_o$. An investor could choose to invest abroad instead, getting the return r^* . As the country needs a reform to attract capital, it is natural to assume that $r - t_o$

$\leq r^*$, indicating that the return to capital was no higher in the country than abroad prior to reform.

The problem with the reform is that investors think there is a certain probability, π , that it will be reversed. This reflects for example the perceived probability that another political party, less positive to investments, take power, or just uncertainty about in which direction the country is moving. If the reform is reversed, it is assumed that t will change back to t_o , and that this change is irreversible.

In the case of the Baltic countries, this assumption might not have been too realistic. The chance of a return to exactly the same policies as before the fall of communism was not very large, at least not after the dissolution of the Soviet Union. Also, the marginal product of capital, r , certainly depended on which reforms were introduced, things like whether law and order were properly enforced and hyperinflation, damaging demand, contained. I also believe, because of the interconnected nature of the series of reforms that had to be made in the transition economies, that a useful way of thinking is of reform not as one reform, but as a string of reforms leading towards a market economy, and reversal as a break with this string of reforms.

To reflect these factors, I will change the notation a little. The net return on capital, including all distortions, before reform is denoted r_o , the return after reform (or expected return given continuing reforms) r_I and the return in case of a reversal (or stagnation of reforms) r_R . The assumptions described in the first paragraph of this subsection are thus changed into $r_o \leq r^* < r_I$. But what will the value of r_R be? With the uncertainty concerning the future of the new states, the exact value would not have been known, but considering the possibility, seen in many other parts of the former Soviet Union, of hyperinflation, authoritarian rule and corruption where reforms did not arise, I assume that investors saw the probable r_R as quite low, lower than r^* .

The most extreme example of the possible danger of a reversal is probably Belarus, where some attempts at privatisation was made in the early 1990s, before policies were reversed (Savchenko, 2002). The result, a half-communistic dictatorship where the return to eventual foreign capital, r_R , certainly is close to zero. Bulgaria introduced some reforms in the early 1990s, privatisation and liberalisation of banking, but failed to implement other reforms

controlling the banks and restructuring firms, leading to a serious banking crisis in 1996, and sending GDP sharply down (EIU, 1997), damaging return to capital.

Each investor in the model, assumed risk-neutral and endowed with a single unit of capital, will choose whether to invest in the country or not. The investor's value of keeping the capital abroad is

$$(1) V_0 = r^*/\rho,$$

where ρ is the discount rate. The return from investing in the country after the reform is defined as V_I . If the reform would never be reversed, V_I would equal r_I/ρ . But there is also the possibility of the reform's reversal. If that happens, the return each following year is V_R . Then $[V_I - V_R]$ is the capital loss for the investor if the reform is reversed, and $\pi[V_I - V_R]$ is the expected loss (per unit of time). The present discounted value of investing in the country is thus

$$V_I = \{r_I - \pi[V_I - V_R]\}/\rho,$$

or

$$(2) V_I = (\rho + \pi)^{-1}[r_I + \pi V_R].$$

The value of V_R still needs to be found. As r_R is smaller than r^* , the investor would like to move the capital abroad if a reversal happens. But it is not easy to move capital already invested in physical capital like factories, and there might also be restrictions on capital outflow. So the exit cost of capital is θ . If the cost of relocating the capital is smaller than the extra return earned abroad after the reversal of the reform, written as $r_R < r^* - \rho\theta$ ($\rho\theta$ is the exit cost transformed into a flow), the capital will be pulled out of the country. It will then be defined as a large reversal. If the cost is higher, the capital will remain in the country; a small reversal. So V_R depends on the magnitude of the reversal:

$$(3) V_R = (r^*/\rho) - \theta, \text{ if } r_R < r^* + \rho\theta \text{ (large reversal);}$$

$$(3') V_R = r_R/\rho \text{ otherwise (small reversal).}$$

I will only look at the case of large reversal as the effect of uncertainty is in both cases quite similar, acting as an extra disincentive to investment. Whether a small or large reversal was expected by investors considering investment in the Baltic States is hard to say.

Setting in for V_R , V_I can be written as:

$$(4) V_I = (\rho + \pi)^{-1} [r_I + \pi \max \{(r^*/\rho) - \theta, r_R/\rho\}].$$

For an investor to invest in the country, the expected yield of the investment must be larger than the return on capital of staying abroad. The investment will be made if

$$(5) V_I \geq V_0 + \varepsilon,$$

where ε stands for the entry cost per unit of capital.

In the case that the possible reversal is large, substituting in (5) from (1) and (4) gives, after some calculations,

$$(6) r_I - r^* \geq \rho\varepsilon + \pi(\varepsilon + \theta).$$

Equation (6) shows how large the reform needs to be to attract the investor, and that this magnitude depends on three different terms. The first is the difference between the marginal return to capital in the country and abroad following the reform. Obviously, the higher the return in the country relative to the return abroad, the more tempting it is to invest. Secondly, the higher the entry cost, measured as a flow, the less likely is investment. The last term is central, giving the effect of uncertainty. It shows that the uncertainty about policy, the perceived possibility that the reform can be reversed, might hinder an investment that would otherwise be made. The reason is that the investor needs to be compensated for the risk of reversal, which would mean pulling the capital out, and because of the entry and exit costs losing the share $(\varepsilon + \theta)$ of it.

Thus, as Rodrik remarks, uncertainty can be seen as an extra tax on investment. This “tax” can also be quite sizeable. Assuming the entry and exit cost $(\varepsilon + \theta)$ total 0.75 and a probability of reversal of 10 percent per unit of time, the return on capital in the country need to be 7.5 percentage points higher than it would need to be without uncertainty to attract investment.

Rodrik also shows how a reform might actually decrease the amount invested in a country. This is when a country starts out with distortions, but with no uncertainty. The business environment is not ideal, but sustainable. Then, by introducing a reform that reduces distortion, but increases uncertainty, the government might actually make it less attractive to invest. In my framework this will look a bit different. The Baltic countries did not start out with a sustainable business environment, and reforms of some kind were unavoidable. But I assume a country has the choice between enacting a radical reform, yielding return to capital r_I , which is politically unstable or a moderate reform,⁶ with return r_R and no uncertainty.

This point can be illustrated. The radical reform increases return for a potential investor by $r_I - r_R$ compared with the moderate reform. But at the same time, the uncertainty that comes with it increases the opportunity cost by $\pi(\varepsilon + \theta)$. The incentive to invest will thus only be increased if $r_I - r_R > \pi(\varepsilon + \theta)$, that is if $\pi < (r_I - r_R)/(\varepsilon + \theta)$. Using the numbers from the previous example, $(\varepsilon + \theta)$ is 0.75, and assuming the increase in returns, $r_I - r_R$, is 0.1, the probability of reversal has to be smaller than 13.3% to induce increased investment. If the uncertainty is larger than that, the reform will actually make it less attractive to invest. And even when the incentive to invest is increased, it will be a smaller increase than the direct increase in returns.

It should also be remarked that a reform that actually decreases uncertainty (by e.g. addressing macroeconomic imbalances) would increase the incentive to invest by more than the increased return caused by the reform. At least with hindsight, it might be argued that radical reforms often produced better results than moderate ones in the ex-communist countries (Campos and Coricelli, 2002), making them more sustainable and the trade off between efficiency and uncertainty less relevant. But this was hotly debated at the beginning of transition, as some theories predicted radical reforms would decrease the living standard of the population or the fiscal situation of the country too severely.⁷ So the worry that more efficient reforms came at a cost was not unfounded.

⁶ The moderate reform could be thought of as what Svejnar (2002) calls a type I reform, while the radical also includes type II reform.

⁷ For a discussion of gradual versus radical reforms, see Wei (1997) and the references therein.

Until now, the response of a single investor has been considered. The next step in the article is to look at the aggregate investment behaviour of investors. There are N investors considering an investment, and therefore a maximum of N units of capital to be attracted. Aggregate investment is denoted I . The investors are assumed to differ in their entry costs, $\varepsilon \in [0, \infty)$. The distribution of ε is according to the probability distribution function $f(\varepsilon)$. In a general equilibrium framework, the more capital invested in the country, the lower the return to capital, r_I . I assume r^* will not change, as the possible investment in the country is small compared to the total capital abroad. Thus,

$$r_I - r^* \equiv \Delta(I), \Delta' < 0, \Delta'' < 0.$$

Assuming large reversal, ε^* is defined as the point where (6) holds as an equality. So

$$(7) \varepsilon^* = (\rho + \pi)^{-1} [\Delta(I) - \pi\theta].$$

All investors with an entry cost lower than ε^* choose to invest, giving the aggregate investment function

$$(8) I = N \int_0^{\varepsilon^*} f(\varepsilon) d\varepsilon.$$

With the help of derivation, it can be verified that increased uncertainty leads to smaller aggregate investment:

$$\begin{aligned} dI/d\pi &= N f(\varepsilon^*) d\varepsilon^*/d\pi \\ &= - N f(\varepsilon^*)(\varepsilon^* + \theta) / [(\rho + \pi) - N f(\varepsilon^*) \Delta'] < 0. \end{aligned}$$

This is the central result of the model. It shows that the lower the investors' perception of the probability of reversal, the more capital will be invested.

Equation (8) defines the downward sloping investment curve II . Similarly,

$$dI/dr_I = - N f(\varepsilon^*) / (\rho + \pi) > 0,$$

so, not surprisingly, an increase of return to capital will shift the II curve to the right, leading to more investors investing given the level of π .

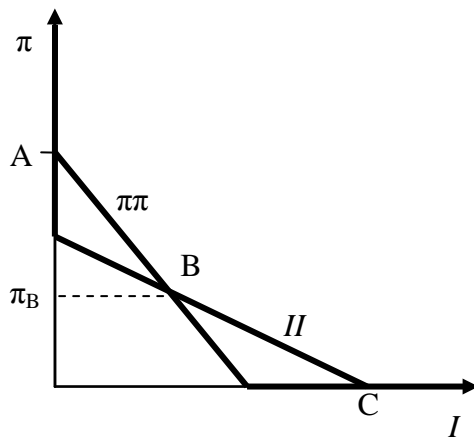
There is also the possibility that the probability of reversal of a reform may not be exogenous, as it has thus far been treated. It might depend on the investment response to the reform. Rodrik mentions three different reasons for this, all of which imply that the stronger the investment response to the reform, the less likely is a reversal. The first reason is that the more is invested following the reform, the stronger will the opposition be if a reversal is proposed. Many investors have more political clout than few investors, and if e.g. a large number of workplaces depend on the investments, it will be hard to reverse the reform.

Secondly, a reform might affect foreign reserves. If the reform consists of opening up for trade, import often increases more than export, leading to a worsening of the current account. In the worst case, if the country's foreign reserves dwindle, it might lead to a reversal of the reform. Investment from abroad help reduce the balance-of-payment deficit, so the more investment attracted by the reform, the less likely is a need for reversal.

The third reason that there might be a connection between the level of investment and the probability of reversal is the reforms effect on fiscal balance. By cutting taxes or tariffs, the government loses revenue. But new investments are likely to make the economy grow faster, leading to higher tax revenue. Therefore, a large amount of investment might offset the government's revenue loss from the reform, leading to a smaller chance of reversal.

All these reasons thus imply that the probability of reversal will be negatively affected by the level of investment, $\pi = \pi(I)$, $\pi' < 0$. Using this assumption to draw a curve, $\pi\pi$, showing the effect of the investment response on the probability of reversal, it is possible, by combining $\pi\pi$ with I , to find an equilibrium, where the investors expectations of the probability of reverse matches the real probability of reverse. What is particularly interesting for my thesis is the possibility for multiple equilibria (see Figure 3), which means two countries, in exactly the same position, introducing the same reform, might get different response from investors, depending on differences in the perceived chance of reversal.

Figure 3



In Figure 3, there are two equilibria, A and C. Investors, following a reform, invest along the *II* curve given their expectations of the uncertainty of a reversal. The authorities, depending on the amount invested, are by a certain probability, given by the $\pi\pi$ curve, forced to reverse the reform. If the investors perceive uncertainty to be higher than π_B , so few investments will be made that the real chance of reversal is larger than the perceived. The possible equilibrium is then A, where the perceived chance of reversal equals the real chance, and it is so high that no investments are made. Similarly, if investors think the chance of reversal is smaller than π_B then the reforms are so successful that the real chance of reversal is lower, attracting more investment leading to the equilibrium C, with maximum investment and no uncertainty.

More realistically, if the curves were curved, we would get two equilibria, one with close to no investment and a high probability of reversal, the other with almost no probability of reversal and lots of investment. Which of these equilibria will be reached depend partially on the investors' opinion of uncertainty, partially on the government's policies, which also affect investor confidence. If a government's reforms are more effective, giving a higher r_1 , the *II* curve will change out to the right, giving not only more investment at a given level of π , but also increasing the probability of getting to the good equilibrium, C, as π_B is made higher. If the government faces less pressure to reverse the reform, i.e. if political opposition is weaker or the reserve and fiscal situation better, factors which are all influenced by

government policy, then π will change to the left, and π_B will increase, again leading the good equilibrium to be more likely.

The relevance of this model in relation to my thesis is that it might give an explanation for the different levels of investment in the Baltic countries. The model shows that to make investing in a country attractive to investors, it is necessary that reforms making it more profitable to invest are seen as stable in the long term. A country should thus follow a consistent path to create as little uncertainty as possible. In the next subsections I will explore to which degree Estonia, Latvia and Lithuania managed that.

4.2 Foreign Relations

There were several factors of uncertainty in the Baltic countries in the years around independence, concerning both foreign and economic policy. The most important was of course the status of the countries. This was to a certain degree solved with their independence. Declared first in Lithuania in 1990, it was recognized for all three by the USA and the Soviet Union in September 1991 (independence was then already recognized by Russia and most European countries) following the failed Soviet coup in August 1991 (New York Times, 1991). But even then, with the instability in Russia, there were concerns Russia would put pressure on the countries or retract its recognition of their independence, as expressed in Bildt (1994). Also, there were some worries about Lithuania becoming an authoritarian state until its constitution was enacted in 1992, due to a previous version of the constitution giving the president wide-ranging powers (Bakke, 2004).

A serious problem concerning the relationship with Russia was the status of the countries' inhabitants. During the Soviet years, lots of Russians had moved to the wealthy Baltic Soviet republics. In Estonia and Latvia, only 62 and 52 percent of the population were respectively Estonians and Latvians, a third in both countries Russians, while in Lithuania, 80 percent were Lithuanian (Jeffries, 1996). This led to calls that Russians should not be accepted as Estonian and Latvian citizens (EIU, 1996). While Lithuania passed a citizenship law, with possibilities for Russians to become citizens, already in November 1989, the debate in Estonia and Latvia was stronger. Nationalists wanted to wait for independence for enacting laws, hoping for stricter requirements (Brubaker, 1992). Laws were first passed in June 1993

in Estonia and in November 1993 in Latvia, both quite restrictive (and both later being amended to make it harder to become a citizen). So both countries had a large population of non-citizens with small possibilities of becoming citizens, around 450 000 and 700 000 respectively in 1994 (Jeffries, 1996), threatening their stability and their relations with Russia.

This evidence seems to imply that Estonia and Latvia should have been seen as quite similar in terms of uncertainty (though Latvia at a somewhat larger scale) concerning foreign relations, while Lithuania faced another kind of uncertainty, covered shortly.

4.3 Economic Reforms

In addition to the insecurity around the relationship with Russia and Russians, there was also uncertainty concerning the speed, extent and quality of reforms. As previously noted, massive economic reforms were needed following communism. Would some or all of the Baltic countries really manage to turn into market economies? This was certainly not given, as even today most of the other previous Soviet republics can hardly be described as market economies of a western type.

The political decisions concerned which reforms should be implemented and when they should be implemented. And as the Rodrik model demonstrates, a reform should not only be good in the sense of improving economic efficiency, it should also, for maximum effect, not increase uncertainty. I will now look at the way the Baltic countries introduced several important reforms.

Price liberalisation and the introduction of an own currency, described in subsection 3.3, was one of the important early reforms, as price liberalisation was a precondition for functioning markets. Here, the Estonian government seemed to have considered the problem, and started reforms earlier, allowing for a quick transition to a currency board arrangement.

The positive effect of the Estonian currency board might not have been limited only to the direct effect of lower interest rates on investments. A currency board, supported by a credible

fiscal policy probably reduced uncertainty, because of the lower risk of hyperinflation and of a collapse of the currency, both of which would reduce the value of investments. This is two years of lower uncertainty around Estonia, in a critical period. But also following the adaptation of a pegged currency in Latvia and a currency board in Lithuania, Estonia's monetary arrangement was seen as more credible, because of the unofficial pegging of the lat and a stricter law and stronger political support for the currency board than in Lithuania (Nenovsky, Hristov and Mihaylov, 2002; Korhonen, 1999).

As already mentioned in subsection 3.6, the banking sector in Estonia was reformed earlier than in Latvia and Lithuania. Even though that, as mentioned, might not have had a large direct effect, as the amount of loans in all countries was rather low, a more stable banking sector is certainly a positive signal for investors from abroad as a banking crisis often has wide ranging effects on the whole economy. While the banking crisis in 1992 certainly was not good for investor confidence, the view that Estonia solved the crisis well, and that its banks were more stable than the ones in Latvia and Lithuania would be positive. Surprisingly though, the banking crises in Latvia and Lithuania do not seem to have affected FDI much according to Table 3.

Corruption is caused by the possibility of government officials to deny private agents a good needed to do business (Shleifer and Vishny, 1993). But if a bribe is needed for a license, it also seems likely bribes might be needed later, to renew permits, expand, to escape new regulations etc. And corruption at the political level, if exposed, often leads to a change of government⁸ and loss of credibility for political decisions made by the government. Therefore, I would argue that a higher level of corruption will increase uncertainty for investors. As argued in subsection 3.2, it is likely, though not certain, that corruption has been lower, or perceived to be lower in Estonia for most of the period since independence. Lithuania seems to have been particularly affected in the early period; its prime minister had to resign due to an economic scandal in 1996. If in fact Estonia was regarded as less corrupt than Lithuania and Latvia in the years after independence, it would be another reason for less uncertainty concerning Estonian reforms.

⁸ Mauro (1995) finds a strong association between his index of bureaucratic efficiency (including corruption) and political stability.

Foreign trade was strictly regulated during the communist period; it was controlled completely by the central government (Kaminski, Wang and Winters, 1996). Opening up for trade became important for the small Baltic countries, in particular as the trade-bonds with the rest of the Soviet republics were broken. But at the same time, liberalisation of foreign trade would expose local firms to competition. The opening for trade was fast and decisive in Estonia, after 1992 there were very few restrictions left, slower in Latvia and Lithuania, and Lithuania changed tariffs rather often due to protectionist pressure (Kaminski, Wang and Winters, 1996). This difference lessened with time, and now, as members of EU, trade policy is not locally decided. But the quick opening of Estonian trade, not followed by protectionist pressure, probably helped to reduce uncertainty among foreign investors, while Lithuania's indecisiveness most likely increased uncertainty.

The privatisation of SOEs was obviously an important step on the way to creating a market economy. Although Lithuania was the first country to start privatisation, the failure to introduce fitting regulations meant that the state had to stay involved in the privatised firms for a long time (von Hirschhausen and Hui, 1995). Lithuania was also hostile towards selling firms to foreign investors (Mygind, 1999). Estonia had already from 1991 planned to privatise to core investors, following the Treuhand model applied in East Germany (EIU, 1996). It did not have the resources to restructure firms, but still went through with sale to core, mostly foreign investors. This approach brought in capital and know-how from abroad. Latvia at first fumbled, then, from the autumn of 1994 it followed the Estonian model. The process of privatisation is not only important because of the inflow of FDI to firms sold to foreign strategic investors, but also as a sign that private ownership is wanted (Holland and Pain, 1998). Thus, by privatising the way Estonia did, it facilitated access to investors and at the same time decreased their uncertainty.

The timing and type of privatisation seems to fit with the inflow of FDI shown in Table 3. Estonian FDI is quite high already from 1993, the start of its privatisation process. In Latvia, FDI seems to increase strongly following the change of privatisation policy in 1994, and the same happens in Lithuania in 1998. Most large Estonian firms was privatised by the end of 1995, most Latvian by the end of 1997 (Mygind, 1999), this also fits with their respective FDI's decreases in 1996 and 1998. The low numbers for all countries in 1999 can be attributed to the Russian crisis in 1998. It is also possible to speculate that the low level of FDI in Latvia in 2001 was caused by the uncertain political conditions in Latvia in 2000

(EIU, 2008). The sharp downturn of Lithuanian FDI in 2003 was due to the completion of the privatisation process (EIU, 2008c).

Politically, the three countries have had a fast turnover of governments (Bakke, 2004). All of them, as previously shown, mostly stuck to reforms, free trade and EU-membership, but with Latvia as a somewhat slower reformer than Estonia, while Lithuania was less radical in its reforms. Estonia had new, young people in government positions,⁹ with few positions of power filled by the old communist leadership (Bakke, 2004; EIU 2008a). It was also implementing radical free market strategies, like, from 1994, flat tax (followed shortly afterwards by Latvia) (EIU, 1996). This could be seen as a sign that communism was not set to return. Although some Latvian ex-communists remained in politics, Latvia had much of the same break with the communist leadership. But political reforms were carried through later, the first election after independence was held in June 1993, compared with September 1992 in Estonia (EIU, 1996). Lithuania on the other hand was prior to independence led by more reformist communists and the reformed communist party, now supporting democracy and market reform, won the first parliamentary election in 1992 (EIU, 1996).

A last factor might have effect on investors' feelings of uncertainty. Estonia is closer to Finland and Sweden, historically, culturally and geographically, than Latvia and particularly Lithuania. And the share of Finnish and Swedish investments has been large in Estonia (EIU, 1996). A feeling of familiarity might have led to less uncertainty and to the investment flow. But although Finnish and Swedish investments have overwhelmingly flowed to Estonia, the percentage of the number of investments in the country from Finland and Sweden was no higher in Estonia than in Latvia (Resmini, 2000), suggesting that this familiarity might not have played such a great role as countries familiar neither with Estonia or Latvia also found it more tempting to invest in Estonia. The close ties to Sweden and Finland might have helped more indirectly though. Savchenko (2002) notes that the (successful) currency reform in Estonia was carried out with technical help from Sweden and Finland.

As shown above, Estonia was usually quicker and more decisive in introducing reforms, and managed to build better institutions than the two other Baltic States. This can be seen by the

⁹ Exemplified by the prime minister following the first free elections, 32 year-old Mart Laar.

fact that Estonia was in the first group of countries with which EU initiated membership negotiations, in 1998, while Latvia and Lithuania had to wait until 2000 (Hildebrandt, 2002). This implies that the perceived chance of the emergence of a well functioning market economy most likely was seen to be higher in Estonia. The π was lower for Estonia. This also implies that the II curve was further to the right for Estonia, as the successful reforms made r_1 higher than in the two other countries. I would also argue that the highest level of uncertainty was attached to Lithuania, largely because of the political climate making reforms seem unstable. At least in the first few years, it seems like Estonia was moving fast towards the good equilibrium of the model, C in Figure 3, with Latvia following slower, while Lithuania was stuck in the bad equilibrium A. This is reflected in the level of FDI attracted to the countries, and is also likely to have influenced their economic growth.

5. Conclusion

In the two previous sections, I have argued that Estonia's better economic performance in the transition years were caused by its ability to build better institutions than Latvia and Lithuania, and by lower uncertainty over its future, due to more consistent policies leading towards a market economy. Reforms such as opening of trade, strict fiscal policy, currency board and banking reform helped to facilitate the introduction of hard budget constraints in Estonia, and the inflow of FDI, large as the uncertainty was low, made restructuring easier and more effective. Thus Estonia was able to get out of the transition slump faster than the other two, and the advantages gotten then seem to have remained.

It seems like Estonian politicians chose the right policies and had a consistent view of how to develop the economy. The choice of how to build institutions might have been a bit lucky, after all the transition was a very complex process, even most economists failed to foresee the whole range of problems and challenges. But the speed with which Estonian authorities enacted reforms, and the fact that they mostly managed to build a broad consensus, lessening the fear of policy reversal, is really impressive.

On the other hand, according to my analysis, Lithuania should have done markedly worse than Latvia, as uncertainty was higher and reforms often less effective. This has not happened. I struggle to explain this, although one important factor might have been the banking crisis, which was more severe in Latvia than in the other Baltic countries (Mygind, 1999; De Haan, Berger and van Frassen, 2001). But it was in the first years, before the banking crisis, that Latvian GDP fell most. It is possible that the political inactivity and wrangling in Latvia in the early years of transition, which meant that structural reforms were stalled for a while (von Hirschhausen and Hui, 1995) caused the output fall in the early years to be even larger than the Lithuanian. As I mentioned in regard to Estonia, making the intentions for the economy clear seems to be a positive factor, and Latvia for a period failed to do that. A third possibility is that the industrial sector in Latvia was less suited to a transition from plan economy than the Estonian and Lithuanian industry.

Having seen that the Estonian authorities consistently managed to build better institutions than the Latvian and Lithuanian authorities, an interesting question would be why. One

factor is probably that in Estonia and Latvia a large share of the communist leadership and of the workers (who were most likely to lose from the restructuring of SOEs) were Russians. Thus, when the new national states were determined to keep the Russians out of power, they at the same time made a clear break with communism (Bakke, 2004). In Lithuania, nationality was not such an important issue. Therefore, the old elite had a stronger power-base, and reforms were not as radical (e.g. the pressure to bail out failing enterprises was higher). But the difference between Estonia and Latvia is harder to explain. Trying to find a model to explain this would be useful.

In this thesis, I have made a rather broad comparison of the transition in the Baltic countries, explaining the better growth performance of Estonia. Several of the points I have mentioned deserves a deeper look. In particular, I would say, the connection between the introduction of currency boards or other ways to fight inflation, the interest rate and the level of inflation.

The importance of initial conditions also probably deserves a closer look, especially to find out if the industry structure can explain why Latvia had such a large fall in output. I have not been able to find sufficient data to make a close analysis of the different sectors in the communist period and how they fared during transition.¹⁰ The experiences of new private firms in different sectors and countries during early transition would also be useful. Interviews of managers from state, privatised and new firms in the period 1990-1996, to see which constraints they faced in the different countries, would be extremely interesting.

I have not considered possible initial differences in human capital at all in this thesis. In most growth models, human capital is a very important factor in economic growth. The reason for my neglect of human capital is that I have assumed that 50 years of Soviet rule equalized this. It is not certain that this is true, but I have not been able to find good indicators for education during the Soviet time, and any differences in education policy after the dissolution of the Soviet Union are unlikely to have made a strong effect on the economy yet, and in particular not during the early years of transition.

¹⁰ In discussion with Erik Reinert, he mentioned favourable industrial structure as one of the main reasons for Estonia's good transition performance.

As a last point, the importance on growth of less uncertainty, compared to the importance of building good institutions is hard to quantify. Obviously, these two factors are connected when, as it was in the Baltic countries, the right policies often decreased uncertainty. Good institutions had a direct positive impact on growth through improving incentives and at the same time, they had an indirect impact through lower uncertainty as the return to communism seemed less probable. A possible way to disentangle these two effects would be using an econometric survey of several countries, including non-transition countries. The model could for example have FDI as the dependent variable, and different institutions (i.e. macroeconomic and microeconomic structure) as explanatory variables. If the model is correctly specified, the relative excess FDI in Estonia in relation to the predicted level, compared to excess FDI in Latvia and Lithuania, would then represent the benefit of less uncertainty.

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