

State forest management reforms in Three Ex-Soviet Republics

Reforms, reasons and differences

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Abstract

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In the context of the radical changes that East European countries have recently gone through, it is of general interest to study what institutional and organisational setups for forest management were selected in the individual countries, and why.

The purpose of this thesis is to examine what reforms took place in the State forest management of Ukraine, the Russian Federation and Latvia during their first decade of independence and the underlying reasons for these reforms.

In order to analyse the underlying reasons for reforms, a number of explanatory models were formulated, mostly based on Public Choice theory and theories on institutional development. By testing these models - Interest Group Struggles, Political Necessity, Historical Experience, Path Dependency and Influence of Clientelism and Black Economy, on the forest sector reforms, the applicability of each model on each reform was evaluated. This way the most likely motives for the reforms could be described.

The three countries of the study were selected because of observed divergence in forest sector reforms during the first decade of transition.

The results show that all the explanatory models can be used to explain the reform process, but on individual reforms, one or two models usually lead to a more likely explanation of the process observed.

Looking on individual models and beginning with Russia, some key reforms in the forest sector were initiated because they were part of the Government's general reform agenda. Such reforms, when they led to reforms in the forest sector, have here been labelled Political Necessities, implying that the major decisions generated outside of the sector. The main such reforms in Russia, originated from the decision to privatise forest industry but to keep forest State-owned. Most of the other reforms of the period were consequences of this general decision but additional understanding of them was shown to be provided by using the other models of the study.

Interest group struggles, particularly between forest management and forest industry organisations, but also between different levels of Government, were intensive during the studied period, and many of the reforms studied were resulting compromises.

The analyses demonstrate that the most fundamental Russian forest sector reforms during the studied period were mostly formed already in the end of the Soviet period or in the very first years of the Russian Federation. It can be questioned whether this was not premature.

In Ukraine, the reform process in society as a whole slowed down considerably after only few years of independence and in many sectors, the transition to market economy was not complete. One can argue that the Ukraine State Forest Committee as an organisation was an example of this, given that it continued to control the majority of Ukraine's forests, enjoyed a close-to monopoly on final fellings and came to control a large part of Ukraine's forest industry. The processes that led to this situation were strongly influenced by Interest Group Struggles and Path Dependency.

As for Latvia, most striking is the breach with the Soviet-era institutional set-up and thus also with Path Dependency. In a first phase of reform in 1990-1995, several similarities between Latvian and Russian reforms can be found, although the Latvian reforms went further as a result of massive forest restitution. In a second phase however, Latvia created a new institutional and organisational setup, more similar to the Scandinavian countries. The models that best explain Latvian forest sector reform are Political Necessity and Historic Experience, the latter because Latvian institutions from the period before World War II were frequently used as models for reform. By the end of the studied period, the main forest institutions and organisations demonstrated practically no resemblance to what had existed prior to 1990. In this respect, Latvia differed very clearly from Russia and Ukraine.

The differences between Latvia as compared to Ukraine and Russia have many explanations, as demonstrated by application of the different models on the individual reforms. On a larger scale however, the differences appear tied to whether reforms emanated from within or outside the State forest management and State forest industry organisations. Latvian Government decisions in 1988-91 on land restitution to pre-war owners and its 1995 Concept of Public Administration Reform, strongly influenced reforms in the forest sector. Further, Latvian openness to international support in policy and institutional development, and the fact that a young generation took over leadership roles in the sector, were also important factors. Also, after 1997, views of other interested parties were systematically integrated in the Latvian reform process.

In neither Russia nor Ukraine did forest privatisation take place. Forest policy, legislation and State forest management questions were during most of the studied period largely determined by the State forest management organisation, but under steady criticism from adjacent interests. This atmosphere fostered a marked conservatism.

Such fundamental changes that many transition countries' forest sectors went through during the past two decades are highly unusual events, and it is important

that the experiences are collected while still in the active memory of the people that participated. This kind of studies can be of help in future analyses of other countries' forest sectors. Particularly, it is the hope of the author that experience from the East European transition period reforms will be utilised in planning future forest sector reforms in other countries, notably in Western Europe.

Keywords: Latvia; Russian Federation; Ukraine; forest management; forest policy; reforms; institutions

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Appendices

Papers I-III

The present thesis is based on the following papers:

- I. Nordberg, M. 2007. Ukraine reforms in forestry 1990-2000. Forest Policy and Economics, vol. 9, issue 6, 713-729
- II. Nordberg, M. 2007. Russian reforms in forestry 1990-2000. Manuscript submitted to Forest Policy and Economics.
- III. Nordberg, M. and Elowson T., 2007. Latvian reforms in forestry 1990-2000. To be published.

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1 Introduction

1.1 Background

When the Soviet Union collapsed, this had enormous consequences for the societies involved. Already in the end of the 1980-ies, as part of the Soviet Perestrojka (rebuilding) programme under President Gorbachev, the demounting of plan economy had begun, and work collectives were increasingly allowed to take over responsibility for their workplaces. From approximately 1990, the whole system of plan economy was abolished in order to be replaced with market economy. In this process, there was a need for thorough reform of institutions and organisations to fit with the new conditions.

Now, when more than 15 years have passed since the beginning of transition, it is possible to evaluate these reforms. Doing so, two facts stand out immediately. Firstly, in many of the countries that were once Soviet republics, the present forest sectors bear very little resemblance to what they looked like little more than 15 years ago. In others, comparatively little has changed and the general impression is that the old system remains, but has been adapted in order to be workable under market economy conditions with a limited amount of changes. Secondly, when comparing countries that made fairly thorough reforms, it quickly becomes evident that these countries often did not select the same solutions. These differences could concern such fundamental matters as the division of functions between different State organisations, whether to privatise forest industry or whether and how to privatise part of the earlier State-owned forests.

Having worked with different ex-Soviet republics during the transition period (from early 1992), I was curious over these differences. I also started to believe that there might exist some objective pattern behind them. I further suspected that countries like my own could have something to learn from the transition processes. Sweden has been relatively untouched by most of the enormous European turbulences of the 20th century and its institutional development has been one of slow evolution. As a consequence, reforms have tended not be thorough remakes, but rather adjustments of details conceived as not functioning as optimal as expected. The template of experiences from forest sector reforms that is today provided by Eastern Europe should be useful also for other than transition countries, in that it demonstrates a multitude of different problems, different approaches to reform and different solutions. Cynically speaking, the East European experience provides the possibility to analyse alternative radical solutions without having to take the risk of trying them out at home.

This project was started out of curiosity. It has evolved to the conviction that there is a unique experience collected by our colleagues in the transition countries that is useful for us all.

1.2 Aim of thesis

With plan economy abolished and market economy introduced in central and east Europe, it is of general interest to study what institutional and organisational setups for forest management were chosen in different transition countries, and why.

This thesis aims at describing State forest institutional and organisational reforms in the three former Soviet republics of Ukraine, Latvia and Russian Federation during their first decade of transition from plan economy. Particularly, it aims at analysing the underlying reasons for these reforms.

Concerning these underlying reasons, a number of explanatory models were formulated, mostly based on Public Choice theory and theories on Institutional Development. The models (described in section 2.3) were then used as instruments to search for motives behind reforms from different perspectives.

It should also be possible to see what kind of reforms could best be explained by each model, which should allow for some generalisations to be formulated. Also, comparing the results from the three individually studied countries should enable further conclusions to be made.

Finally, comparing the economic development in the forest sectors of the three countries during the same period, should enable a discussion as to whether different economic progress can be attributed to the efficiency of performed reforms.

1.3 Earlier research on forest sector reforms in Russia, Latvia and Ukraine

On the individual countries of this study, several studies have been made.

Carlsson and Olsson analysed the emergence of markets and the institutional development in Russia, using the development in individual regions as examples (Carlsson, Olsson *et al.*, 1998-1, 1998-2). They noted, that there is a lack of knowledge concerning how to build market economy and also not sufficient information as to how Russian forests and Russian forest institutions differ from other main forest countries. Through a number of case studies, they then analysed how institutional development had progressed, pointing out strengths and weaknesses. As part of the project, Olga Mashkina (1998), applied systematic interviews and factor analyses in order to study how individual attitudes could influence Russian forest sector reform.

In two unusually straightforward reports, Barbara Lehmbruch (1998, 1999) analysed the transformation of the Russian forest sector, pointing out egoistic motives of different actors as a strong influencing factor.

Concerning Latvia, reform descriptions are available both from international expertise, such as Davis (1997) on agricultural reform and Buys (1999) on the general conditions for forest sector reform in Latvia. Quite uniquely, several of the persons directly involved in the Latvian forest sector reforms have also published their accounts, such as Ozols (1996), Zvagins (2003), Melnis (2001), Birgelis (Birgelis, *et al.* 2000). This allows the reader to get an insight into the reform discussions of the time, especially concerning the later half of the 1990-ies.

Comparatively few international studies have been made on the reforms in the forest sector of Ukraine. Nijnik and Oskam (Nijnik, 2002-1, 2002-2, 2004, Nijnik and Oskam, 2004) have analysed Ukraine's forest reform, something also made by Polyakov and Teeter (2005). These authors describe some of the background to reforms made, the outcome of the reforms and also give some recommendations for the future.

These works mainly concentrate on actual conditions and actual reforms made. Also, they often report mistakes made and include recommendations for future reform. All of them concentrate on individual countries.

This article has a somewhat other focus. Looking out on central and East Europe now, when the first 15 years of transition have passed, it is noticeable that although the forest sector transition to market economy was made in very different ways in different countries. It is the aim of this thesis to study why, by applying theories from political science and by comparing three selected countries.

One of few earlier attempts of analysing reasons behind Baltic institutional reforms using political science models is included in the thesis of Pautola-Mol (2001). She used North's theories on institutions and institutional change (North, 1990, 1991, 1998) to analyse general institutional framework development in the Baltic countries in relation to their integration into the European Union. Her analysis put more stress on national economic rational behaviour than this article.

Max Krott *et al.* (2000) compared the forest sectors of Belarus, Russia and Ukraine. The comparative approach was similar to this study, but with the focus more on describing reform results than on analysing reasons for the reforms. This is also demonstrated in the selection of countries. Given that both Ukraine and Belarus have performed comparatively limited and also similar forest sectors reforms, they do not provide material for analysing the wide range of possible forest sector reforms that can be found in European transition countries, nor possible reasons for them. Whereas the work of professor Krott *et al.* has been very useful to me, it was soon evident that a country with more radical reforms would have to replace either Ukraine or Belarus in this study.

The World Bank (2005) presented an overview of forest sector organisations and reform processes in European transition countries, along with recommendations for strategic guidance on institutional performance criteria.

1.4 The object of reform - forest management in the Soviet Union

All three countries of this study belonged to the Soviet Union before independence. The Soviet forest management system was therefore the object of the reforms that are studied in this thesis. It is therefore worth-while to point out some basic principles for Soviet forest management that separated it from many Western models:

1. Forests were state-owned – Private ownership was seen as necessarily leading to exhaustive forest management with short-term profit as dominating or only goal (Koldanov, 1992).
2. Forest management and use should principally be performed according to forest management plans, elaborated by State forest planning institutes. There were often conflicts between forest industry and forest management bodies and the plans were frequently overridden (Koldanov, 1992, Shubin *et al.*, 1998).
3. The local State units for forest management, in Russia called leskhozoes, were responsible for both practical management and control – in most European western countries with large forest cover, forest management and control are separated (Pelkonen *et al.*, 1999).
4. Forest management included creating a young forest and tending it, up to but not including final felling. Stumpage fees for final felling were low or non-existent and were not paid directly to the forest management organisation. This model did not create incentives for maximising the value of older forest stands, but rather to maximise the value of thinnings, since these were made by the forest management units themselves and often was a main source of their income (Petrov, 1999).
5. The forest industry process was regarded as starting with final felling and was performed by State enterprises separate from the forest management units.
6. Forests were divided into three groups, showing whether their management was mainly for industrial, mixed or protection purposes. In protection forests, final felling was limited. This system, introduced already in 1943, was well ahead of its time. As an example can be mentioned that only in the last years something similar is seriously being proposed for Sweden, where it is thought that as a counterweight to increased areas with limitations of forest use, other areas could be targeted for more intensive production-oriented management.

The divided responsibility between forest management units, forest planning institutes and forest industry companies, is a feature that can not be stressed enough – it was a defining feature of Soviet and particularly of Russian forest management, and was to remain in Russia during the whole here studied period.

Concerning this separation of forest management and forest felling in different bodies, there were both regional and periodical exceptions. Areas with little forest, especially in the south-west, belonged to the so-called forest culture zone, where climatic and other functions were the stated main goal of forest management. In this zone, there was little developed forest industry and the State forest management bodies performed most of the final forest felling (Koldanov, 1992, Krott *et al.*, 2000). Most of Ukraine (the most important exception being the Carpathians) belonged to this zone.

There were also whole Soviet republics, where the model of divided forest management and use was attempted but abolished. One such republic was Latvian SSR, where forest management and use were unified into a Ministry of Forestry and Forest Industry already in 1957. This Ministry remained until 1988 (Melnis, 2001).

Even in the Russian SSR, the model of divided forest management and use was instable, and this led to a very large number of structural reforms. Looking on the whole Soviet Union (table 1.1), and with exclusion of those reforms that mainly concerned forest industry and of the especially turbulent periods of 1936-39 and 1953-65, we still find 11 major organisational reforms from 1919 to 1992, that is one every 6-7 years!

Table 1.1 Responsible highest body for forest questions in Russian empire and the Soviet Union. Some of the most turbulent periods abbreviated (1936-39, 1953-65). Sources: Koldanov, 1992, Shubin et al., 1998, Pisarenko and Strakhov, 2001, Eremeev, 1999.

1916	Ministry of Land, Forest Department
1919	Central Directorate of Forests (Tsentralnoye Upravleniye Lesami) in the People's Commissariat (Ministry) of Land (Narkomzem). (1)
1931	General Directorate of Forest Management (Glavleskhoz) of Narkomzem (2)
1932	Forest management united with forest harvesting and industry into General Directorate for Forest Industry (Glavlesprom). (3)
1933	Glavlesprom reorganised to People's Commissariat of Forest Industry (Narkomles) (4)
1937	A forest protection Directorate (Glavlesookhrana) directly under the Government gradually replaced the former Glavleskhoz
1948	Narkomles renamed Ministry of Forest Industry (Minlesprom). Glavlesookhrana reorganised into Ministry of Forestry (Minleskhoz) (5)
1954	Minleskhoz closed, forest management handed over to a General department of forest management and field protection forestry (Glavleskhoz) in the Ministry of Agriculture. (6)
1958	Creation of Sovnarkhozy - Most of the responsibility handed down to the republics, where Ministries of Forest Management were created. (7)
1965-1967	State Committee of Forest Management of the Soviet of Ministers (Gosleskhoz). In the republics were created Ministries or State Committees of Forest Management. In Russia a Ministry of Forestry was instituted (Minleskhoz RSFSR) in 1965. (8)
1980-ies	In several oblasts, shortlived attempts with combined leskhozes and lespromkhozes, under Minlesbumprom SSSR (renamed 1988 to Minlesprom).
1988-1990	Gosleskhoz SSSR replaced by a new State Committee of Forestry of SSSR (Goskomles SSSR) (9)
1990	Combined lespromkhozes/leskhozes broken apart.
1990	Ministry of Forest Industry SSSR (after 1988 Minlesprom SSSR) is closed. Lespromkhoz privatisation starts. (10)
1991-1992	Goskomles SSSR and Minlerskhoz RSFSR are closed (11).

We see then, that the Soviet era was not a stable period, but a period of almost permanent change. However, from approximately 1965 and up to the most intensive period of Gorbachev's perestroika around 1988, there was an unusually stable period. This was true for all three countries of this study.

2 Theoretical approach

2.1 The complexity of reform

Sten Nilsson has in several works analysed forest policy and institutional reforms in transition countries (see e.g. Nilsson, 2001, Nilsson, 2002, Nilsson, 2005). He points out that the reformation of a sector of society is a complicated process, and under influence from many different factors (Nilsson, 2005). The best word to describe this may be that the process is multi-dimensional (Figure 2.1).

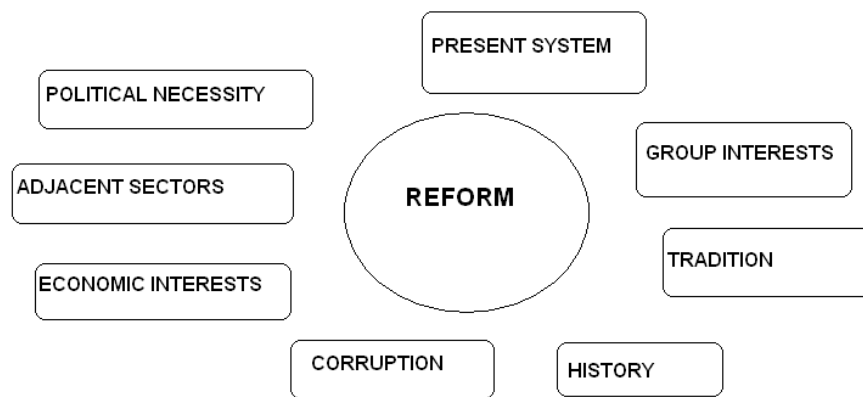


Figure 2.1. Examples of influences on reform.

It is obvious that reforms can sometimes be made to solve practical problems in an optimal way and that there are cases where there is a common agreement on what needs to be done. Usually however, the issues are much more complicated. Questions on the main political agenda of parties in government may lead to the forcing through of reforms without thorough sector analyses. The opposite can also happen, where the organisation to be reformed has so much influence in the reform process that it effectively manages to stop a reform already decided upon by political leaders. Reforms in adjacent sectors of society may affect each other. Economic interests, both of legal and illegal nature, may also play an important role in reform outcome. Also, and particularly in countries where it was broadly felt that the existing system (such as communism and plan economy) had been forced upon the nation, notions about an earlier historical period could be used to find alternative solutions (Gerner, 1991). In other words, when looking for reasons why reforms were performed in a certain way, this multitude of influencing factors must be born in mind.

The State forest organisation can have a number of functions to fulfil. These are described and grouped somewhat differently by different authors, but typically

include Policy, Regulatory (laws and regulations), Ownership (administering but also practically managing State forests), Support (Education, Information, Demonstration of good practice) and Environmental functions. For the State forest administration, these functions must be defined and organisationally distributed in connection with the build-up of the reformed administrative system (Birgelis *et al.*, 2000, Fredriksson, 2003). Thereby it appears plausible, that in countries where the State continues to own all or most of the forest, the functions and the resulting institutional and organisational setup needed, differ from those in a country with large areas of private forests.

This thesis analyses reasons for forest sectors reforms concerning these different functions in three transition countries, based on different influencing factors such as those described in Figure 1, and the resulting reform processes. The models and methods that were used in the analyses will be presented in sections 2 and 3. The attempt made in this study to apply methods from political and economic sciences can be seen as a continuation of the search for suitable instruments for analyses of institutional and policy development that was elaborated by Carlsson, Olsson *et al.*, (1998-1).

2.2 Selection of countries

The countries for the study were selected after two criteria: They should have relatively similar background and they should have very divergent paths of reform in the forest sector during the studied period. This design is sometimes called Most Similar Systems Design (Denk, 2002) where the idea is that when a variable is to be compared between different systems, then the variable under study should differ as much as possible between the systems, whereas all other variables should be as similar as possible. This setup enables clear differences between studied variables at the same time as it minimises uncontrolled influencing factors. Therefore, although not only ex-Soviet republics went through transition periods in the 1990-ies, it was decided for this study to only compare earlier Soviet Union republics.

Further, it was felt as natural that all three selected countries should have considerable forest areas and forest industry, in order to allow for comparisons.

Finally, concerning divergent path of reform, Ukraine and Latvia immediately stood out as suitable opposite examples. Whereas in Latvia, not only forest industry but also half of the forest land were privatised during transition, all Ukrainian forest and a significant part of the forest industry remained in State hands in the year 2000.

The selection of the third country was more difficult. The Russian Federation is difficult to compare with any of the other ex-Soviet republics, both due to its enormous size and due to the dominating role it played in the Soviet Union. That it was anyhow chosen for this study was because of its development of forest lease

as the dominant form of forest holdership, something quite unique for European transition countries and for European countries in general.

2.3 Models

As discussed in section 2.1, this study is based on the conviction, that practical reform is a consequence of a multitude of influencing factors, the understanding of which are necessary in order to understand and explain the reforms.

In order to search for possible reasons for reforms performed, five models were formulated, based on theories from political science and earlier studies on East Europe:

- Political Necessity, or consequences of main Political Agenda
- Interest Groups Struggles
- Historical Experience
- Path Dependency
- Rent-seeking, External Financing, Grey and Black Economy.

These models were then used to search for explanations for the reform processes, but from different perspectives. On individual reforms, one or a few of the models was expected to provide a better explanation than the other, an assumption which turned out valid.

Most of the models focus on the self- or group interest of the decision-makers. In this respect, they follow the main ideas of the Public Choice School, which claims that people do not turn altruistic just because they work in public office, but keep pursuing their economic and other goals, just as actors in the private sector (Buchanan and Tullock, 1962). This may seem a somewhat cynical way of analysing political or administrative decisions. Many decisions must reasonably be made because the decision-makers believe them to be the best solution for the people or the country, which of course is also how reforms are usually officially motivated. This analysis will acknowledge such official motives for reform, but will search for other important factors influencing the reforms made. The models should be seen as tools to identify these.

The main hypotheses of the thesis are that the formulated models can be used to provide relevant explanations to observed individual reforms, and also that if a particular reform was not made in a studied country although it was made in many other transition countries, then this should also be possible to explain using one or more of the selected models.

The models are in the text written with capital initial letters, to make their identification in the text easier.

2.3.1 Political Necessity, or consequences of main political agenda

In this study, reforms of the forest sector that did not emanate from within the sector but from a larger political agenda, have been labelled "Political Necessities".

Public Choice theory implies that an elected political leader is not free to take the decisions he feels may be best for the region or country. He must find an acceptable compromise between what he wants to do and what he needs to do in order to stay in power (be re-elected). In other words, the electorate's understanding of the agenda must be reckoned with and utilised (Tullock, 1987; Schmid, 1987; Klaus, 1998).

The model of Political Necessity will here be used to describe Politicians' behaviour from the perspective of what is "politically correct".

Using Russia as an example, Yeltsin's initial political platform focused on turning Russia into an efficient market economy. His rule however went through phases of quick reform as well as of conservatism. The first wave of reform in the early 1990-ies was according to national polls popular with the public (Åslund, 1995). Then, as the economical crisis accelerated and with resulting impopularity of some of the reform architects, Mr Yeltsin for a period increased his distance to the most active reformists, which left room for some organisations under reform to stall and even reverse ongoing reform processes..

What is not publicly accepted must often be avoided. As many observers of Ukraine have reported, there were during the studied period little unified views among Ukrainian voters concerning what reforms were needed (see e.g. Hedlund, 1993; Havrylyshyn, 2000; Shen, 1996; Kuchma, 1999). Under such circumstances, political leaders may according to Public Choice theory well have avoided broad-scale reform, which was also the case. In the article on Ukrainian reforms (Appendix I), this model, analysing politicians' involvement in forest sector reform, was labelled the "Public Choice model". This could be misleading, given that out of the other models used in this study, both the model of Interest Group Struggles and the one labelled Rent-Seeking, are also highly influenced by Public Choice theory. To make a clearer definition, the term "Political Necessity" has therefore been introduced in the articles on Latvia and Russia (Appendices II and III).

This model of Political Necessity can, as demonstrated in the examples above, be used as explanation both for reforms made, and reforms avoided. The politicians will thus be seen as an interest group, struggling to take decisions judged to be popular with the voters. Their decisions when leading to reforms in the forest sector, will be regarded as externally demanded or strongly influenced reforms, hence the term "necessity".

2.3.2 Interest Group Struggles

Organisations to be reformed may try to generate, influence, or halt reforms. This can be a manifestation of both professional, private or group interest. When reforms occur, the balance between different interest groups is often disturbed. Therefore, reforms often include struggles between adjacent organisations (North, 1990).

Interest groups as an influencing factor in Soviet politics were analysed by Skilling and Griffiths (1971). A lengthy interest group conflict, between the forest industry and the forest management organisations, was the direct cause for many reforms in the forest sector (see table 1.1) during the Soviet period as discussed by Koldanov (1992).

This thesis investigates what interest group struggles can be identified in the post-Soviet forest reforms of the three countries and how they have influenced the reform process.

2.3.3 Historical Experience

The development in central and east Europe after the fall of the East Block demonstrates that a nation's historical experience or more precisely the nation's conception of its history, is a key factor in analysing and explaining reforms (Gerner, 1991). In several former east block countries, the situation before communism has been used as a model for restructuring after communism or at least in order to motivate certain reforms to the public. The Historical Experience model is used in this thesis to find to which extent this is true also concerning forest sector reform.

2.3.4 Path Dependency

Given that organisations and institutions are intricately connected, most reforms tend to be less thorough than initially planned, if not very large reform programmes are organised to reform sufficiently large parts of a system simultaneously. This general conservativeness is called Path Dependency (David, 1994), and implies that organisations usually tend to defend the present situation. To its causes can be added ignorance on behalf of the involved staff concerning alternative solutions and also the personal interest of involved persons, who may worry about their own role in a changed system. Also, one must expect that a certain proportion of involved persons simply disagree with the objects of the reform for professional reasons.

Path dependency is manifested not only as a general tendency of limited reform, but also as a pattern, where performed reforms tend to prolong the life of existing organisations and institutions rather than create entirely new. That this was quite typical for both Russian and Ukrainian forest sector reforms, but not for Latvian, is clearly demonstrated in this thesis.

2.3.5 Rent-seeking, External Financing and Grey Economy

Havrylyshyn (2000) argues that in countries where reform measures were quickly undertaken, members of the elite who were not pushed aside were forced to begin to behave approximately like competitive capitalists. On the other hand, in countries where reform was delayed, the old elites had time to transform themselves into a new monopolist-capitalist elite reliant on state financial support and privileges such as export or import licences, leading to monopoly-like situations. This elite is in economic literature defined as “rent-seekers” (Krueger, 1974) and in an East-European context, the resulting intimate relationships with Government has been labelled politonomy (Nijnik and Oskam, 2004).

Not only existing structures but also newly formed companies could form special relationships with the administration on various levels. This was notable between private forest companies and local State forest management units both in Russia and Latvia especially during the first half of the 1990-ies. The forest management units were under-financed and sought for alternative ways of earning money which often resulted in various kinds of co-operation with private harvesting enterprises, both of legal and illegal nature (Lehmbruch, 1999, interviews 1 and 2). This chronic under-financing could even lead to the suspicion that reformers in the top of the forest management organisation might suggest reforms with loopholes, enabling the State forest management organisation to find other means of financing than the State budget.

When looking for the influence of these factors on reforms made, one must thus bear in mind that just as reforms may be made in order to facilitate grey/black economy or rent-seeking, they may also be made in order to limit them. The latter has in fact more often been indicated in this study.

2.4 Selection of period

As period of study was selected the first decade of transition, or 1990-2000. It is debatable which year should be set as the beginning, and this became clear during the work. It is incorrect to claim that dismantling of plan economy started only with the break-up of the Soviet Union. Many of the key Soviet Union institutions were changed or abolished already in the late phase of Mr Gorbachev's perestroika. As a result, it was in some cases necessary to start analyses a few years earlier than 1990. On the other hand, no reforms were studied later than to the end of year 2000, although references are in a few cases made to later consequences of reforms made during the studied period.

3 Material and methods

3.1 Information sources

3.1.1 *Facts*

For general forest and country data, descriptions of various organisations and of reforms made, priority has been given to official data from the respective country. When such official data has not been found, data has primarily been sought in articles and reports from the country involved. When neither sources have been found, international papers have been used. International data have also been used where the local terminology or definitions differ from international common practice. An example of this is annual forest increment, where the Western definition (gross annual increment) and estimates have been considered more appropriate.

3.1.2 *Written arguments*

The basic task of this thesis has been to analyse reasons behind forest sector reforms. To make these analyses, systematic reviews were made of the debate on possible reforms in the country's journals at the time before, during and after the reforms in question.

The journals used for Ukraine were the *Lisovy Zhurnal* (later *Lisovy and Myslivsky Zhurnal*), the *Ekonomika Ukrainy*, the *Ekonomika Lesokhozyaystva* and the *Naukovy Visnyk*. For help with the selection of relevant articles the author is grateful for the assistance of the Forest Management Scientific Centre, Irpyn, Ukraine. The number of such selected articles was 58.

The journals used for Russia were the *Lesnoye Khozyaystvo* (official journal of the State forest management organisation) and the *Lesnaya Promyshlennost* (in the beginning of the studied period official journal of the Forest Industry, thereafter under various industrial joint organisations). The number of selected articles was 111.

In the case of both Russia and Ukraine, the ambition was to select all articles concerning basic reform in the forest sector. The organisation to which the author belonged was registered along with the viewpoints presented. This material was then used in order to map how involved organisations acted in the various reform processes.

For Latvia, due to the author's ignorance of the Latvian language, this method for analysis was not possible. However, since Latvian reforms were much more closely followed by international organisations and researchers, and indeed were often made in direct co-operation with them, it was judged possible to analyse the Latvian reforms based on internationally published works. Even so, literature by Latvian specialists was given priority.

International reports have mainly been used for finding general information on transition problems, but also to find information that the author has not found in the respective studied country.

3.1.3 Interviews and personal experience

The background of a researcher may bias his work and his conclusions. Since I have worked since 1992 with the Russian Federation and Latvia and after 1998 also with Ukraine, it is proper to declare this here. I have mostly worked in the forest industry sector, but from 1998 to 2002, I was Swedish project team leader of two Ukrainian-Swedish Ukraine Forestry Sector Master Plan projects (UFSMP I and II). This means that during most of the period analysed in this thesis, I worked in the former Soviet Union and saw the reforms evolve. This has helped considerably in writing this thesis, but it is inevitable that my personal experience may lead to bias. Also, since I worked mostly with the forest industry and less with forestry, this may also have influenced my objectivity. Participating in the Ukrainian master plan projects provided an opportunity to see the processes from the position not only of local forest industry but also from that of the State forest management organisation, which should decrease the risk for potential bias in my conclusions.

A large number of informal interviews have been made during the 7 years of this study. Although these have not been used to formally verify findings presented in this thesis, they have been of help in understanding both the general development and specific questions.

In the case of Latvia, formal interviews have been made with key persons involved in the studied reforms. These interviews were crucial to the analyses and were used for validating the analyses (see list under References).

The author wishes to emphasise that any conclusions presented in this thesis are the sole responsibility of him alone and that interviewed persons should not be blamed for any errors in the author's interpretation of information given during interviews.

3.2 Analyses

Each of the models described in section 2.3 was tested against each studied reform. In doing this, indicators were searched for, that would support the applicability of the respective model on the respective reform. If for instance according to several sources, a new forest code had to be prepared because of changes in the Constitution, and if several other sources describe these changes in the Constitution as a result of a power struggle between the Parliament and the President, then that indicates that the models of Interest Group Struggles and Political Necessity can both used in explaining the need for a new forest code.

As described in section 3.1, the position of different interested parties before, during and after reforms was mapped with the help of articles in national journals.

In this way, the position of the key organisations to a reform could usually be determined. It was also in many cases possible to see how the reforms evolved in the field of interaction between different interested parties. In some cases, it was possible to see how a reform was driven through by one interested party, but stalled and even reversed by another. Examples of this are the cancellation and then reconstruction of the Ukrainian regional organisation of the Forest Committee and also the failure of the former Russian Ministry of Forest Industry of privatisation from above, as described in the articles of this thesis. In Supplement 1, an example of such mapping is presented.

Not only the position for or against a reform was recorded from the articles, but also if historic examples or general political arguments were presented.

Although a systematic approach was attempted, this does not mean that the analyses can be labelled quantitative in the sense that the conclusions of this thesis can be statistically proven. Firstly, not all authors of articles expressing views on a reform can clearly be placed in one organisation - an author can be placed outside the system altogether, between organisations, or have moved from one organisation to another. Secondly, even if an author can clearly be placed in one organisation, his views must not necessarily mirror the views of the organisation's leaders. Thirdly, two persons expressing opposite views on a subject, may have very different power and influence. Fourth, the true reasons for or against a reform may not always be discussed publicly.

Therefore, just counting who was for or against a reform at a given time, was not enough. It was also necessary to read the arguments, to study the resulting reforms and to interview involved people. As a result, there was a strong element of qualitative research in this project. Even if the price of such a multiple research strategy approach is that the findings cannot be proven statistically, then on the other hand the reward is that a more complete picture of what happened can be presented.

3.3 Validity and reliability

It has been the ambition to always use multiple sources in order to validate the findings. Also, the reports (Appendix I - III) were tested on experts that had been involved in the reforms.

Still, although the thesis presents support for drawn conclusions based in the analyses made and sources used, it is quite possible that other researcher may be able to provide equally sound argumentation for other conclusions. In that respect, this thesis does not aspire on expressing some absolute truths. Rather, it expresses valid statements (Bryman, 2002) - that is it expresses the most likely relation between what happened and why it happened, based on all the sources available to the researcher. The reliability then is a consequence of whether the sources have been quoted correctly and the validity of whether as much of the available sources as can be reasonably demanded, have been utilised. The interpretation of the

sources finally, must be judged by the Reader. To allow for this, sources have been listed quite thoroughly in the thesis, including quite small articles in the country's professional press, resulting in quite large reference lists.

3.4 Limitations

Reforms in the forest industry were analysed only when directly connected to reforms in State forest management organisations. In the beginning of the period, the two sectors were largely united, which means that forest industry will be covered up to when the division was complete.

Apart from forests managed by the State forest management organisations, a considerable part of the forests in the studied countries were in 1990 managed by various other organisations, mainly agricultural. Reforms around these forests are covered in this report only when directly connected to the State forest management organisations. In the case of Latvia, the forest privatisation concerned mainly these agricultural organisations' forests, but since this privatisation had fundamental repercussions on all forest institutions, it was necessary to analyse it as part of the study.

The questions of sustainable forestry, of forest certification and internationalisation of forestry are of high actuality but already extensively covered in many reports and in much ongoing research. They will here be covered only very briefly.

Debate in the daily newspapers has not been analysed, in order to limit the study material.

4 Results and conclusions

In this section, findings of the three articles comprising the thesis are summarised. Most of the material is taken from the article on Latvia of this thesis (Appendix III), which includes comparisons between the three studied countries.

4.1 Extent of reforms

In table 4.1, the main reforms analysed in the three studies are listed. One clear result of the study as demonstrated in the table, is that the forest sector of Latvia went through the most profound reformation, whereas Ukraine's forest sector was comparatively little changed.

Table 4.1. State forest sector reforms in Latvia 1990-2000 as compared to Ukraine and Russian Federation.

	Ukraine	Russia	Latvia
Privatisation of forest harvesting	LITTLE	MUCH	MUCH
Privatisation of forest industry	SOME	MUCH	MUCH
Forest privatisation/restitution	NO	NO	MUCH
Limitations upon State forest authority harvesting in order to protect the private forest harvesting enterprises	NO	MUCH	MUCH
Forest lease by private enterprises/persons	NO	MUCH	SOME
Institutional division of policy, control and management	NO	SOME	MUCH
Separate Forest Policy as base for reform	NO	NO	YES
Creation of unified State forest enterprise	NO	NO	YES
Cut in the number of employees and subdivisions to improve economy	NO	SOME	MUCH
Major reforms of legislation	ONE	TWO	TWO
Summary - Reforms in forest sector	LITTLE	MUCH	VERY MUCH

Already the first phase of reform was more radical in Latvia than in Ukraine and Russia. The transition of the forest industry ministry to a forest industry association and the subsequent privatisation of harvesting enterprises developed similarly in the latter two, but the forest privatisation in Latvia led to more radical changes in forest legislation and in the role of the Forest Service. In Ukraine, harvesting largely remained with the State and no forest privatisation was made.

The second reform phase, including the issue of a new forest code and a resulting new set of reforms, did not take place in Ukraine during the studied period and was considerably more radical in Latvia than in Russia. Whereas in Russia, the second half of the 1990-ies can be described as a period of adjustments of the model created during the first phase, it in Latvia included a set of completely new reforms, including the formulation of a Forest Policy, the separation of ownership functions from the Forest Service and the resulting formation of a State forest enterprise.

Thus, it is clear that the most fundamental changes were made in Latvia, creating an entirely new institutional and organisational setup.

In Russia, the old model of organisationally separated forest management and harvest was kept but adapted to market economy. There remained clear signs of confusion as to the border-line between forest management and forest use. Only in November 2006 a new forest code was accepted by the Russian Duma, which might possibly resolve this question.

In Ukraine, its old model with State-owned combined forest management, harvesting and small-scale processing remained. The large-scale forest industry, which had been privatised in the 1990-ies, had to a large part been closed down in the middle of the 1990-ies, and recovered only very slowly. A major problem was the loss of cheap raw material that had earlier been supplied from the Russian SSR.

4.2 Motives behind reforms - the models

We have just seen that the amount of forest sector reform differed between the three countries. In this section, will be summarised what explanatory models were found most appropriate in the studied countries.

4.2.1 Political Necessity

One difference that has influence on the observed difference in level of reforms is the importance of the forest sector to the national economy and the sector's resulting importance on the political agenda. In Latvia, forest sector contribution to GDP was much higher than in Russia and Ukraine and this contribution increased strongly during the period. In Latvia, forest sector contribution to GDP was in the mid-1990-ies some 6 % (Birgelis *et al.*, 2000) and increased to at least 10 % up through 2000, whereas in Russia it amounted to approximately 1,5 % (World Bank, 1995, Hare, 1996) and in Ukraine to not more than about 1 % (World Bank, 1999). This is probably a reason, why the influence of main political reform on forestry sector reforms was lower in Ukraine and highest in Latvia. Reversely, interest group struggles were allowed to play a key role in Ukraine but were not decisive in Latvia. In both these aspects, Russia represents an intermediate case.

During the first Latvian reforms, the Popular Front had as its political platform to profoundly remove and replace Soviet institutions. During the second reform phase, after 1995, a government formed with much agony after a severe banking crisis, had to demonstrate resolve in creating a better functioning administrative system. This process was also strengthened by Latvia's signing of an association agreement with the European Union in 1995. Just as in many other countries, the preparation period before becoming a full member (on May 1st, 2004), included an intensive period of reform.

In Russia, privatisation of forest industry and harvesting was definitely part of a national reform programme, the so-called shock therapy of the early 1990-ies. Also, the stipulation of the 1993 forest code of local influence over forest use was

a consequence of a larger scheme, a power-struggle between the President and the regions. A peculiar case was the closure of the Forest Service' central organisation in year 2000, which took place without prior notice and which may have been made in order to avoid a public debate as to whether to subordinate forest and other natural resources to a Ministry of Ecology. Apart from those three examples, reforms of the forest sector have tended not to be on the political parties' main agenda. Instead, sector reforms have been handled in co-operation between Government, Parliament and involved State agencies.

As in Russia, Ukraine's first forest code (1994) stated that the rayons (local governments) should have influence over forest use, and here also this was part of general reforms and tied to the Constitution. Otherwise, very little forest sector reform can be shown to have been made under influence of general political reforms. Rather, it is possible to claim that the absence of reform could be influenced by Public Choice theory, meaning that the political parties largely were quite happy to leave the relatively peripheral forest sector reform issues to the Ministry of Forestry (later State Committee of Forestry).

4.2.2 Interest Group Struggles

The forest sector reform process in Ukraine was marked by the strong role of the Ministry of Forestry. After the downfall of the Ministry of Forest Industry and of large parts of heavy forest industry, the Committee's main competitor for influence in the sector was the Ministry of Ecology, but there were also interest group struggles with the regions and municipalities. The period 1990-2000 can be described as a long period of resistance against reform by the Ministry (later State Committee) of Forestry. Important to the Ministry was that it remained responsible for preparing forest legislation during the period. The local units of the Ministry of Forestry had a protected status, given that they could supply the best wood to their own industrial units. They developed comparatively well during the period, but the State forest sector remained a cost-centre for the State. Out of the models used in this report, Interest Groups Struggles, often motivated by rent-seeking, best describe the Ukrainian forest sector development. With rent-seeking is here meant the protected status that the State forestry organisation enjoyed and protected, with close to monopoly on the forest resource and the possible interest of other organisations to reach similar benefits.

In Russia of the 1990-ies, a number of interest group conflicts can be identified, that had bearing on the forest sector, such as:

1. Government advocates of quick market reforms versus more conservative forces on all levels
2. Local interests versus central
3. Forest harvesting and industry organisations versus the State Forest Service
4. Green movement versus forest management and forest harvesting organisations

The Russian forest sector was reformed to a higher degree than Ukraine's. None of the strong interest groups was able to dominate the process, which made development easier, but also necessitated a compromise model. The main interest groups involved were a group of devoted Government reformers, the forest management apparatus, the remnants of the Ministry of Forest Industry and increasingly the privatised forest industry. All these parties had strong influence on the outcome of reforms, although the former forest industry ministry had largely lost its influence by mid-1996. A model based on broad-scale privatisation of harvesting and industry, accompanied with forest lease was created. Forests remained State-owned and under control of the State forest management organisation. That the Russian model, with one organisation responsible for forest management and another (privatised) for harvesting, could survive, was largely a result of this balanced interest group struggle.

Thus, the main difference between forest sector reforms in Russia and Ukraine may have been that whereas in Ukraine none of the other interest group was strong enough to challenge the Ministry of Forestry, in Russia especially the Forest Industry provided a counterweight and reforms tended to balance the interests of State forestry and private industry. It also appears that the growing importance of the green movement had some effect. The very institution of a Ministry of Natural Resources may well have been made as a preferable alternative to moving forest and water resources to a Ministry of Ecology.

In Latvia, general societal reforms were to have a larger impact on the forest sector than in Ukraine and Russia. Still, the preparation of the first forest code was delegated to the Forest Service, much as in Ukraine and Russia. Only Latvia's Forest Code of 2000 was prepared in a more neutral fashion, after a broad participative forest policy process had been carried through and after policy and legislative questions had been moved to a special Department in the Ministry of Agriculture. If Latvian forest sector reforms are at all to be described in terms of interest group struggles, then the old State forest and forest industry organisations must be considered to have lost. On the other hand, the reformed or newly created organisations have been quite successful and employ mostly the same people, so even if the old organisations "lost", their employees often ended up winners.

4.2.3 Historical Experience and Path Dependency

Of the countries in this study, Historic Experience as a model for reform is mainly applicable on Latvia. In Ukraine and Russia, there are few examples of influence of Historic Experience. A number of reasons speak for this difference. Firstly, Latvia had experienced a period of independent statehood so recently that it was still remembered and modern enough to provide a workable model. Secondly, there was a widely shared opinion that the communist period had been a period of occupation, and that a return to normality would demand the abolishment of institutions formed during this occupation period. As a result, the Latvian independence period 1918-1940 was in several cases used as a model for reform.

Ukraine on the contrary, had no recent period of independence to look back to. No evidence of historical examples having had concrete effect on reforms could be identified in this study.

In Russia, the period before the revolution was sometimes used in the debate and may, as demonstrated in this thesis, have had some influence in protecting the Russian model of split forest management and use. It was also used repeatedly to propose direct financing of forest management through the sale of logging tickets, but without success. In 2006, that is after the studied period, a long argued return was made to the term *lesnichestvo* instead of *leskhoz* for describing the local State forestry unit, but the new *lesnichestvo* had very little in common with its pre-revolution model (which had been a self-financed unit, selling final felling on root at best price and using the money for financing forestry, whereas the post-2006 *lesnichestvo* is planned to be mostly a control organisation).

4.2.4 Rent-seeking, External Financing and Grey Economy

Corruption and rent-seeking can basically influence reforms in two ways. Either, reforms are made in such a way that it enables them, or the reforms are made in order to stall them.

Although it is unclear whether any individuals in the Ukraine State forest sectors can be defined as "rent-seekers", it appears suitable to apply this model on aspects of the whole State Forest Committee organisation. The Committee, with its subordinated *derzhlishospy*, controls most of the forest, has a close-to monopoly on forest felling and also runs a significant share of the country's sawmilling. The Committee's roundwood trade and sawmilling business benefit from controlling the raw material base. Thus, the Committee has definitely attained a protected and favoured status, which one should expect it to defend.

The Russian and Latvian privatisation of forest harvesting companies took place in the early 1990-ies and in an environment of legal disorder. That this privatisation included semi-illegal and illegal actions has also been noted by various authors (Lehmbruch, 1999, Carlsson and Olsson, 1998-1).

As rent-seeking or client relationship can possibly also be labelled the early forest lease systems in Russia and Latvia, where the forest harvesting companies received raw material concessions at low prices. It must however be noted that similar State support in crisis situations is not unusual in western countries.

If we look for cases of sheer corruption, accusations of such have often been made in connection with both Russian and Latvian forest lease decisions as well as for forest concessions in the Ukrainian Carpathians. In Russia, the risk of corruption influenced the repeated transfer of decision in these tenders, first to local level (1993), then to regional (1997), to federal (2004), and then (in 2007) back to regional level (Lehmbruch, 1999, Nordberg, 2007-2).

When the Latvian State forest enterprise LVM was created, it was originally determined that it should not be allowed to harvest forest. Wood should either be sold on auction and on root, or its harvesting should be offered on open tender and then the wood should be auctioned on road-side. This model was created in order to allow for maximal transparency (Interview 2).

4.2.5 Summary of model applicability

In table 4.2 are summarised the applicability of the models used in this study on key reforms in the three countries forest sector reforms.

Table 4.2. *Applicability of reform analysis models.*

Latvian Reforms	Applicability of Models			
	Interest Group Struggles	Political Necessity	Historic Experience	Path Dependency
1 Breaking up the Soviet Branch ministry	low	high	medium	medium
2 Forest Privatisation	low	high	high	low
3 Formation of the State Forest Service	low	high	high	medium
4 Long-term forest agreements	high	medium	low	medium
5 Forest code of 1994	low	medium	low	medium
6 Policy and reform process of 1996-2000	medium	high	low	low
7 Formation of State forest enterprise	high	medium	medium	low
8 Forest code of 2000	low	high	low	low

Russian Reforms	Applicability of Models			
	Interest group struggles	Political necessity	Historical experience	Path dependency
1 Split of forest industry and forestry	medium	high	low	high
2 Reforms of the legislation	high	medium	low	high
3 Forest lease	medium	medium	low	medium
4 Changes in central and regional forest management organisations	high	medium	low	medium
5 Reforms on leskhoz level and in financing of forestry	high	low	low	medium

Ukraine Reforms	Applicability of Models		
	Interest Group struggles	Political necessity (Public Choice)	Rentier-capitalism, client relationships
1 Formation of the Ministry of Forestry and its change into State Committee	medium	medium	medium
2 The Abolishment and Reinstitution of the Ministry of Forestry's Regional Level	medium	low	medium
3 The Split of the Carpathian Kombinats	high	low	medium
4 Reforms on the Level of Derzhlishospny	medium	low	high
5 Reforms of the Legislation 1990-2000	medium	medium	low
6 Increase of protected territories	high	high	questionable

In Russia and Ukraine there are clear similarities in motives and reasoning behind reform, with Interest Group Struggles as a dominating factor. The better balanced interest group struggles in Russia, with a strong forest industry as counterweight to the State Forest Service, lead to strong market oriented reforms but with marked path dependency, whereas in Ukraine the Ministry of Forestry managed to defend its positions and as a result, its protected status remained.

Latvia is a quite different case. Here, the model Political Necessity is applicable on most performed reforms, often in combination with Historic Experience. Both models provide an explanation to the quick abolishment of most pre-1990 structures and to many of the subsequent reforms. By defining the Soviet period as

alien and destructive, quick and radical change was motivated. Then, the pre-world war 2 constitution (1922) and large sections of the civil legislation were restored. Also, and of outmost importance to the forest sector, forest privatisation followed as a consequence of farmland restitution to the 1940 owners. This probably led to more forest being privatised than if other alternatives would have been chosen, which in turn increased the need for a competition-neutral State Forest Service. A competition-neutral Forest Service could only be guaranteed if State forests were managed by a separate entity, which after the Government in 1995 adopted its "Latvian State administration reform concept" led to a second wave of reform, culminating in the formation of the Latvian State Forest Enterprise (LVM) in year 2000, sealing a decade of intensive reformation.

4.3 Sector development

The development in the three countries' forest sectors could possibly give a hint of the consequences of the reforms. In table 4.3, some basic forest sector data is presented (for the mid-1990-ies, data varies considerably between different sources. For Ukraine, data for 1993 and 1994 are so uncertain that they have been omitted in the table). Although the aim of this study is to study the period 1990-2000, the table includes figures for 2004 or 2005, since consequences of reforms may not show immediately.

Table 4.3. Forest industry sector development 1990-2000 in Russia, Ukraine and Latvia. (An., 1998, An., 2001-1, An., 2006-1, An., 2006-2, An., 2006-3, Andousypine, 1994, Anttonen and Petrov, 1997, Buys, 1999, Nijnik and van Kooten, 2000, Nijnik, 2002, Nilsson and Shvidenko, 1998, Polyakov and Sydor, 2006, Ukraine State Committee of Forestry, 2000, Ukraine State Committee of Forestry, 2004, State Forest Service, 1996, Salins 1999).

Russia												
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2005
Total harvest, Mm3	320	290	210	190	145	160	120	120	115	150	150	160
Sawnwood, Mm3 75	66	53	41	31	26	22	20	19	19	20	20	22
Plywood, 1000 m3	1597	1520	1268	1042	890	939	972	943	1102	1324	1484	2551
Particle board, 1000 m3	5568	5409	4522	3941	2625	2206	1472	1490	1568	1987	2335	3930
Pulp, 1000 t	7525	6451	5676	4403	3314	4197	3075	3164	3210	4225	4960	7011
Ukraine												
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2004, 2005
Total harvest, Mm3	13,8	13,2	12,8	12,0	11,9	12,0	11,4	11,4	10,5	10,3	11,3	15,2
Sawnwood, 1000 m3	7300	6000	5000	3900	-	2900	2200	2200	2200	2000	1900	2100
Plywood, 1000 m3	162,2	150	95	-	-	37,9	31,5	28,8	35,8	44,2	56,3	140
Particle board, 1000 m3	1171	1100	1020	-	-	400	-	200	200	200	200	1000
Wood pulp, 1000 t	104	90	76	-	-	61	34	26	30	37,3	38,6	40
Latvia												
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2004
Total harvest, Mm3	5,0	4,5	4,0	4,8	5,7	6,9	6,7	8,8	10,1	13,2	11,0	10,8
Sawnwood, 1000 m3	500	500	500	400	950	1300	1800	2700	3200	3520	3850	4000
Plywood, 1000 m3	60	45	50	58	63,4	73,3	103	120	138	135	156	170
Particle board, 1000 m3	210	170	120	100	148	130	143	149	152	129	102	151

Russian Federation

Russia had severe problems with its forest sector during the studied period. First of all, this appears to be connected with the poor state of the forests and of the harvesting companies, which led to a decrease of forest harvest with almost 70 % from 1990 to 2000.

The need for repairs and modernisation of the pulp and paper industry was immense, but due to a prolonged struggle for control over the pulp and paper companies, it was often not possible to find sufficient financing. This led to poor payment capability, which in turn slowed down the recovery of the harvesting enterprises. Only in the end of the studied period did production begin to recover but first in 2005 was production beginning to approach the level of year 2000.

The Russian sawmill industry was also in poor shape and the production of sawnwood in 2000 was much below that of 1990, although there are reasons to believe that the figures of table 4.3 underestimate the output. Small sawmills with private owners became common during the period and their production may not have been fully registered. Much too little investments were made in the sawmill sector during the period.

Ukraine

For Ukraine, the dramatic fall that was observed in Russian harvesting did not happen. Due to an intact state forestry sector and comparatively well-managed forests with reasonable road infrastructure, the Ministry of Forestry managed to keep the harvest levels up during Ukraine's severe economical crisis of the Mid-1990-ies. The State forestry units also demonstrated slow but steady progress in wood processing. This processing, typically sawing accompanied with some further production such as floor parquette production, was of very small scale, and its possibilities to develop further in the future remain doubtful when this is written (2007).

Concerning private forest industry development in Ukraine, it has been difficult to find reliable data. The large-scale forest industry, mainly based in or around the Carpathians, largely closed down in the middle of the 1990-ies. The pulp and paper mill in Zhidachevo close to Lviv remained, but with large economic problems. Foreign investments into large-scale forest industry were very small, one reason being the absence of forest lease as an instrument to guarantee raw material security. Small to medium size private sawmills developed during the period and were largely supplying to the domestic building sector.

The most positive development is that the board industry started to recover around 2004-5. This is crucial also to- forest management since it creates a market for products from early intermediate fellings.

Latvia

Just as Latvia was the country with the most profound forest sector reforms out of the three, it was also the country with the fastest economic development in the forest sector. The closure of its only wood-based pulp and paper mill Sloka in 1994, and the failure to attract investors for a substitute, were compensated for by an enlarged export of pulp-wood, mainly to Baltic neighbours Sweden and Finland. The sawmill industry developed with remarkable speed. Whereas Latvia in 1993 harvested less than 5 million m³ and was a net exporter of sawlogs, it in 2000 harvested 11 million m³ but had nevertheless become a net importer of sawlogs to a sawmill industry that had increased its output by almost 8 times.

Reading table 4.3, there can be little doubt that of the three countries, Latvia demonstrated the best economic recovery and development of its forest industry during the period. This may perhaps partly be explained by reforms made, but of course also by other factors:

- Latvia had an accumulated reserve of old forest that could be utilised to increase profits in the forest sector
- There was wide experience with shortwood forest machinery, which enabled a very quick increase of forest harvest. Export of pulpwood and sawlogs were used to finance the investments needed in harvesting and processing machinery.
- There was a customs agreement with Scandinavia and later with the E.U., making machine and machine parts import considerably cheaper and quicker effective than to Russia or the Ukraine.
- There was an interest both from Latvian and Scandinavian societies in general to increase mutual contacts. This led to a quick increase of Latvian exports but also of direct Scandinavian investments, both in harvesting and in processing.
- The privatisation of logging companies enabled successful enterprises to grow and also made it possible for investors to purchase logging companies.
- The model of forest lease probably increased the readiness of foreign companies to invest in the Latvian forest industry.

5 Discussion

5.1 The models

The aim of this study was to examine what reforms took place in the State forest management of Ukraine, the Russian Federation and Latvia and the underlying reasons for these reforms. For this purpose four explanatory models were defined with the help of theories from Economic and Political science. Most of these models come from the Public Choice discipline, or research program as one of its creators, J. Buchanan, has labelled it (Buchanan, 2003).

In section 4 we demonstrated that the models all were useful in providing explanations to observed reform processes in the studied countries. None of the models could be used on all processes in all countries. It is for instance obvious that the model of black economy cannot be expected to provide background to all reforms - they would then be driven only by obviously destructive or even illegal processes. Likewise, the study has shown that Historical Experience in one country had very much relevance in analysing forest sector reforms, whereas it was of little importance in the other two.

There are other models that could have been used. Theories more concentrating on economy, such as imperfect competition and market failure, could have been applied on part of the reform phases studied. Here such factors have been described as background information, particularly concerning the Ukraine State Committee of Forestry and the Russian leskhozoes' monopoly on intermediate cuts.

For Latvia, consequences of ethnicity could have been analysed separately. For Ukraine, the intricate network of business and State administration under the former President could have been analysed deeper.

Particularly for Russia, Social Cost theory could have been used to illustrate that privatisation of State harvesting companies not only lead to better economy of these companies, but also to increased burden on the local rayon budgets, due to factors such as decreased employment and the transition of housing, heating, infrastructure and kindergartens from the companies to the local administration.

Constitutional theory concerns the construction of political and administrative systems with the goal of increasing public good and decreasing the actors' maximisation of their own. It appears, that only in the second phase of Latvian reform, was constitutional theory applied systematically by the reformers, both through special public reform agencies and in the international support to the reforms. As a result, the introduction of checks and balances in the Latvian forestry sector was considerably more thorough than in the other two countries.

5.2 The methods

The method for describing what reforms had taken place was basically to read all available material and to interview participants in the reforms. More problematic was to find a method to analyse why they had taken place.

Influences of general politic reforms (Political Necessity in this study) could be identified with some certainty, by comparing reforms in the forest sector to the general political debate in the country and to reforms in other sectors. Effects of "Historic Experience" could be studied in much the same way, but here the reforms or proposals of reforms could be limited to the actual sector, which necessitated more careful studies of the sector's professional journals.

One of the most interesting models to apply was the one of Interest Group Struggles. These struggles were often described by involved persons in their accounts of the reforms. Also, they could often be identified in the written debate of the time. This is the only part of this thesis that could qualify as a quantitative study (for an example, see Supplement 1).

Finding support for the influence of Rent-seeking or of black economy proved very difficult. First of all, considering the high degree to which studied countries are haunted by corruption, remarkably little has been written about this problem in the respective country's professional forest press. This means that researchers must rely on interviews that mostly must remain anonymous and to the very few international studies on the subject.

5.3 International agreements and tendencies in forestry

If this study would have followed the development only a few years further, much more emphasis would have been put on international agreements and tendencies in forestry. Both on environmental issues, such as woodland key habitats, high conservation value forests, criteria and indicators for monitoring state of forests and on general forest policy issues, such as national forest programmes, the tendency of internationalisation of terminology is evident. Through international agreements, the States agree to use uniform definitions and this must with time lead to the abolishment or change of earlier, national concepts. A typical example is the Soviet forest group system, which protects vast areas of forests, but which is typically not accepted by environmental organisations, due to disagreements both on definitions, objective measurements and allowed forestry measures. If the system of forest groups is not adapted to international standards, the countries using it will continue to refrain from forest use without receiving international credit for it.

Another international tendency in forestry is voluntary certification of forest management and chain of custody. The Latvian State forest enterprise LVM already from the start declared its plans to certify its forest management according to the international FSC system (An., 2001-2). However, up to year 2000, the end year of this study, little of these influences had begun to have real impact on forest institutional reforms.

5.4 Latvia

Latvia's, reform process of her forest sector is one of the most thorough, or the most thorough, which has taken place in any of the transition countries of Europe. An institutional setup was created where the division between organisations was very clear and where very few double responsibilities or overlaps existed. Also concerning financing the model is very clear. The Latvian model is in fact unique also in comparison with western European models, where a slow historical development process have led to much more complicated and seemingly less logical models.

In Latvia the idea of land restitution was formed already before 1990 and this started a chain reaction of reforms at least until 1995. It is remarkable that the reform process, which appeared concluded in the Mid-1990-ies after the creation of the State Forest Service and the forest code, the privatisation of the forest industry and half of the forest land, did not come to a halt for consolidation. Instead, the separation of practical forest management from the State Forest Service into the new state forest company LVM was initiated just shortly after the first reform phase was concluded.

Also remarkable with forest reforms in Latvia during the studied period, is how little Path Dependency can be identified. The Latvian SSR Ministry of Forest and Forest Industry had a strong organisation and a relatively long tradition but was nevertheless broken apart. Then, after just seven years, the Forest Service was divided and a State Forest Enterprise was created. This reflects also the little degree to which the State forest management organisation managed to keep the former State forest sector intact. This is a clear difference as compared to Ukraine and Russia, where Path Dependency played a much more major role and where the Forest management organisations changed comparatively little.

There are several reasons for this difference:

First of all, there was in Latvia a strong public support for fundamental reforms.

Secondly, there was the fairly recent pre-1940 model to study, both in search for examples and in search for motivations to reform. The pre-war situation remained in the memory, both of a substantial part of the population, so notions of market economy and private land ownership was not abstract ideas, something that separated Latvia from Ukraine and Russia, where such phenomena had existed mostly only prior to 1917.

Thirdly, forest reform was seen, particularly after 1996, not as internal reforms within a State sector, but as an integrated part of societal reform. This meant that initiatives to reform largely emanated from the Government, not from sector interests.

Fourthly, and also mainly after 1996, international support was asked for in preparing reforms, and this international support was integrated in the reform process, not just held as investigating project groups outside of it.

Finally, whereas the forest sectors of Ukraine and Russia were fairly small contributors to the National economy, the forest sector of Latvia was its main net earner, supplying 6 % of GDP and one third of the export incomes (Birgelis et al. 2000). This guaranteed Government focus on the sector's reform process.

Sten Nilsson (2005) notes that "analysis of generic frameworks in countries with economies in transition and in developing countries shows that elements of the policy framework are missing and that different elements of the policy frameworks are disconnected, incoherent, and thereby the policies implemented do not lead to the desired outcome". I believe that it is possible to claim that Latvia at the end of the here studied period had reached a point, where this was no longer true. In any case, certain Western European countries have in later years demonstrated less coherent forest policy with more unpredictable outcome.

If one should point out a possible problem in Latvian forest management, it is how silviculture is and will be managed on private lands. The private holdings are typically small and their owners lack often both education and which may be equally important, tradition in forestry. Large efforts in education, support and encouragement and also in control must be put if the presently good state of Latvian forests, which is the primary source to the positive development of the last 15 years, is not to worsen.

5.5 Ukraine

Interest Groups struggles, or at least conflicting interests between different groups, were common in and around the forest sector of Ukraine in the studied period. It can however be noted that private interest groups, whether companies or NGO's, appear not to have had a major influence on the reforms. Rather, the Government, the Ministries and State Committees, and to some extent oblast and rayon authorities, have been competing in formulating or counteracting reforms. There are several cases, when possible or planned reforms did not take place, apparently due to conflicting group interests within the public sector.

In the narrow sense in which the Public Choice theory has been applied here (to point out when politicians take or avoid decisions just to follow their appreciation of public opinion), it seems best applicable on questions concerning general market reforms and on questions concerning ecology.

Rentier-Capitalism, in the sense that State bodies are allowed to perform market activities on favoured conditions, or to access of other external incomes, appears to have played an important role in several of the reforms described. Given inadequate funding from the State budget, it is not surprising if State bodies are very interested in alternative sources of financing, and that this frequently leads to conflicting interests.

Looking at the reforms that did not take place in Ukraine during the analysed period (table 4.1) it is clear that the reform process was very slow. In the crisis years of the Mid-1990-ies, the social consequences of retaining status quo were perhaps less severe than if strong reforms had been pushed through (as often argued by the Ministry of Forestry, see e.g. Samoplavsky, 1994). Considering how long time has now been allowed to pass, however, it is sad that the reform process seems to have been slowed, due to short-term political and economic interest and competition between different State bodies. Another reason why this happened is probably that both the industry and the NGO's were too weak and too poorly organised during the period to make their voices heard.

In a Ukrainian context, the models of interest group struggles and of path dependency illustrate why, in the absence of clearly expressed goals, reforms tended to be minimal adaptations of the previous Soviet system to present conditions. The organisations tended to keep as much as possible of their internal culture and way of working. They were locked in limitations formed during long periods of slow adaptive reforms. They were therefore reluctant to see that thorough reformation might have provided a more effective path to survival and development than small reforms of existing structures.

A positive factor in Ukraine as compared to Russia, is the better state of Ukraine's forests. As pointed out starting for more than 10 years by several experts (e.g. Bobko, 1994; Foellmi, 2005), a revision of Ukraine's group system, with increased precision in protection, should make possible increased harvests without worsened environmental concern. In this respect, the present Ukrainian situation is similar to Latvia's in the early 1990-ies. Parts of the accumulated ripe forest in what is today Group 1 forest could be used to revive the forest industrial sector. Before this resource is taken into use however, it would be wise to consider the institutional setup. Only when there is a real balance between State, Industry and the various public interests, conditions are set that can drive Ukraine's forest sector forward.

5.6 Russia

Typical for the Russian society after 1990 was the field of tension between the reformers in Government and the State administration, and between competing State administrations. These interest group struggles were sometimes useful to the reformers, who could propose compromises that balanced opposing interests while simultaneously bringing the reform process forward. This explains why, at the same time as it is workable under market economy, the Russian forest

management remains very Russian and different from other European transition countries.

There was no generally accepted forest policy guarding the reform process. Rather, it developed by its own momentum, starting with work collective's lease of production means in the end of the 1980-ies, which led on to the main components of sector reform. Reforms developed in line with general tendencies in government and society and in intensive debate between forest industry and forest management interests. Influence from other interests was limited.

It can be questioned whether key reforms were not made prematurely and if so, whether the sector later became limited by an obsolete framework. Remaining problems at the end of the studied period were an unclear division of responsibilities between the State and the forest users, that detail-level forest planning continued to be made by the State, that a workable solution for financing forest management had not been created and that the local State forest management received no direct benefit from managing the forests well (Petrov, 1992; Petrov, 1997).

The basic construction of the Russian model, with State forest management and forest lease, is rather unique, but this doesn't per se imply that it is flawed (see Ljungman et al.1999). The lease system provided a possibility to sort out unsuitable forest users and encourage others in their place.

As a result of its' 20th century history, it is understandable that Russia has developed own definitions of forest management and protection issues. In the present era of globalisation and of international cooperation in environmental questions, it is advisable that these definitions are made more compatible with those of other countries. The present logging rules need to be looked over, since they in many cases forbid the type of conservation that international certification models proscribe (e.g. to leave a certain amount of dead or representative trees standing after final felling). Reciprocally, countries with multi-purpose forest management on their full forest area, notably those of Scandinavia, could learn much from studying the pro's and con's of the Russian forest groups, that divide the forest fund into three groups after different emphasis of protection and of intensity of use.

The present Russian lease system has been carried through on most of the European parts of Russia and on most of the parts east of the Urals where forestry is economically possible. In the future, why not develop a multitude of forest holderships – private, enterprise, lease and State? Experience from many countries shows that this is leads to that the forest is managed in different ways, which may be beneficial from both economic and ecologic points of view.

Another path away from uniformism would be to separate State forest inventory and monitoring from detailed-level forest planning. The former is a State function and its quality would increase if based on sampling (Krott *et al.*, 2000). The latter is better left to the forest holder/user. The local expert, private or State employed, must be allowed to take responsibility over his forest, that is - to be a forester.

5.7 Contributions of this study and directions for further research

Most studies of transition countries' forest sector reforms have been focusing on describing performed reforms, criticising them and making proposals for further reform.

This study has rather focused on the reasons for the reforms. For this purpose, models mainly from Public Choice and Institutional theories have been applied, which has earlier not been common. This is a field where a lot more can be done.

The three articles of this study focus each on one country. In the article on Latvian reforms, there is also a comparison between findings concerning the three countries, continued above in section 4. Such comparative studies are fairly common in analysing European countries' land and forest sector reforms (see e.g. Krott *et al.*, 2000; Nilsson, 2002, 2005; Swinnen and Mathijs, 1997). This study is a continuation of such studies, but focuses more on the general atmosphere surrounding the reforms and on the reasons for reforms.

An attempt is also made to compare the economic development of the countries' forest sectors (table 4.3). Here much more can be done. First of all, forest sector development could be set in relation to other sectors of the studied country.

The most important task in forestry is the long-term development of the forests. The basic idea of classic forestry is to form the forest into parcels that allow for a level (or improved) annual harvest for all future. It has been widely reported, also by Russian forest industrialists (see e.g. Novoselov, 1992; Filatov, 1991; Orlov, 1990) that in the northern parts of the Soviet Union departures from this idea were huge. As a result, a strategy for restructuring the forest distribution over species and age classes needs to be developed. There are also reasons to believe that with the large proportion new forest owners in Latvia, tending of young forest, which can be foreseen to yield economic return at best in decades from now, has suffered. A comparison of forestry results between the three countries studied in this thesis, would be of great interest, and is being planned.

5.8 Concluding Remark

It is my hope that this thesis can be of need for anybody interested in forest management. Even more satisfying would be if its approach could be used and developed for further studies in transition country public reform.

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References

- An. 1998. Forest Products annual market review 1997-8. UNECE.
www.unece.org/trade.
- An., 2001-1. Latvia's forest sector 2000. Ministry of Agriculture, Riga.
- An. 2001-2. State Stock Company Latvijas Valsts Mezi 2001. Information booklet.
- An., 2006-1. Latvia's forest sector 2005. Ministry of Agriculture, Riga.
- An 2006-2. Production, consumption and trade in forest products in the Russian Federation. Moscow 2006. From UNECE.org/trade.
- An. 2006-3. Modern economic potential of Ukraine. Material prepared for National exhibition of Ukraine in the USA, December 14-16, 2006.
- Andousypine, V.S., 1994. Forest and forest products country profile: Ukraine. Timber and Forest Study Papers, No 4. UNECE Timber Section, Agriculture and Timber Division, Geneva.
- Anttonen, T., Petrov, A.P. (editors), 1997. Potential of the Russian Forests and Forest Industries. Joensuu University Research Notes, 61. Joensuu.

- Åslund, A., 1995. How Russia became a market economy. The Brookings Institution, Washington D.C.
- Birgelis, J. (ed.), Stripnieks, R., Pundina, L., Rozentals, G., Salins, Z., 2000. Institutional reform in Latvian forest sector. Republic of Latvia and FAO. Riga.
- Bobko, A., 1994. Novi Shlyachy pidvyshenya intensyfikatsii lisovoy Ekonomiki Ukrainy. Lisovy Zhurnal 4, 30-34. (In Ukrainian)
- Bryman, A., 2002. Samhällsvetenskapliga metoder. Liber, Malmö.
- Buchanan, J., Tullock, G., 1962. The Calculus of Consent: Logical Foundations of Constitutional Democracy. University of Michigan Press. Ann Arbor.
- Buchanan, J., 1979. Cost and Choice. An enquiry in Economic Theory. Chicago.
- Buchanan, J., 1986. Liberty, Market, and State: Political Economy in the 1980-ies. New York University Press. New York.
- Buchanan, J., 2003. What is Public Choice Theory? March Imprimis lecture given at Hillsdale College February 3, 2003.
- Buyts H. G., 1999. A macroeconomic survey of the forest sector in Latvia. FAO Forestry Department. Forest Finance Working Paper FSFM/misc/03
- Carlsson, L., Olsson, M-O.(eds.), 1998-1. Initial Analyses of the Institutional Framework of the Russian Forest Sector. IIASA Interim report IR-98-027/June, 30-50. Laxenburg.
- Carlsson, L., Olsson, M-O.(eds.), 1998-2. Institutions and the Emergence of Markets-Transition in the Tomsk Forest Sector. IIASA Interim report IR-98-084/October, 30-50. Laxenburg.
- David, P. A., 1994. Why are institutions the “carriers of history”? Path dependence and the evolution of conventions, organizations and institutions. Structural change and economic dynamics, vol. 5, no 2.
- Davis, J.R., 1997. Understanding the process of decollectivisation and agricultural privatisation in transition economies: The distribution of collective and state farm assets in Latvia and Lithuania. Europe-Asia Studies, December 1997.
- Denk, T., 2002. Komparativ metod- Föreståelse genom jämförelse. Lund.
- Filatov, A.A., 1991. K zashchitu kompleksnykh lesnykh predpriyatiy. Lesnaya Promyshlennost 6, 1991, 13-14.
- Foellmi, H., 2005. Ukrainian forest sector: Status and opportunities for development. Discussion paper. April, 2005. Swiss Agency for Development and Co-operation, SDC, Intercooperation.
- Eremeev, A.G., 1999. Ob upravlenii lesnym khozyaystvom i lesopromyshlennym kompleksom Rossii. Lesnoye Khozyaystvo 1/1999, 6-8.
- Fredriksson, G., 2003. General comments on forest legislation in European countries with economies in transition. Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 29, 11-15.
- Gerner, K., 1991. Centraleuropas återkomst (Return of Central Europe). Lund. SBN 91-1-908411-0
- Hare, P., 1996. Structural change in Russian industry. The royal institute of international affairs. Russia and Eurasia programme. 1996. London.
- Havrylyshyn, O., 2000. The Political Economy of Delayed Reform in Ukraine. In Wolchik, S. L. and Zviglyanich, V (eds.), 2000; The search for a national identity, Oxford, 49-68. ISBN 0-8476-9345-7.
- Hedlund, S., 1993. Hur många Ryssland efter Sovjet? Stockholm.

- Klaus, V., 1998. The Importance of the Public Choice School both for the Criticism of the Centrally Planned Economy and for the Process of Its Dismantling. *Public Choice* Vol. 96, 3-4, 395-403.
- Koldanov, V. Ya., 1992. *Ocherki Istoriy Sovetskogo Lesnogo Chozyastviya. Ekologiya*, Moscow.
- Krott, M., Tikkanen, I., Petrov, A., Tunytsya, Y. et.al, 2000. Policies for Sustainable Forestry in Belarus, Russia and Ukraine. *EFI Research Report 9*.
- Krueger, A., 1974. The Political Economy of the Rent-Seeking Society. *American Economic Review* 64 (3), 291-303.
- Kuchma, L., 1999. *O samom glavnom*. Kiev. ISBN 966-7308-70-7
- Lehmbruch, B., 1998. Ministerial Spin-Offs and Economic Transformation in the Russian Timber Industry, 1992-1996. In Carlsson, L., Olsson, M-O.(eds.). *Initial Analyses of the Institutional Framework of the Russian Forest Sector*. IIASA Interim report IR-98-027/June, p.30-50. Laxenburg.
- Lehmbruch, B., 1999. Managing uncertainty: Hierarchies, markets and networks in the Russian timber industry 1991-1998. *BOFIT Discussion Papers 1999-4*. Helsinki.
- Ljungman, C.L.S., Martin, R. M, Whiteman, A., 1999. Beyond sustainable forest management: Opportunities and challenges for improving forest management in the next millennium - Summary report. *FAO Forestry Policy and Planning Division*. Rome.
- Mashkina, O., 1998. Measuring Attitudinal Diversity through Q-analysis - An Illustration of a Research Approach. In Carlsson, L., Olsson, M-O.(eds.), 1998-1, *Initial Analyses of the Institutional Framework of the Russian Forest Sector*. IIASA Interim report IR-98-027/June, p.30-50. Laxenburg.
- Nijnik, M., van Kooten, G.C., 2000. Forestry in the Ukraine: The road ahead? *Forest Policy and Economics* 1, 139-151.
- Nijnik, M., Oskam A., 2004. Governance in Ukrainian forestry: trends, impacts and remedies. *International Journal of Agricultural Resources, Governance and Ecology* 3, 116-133.
- Nijnik, M., 2004. To an economist's perception on sustainability in forestry-in-transition, *Forest Policy and Economics* 6, 403-413.
- Nijnik, M., Oskam A., 2004. Governance in Ukrainian forestry: trends, impacts and remedies. *International Journal of Agricultural Resources, Governance and Ecology* 3, 116-133.
- North, D., 1981. *Structure and change in economic history*. New York.
- Novoselov, S.D., 1992. Razvitie lesnogo kompleksa kirovskoy oblasti, *Lesnaya Promyshlennost* 7, 1992, 7.
- Nilsson, S., 2001. *Forest Policy, criteria and indicators, and certification*. IIASA Interim Report 01-024. Laxenburg.
- Nilsson, S., 2002. Future challenges to ensure sustainable forest management. *Forests and forestry in Central and Eastern European countries. The transition process and challenges ahead*. Ministerial conference on the protection of forests in Europe. Vienna.
- Nilsson, S., 2005. Experiences of policy reforms of the forest sector in transition and other countries. *Forest Policy and Economics* 7, 831-847.
- Nilsson, S. and Shvidenko, A., 1998. Is Sustainable Development of the Russian Forest Sector Possible? *IUFRO, Occasional Paper No. 11*.

- Nordberg, M., 2006. Ukraine Reforms in Forestry 1990-2000. *Forest Policy and Economics*, vol. 9, issue 6, 713-729.
- Nordberg, M., 2007. Russian Reforms in Forestry 1990-2000. Submitted to *Forest Policy and Economics*.
- North, D. C., 1990. *Institutions, institutional change and economic performance*. Cambridge University Press. Cambridge.
- North, D., 1991. Institutions. *Journal of economic perspectives*. Volume 5, number 1, 97-112.
- North, D., 1998. The process of economic change. The United Nations university WIDER. Working papers number 128. March 1998.
- Orlov AI, 1990. Severny les: defitsit pri izobilii Lesnaya Promyshlennost 3, 1990, 24.
- Ozols, A., 1996. In *Forest and forestry in Latvia*. FAO/Austria seminar on the economics and management of forest operations for countries in transition to market economies. FAO Corporate document repository.
- Pautola-Mol, N., 2001. The Baltic states' integration into the European union - Institutional approach. *Acta universitatis oeconomicae helsingiensis A-196*.
- Pelkonen, P. (ed.), 1999. *Forestry in Changing Societies in Europe*. Joensuu 1999. ISBN 951-98298
- Petrov, A.P., 1992. Nalogi i platezhi za lesnye resursy v usloviakh rynka. *Lesnoye khozyaystvo* 2, 19.
- Petrov, A.P., 1997. Ekonomicheskiye i pravovyye osnovy natsionalnoy Lesnoy politiki. *Lesnoye khozyaystvo* 2, 6-8.
- Petrov, A. P., 1999. Leskhoz: Ego status v sisteme gosudarstvennogo upravleniya lesnym khozyaystvom. *Lesnoye Khozyaystvo* 5, 23-25.
- Pisarenko A.I., Strakhov V.V., 2001. O lesnoy politike Rossii. Moscow.
- Polyakov, M. and Teeter, L., 2005. The influence of regulatory forest policy tools on biodiversity measures for forests in Ukraine. *Forest Policy and Economics* volume 7, issue 6, 321-332.
- Polyakov, M. and Sydor, T., 2006. Forestry in Ukraine: The road ahead? Comment. *Forest Policy and Economics* volume 8, issue 1, 1-5.
- Melnis, A., 2001. Upravlenie lesami v perekhodnoy ekonomike. In Petrov, A.P, Melnis, A., Talijarv, A., Näslund, B-Å., Gustafson, M., 2001. *Upravlenie lesami v perekhodnoy ekonomike (opyt reform v Rossii i stranakh Baltii)*.
- Salins, Z., 1999. *Meza izmantosana Latvija*. LLU Meza izmantosanas katedra, Jelgava.
- Samoplavsky, V.I., 1994. Zavdannya i perspektyvy rozvytku lisovoi galuzi. *Lisovy Zhurnal* 2, 2-5. (In Ukrainian).
- Schmid, A.A., 1987. *Property, Power and Public Choice*. New York.
- Shen, R., 1996. *Ukraine's economic reforms – obstacles, errors, lessons*. Westport, Connecticut. ISBN 0-275-95240-1.
- Shubin, V.A., Kyzmichev, E.P., Vomperskiy, S.E., Giryayev, D.M. et al. (ed.), 1998. *Dvuchsoletniya uchrezhdeniya lesnogo departamenta 1798-1998*. VNIITs lesresurs, Moscow.
- Skilling, H.G. and Griffiths, F. (eds), 1971. *Interest Groups in Soviet Politics*, Princeton N.J., pp. 19-47, 379-417.

- State Forest Service 1996. The forest, forestry and investment opportunities in pulp and board industries in Latvia. Potential Investor's information folder, November 10, 1996. Riga.
- Swinnen, J.F.M. and Mathijs, E., 1997. Agricultural privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe: A comparative analysis. In: Swinnen, J.F.M, Buckwell, A., Mathijs, E (eds.), 1997. Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe. Aldershot, U.K.
- Tullock, G., 1987. Public Choice. New Palgrave Dictionary of Economics, Cambridge, 1040-1044.
- Ukraine State Committee of Forestry, 2000. Ukraine Forestry Sector Master Plan. Final Report. Kiev.
- Ukraine State Committee of Forestry, 2004. Ukraine Forestry Sector Master Plan II. Final Report. Kiev.
- World Bank, 1995. ECA country development III. Government of the Russian Federation, State Statistics Committee. October 1995.
- World Bank 1999. Ukraine - Restoring growth with equity: a participatory country economic memorandum. A world bank country study. Washington D.C.
- Žvaginš, O., 2003. The Latvian Forest Sector Reform Process. In: Ivers, L. and Petrov, A.P. (editors), 2003. Institutional Changes in Forest Management in Countries with Transition Economies - Problems and Solutions. Workshop Proceedings, 25 February 2003..Moscow.

Formal interviews

1. Otto Zvagins: Active in the forest reform process from 1996, general director of VMD 2000- 2004.
2. Arnis Melnis: Active in reform process from 1996. General director of VMD 1997-2000, forest director of LVM from 2000.
3. Zigurds Salins: Active in the reform process during the whole period 1990-2000. Professor emeritus of Latvian Agricultural University, Forest faculty, Jelgava. One of the most published forest specialists of Latvia.
4. Janis Birgelis: Active in the reform process during the whole period 1990-2000, director of the Forest Policy Department in Latvian Ministry of Agriculture.

Supplement 1

Mapping of reform argumentation in Russian forest journals - Description and example

In table 3 of this Supplement an example of article mapping is presented. The articles all come from the journals "Lesnoye Khozyaystvo" (Forest Management) and "Lesnaya Promyshlennost'" (Forest Industry), and were the official organs of the Ministry of Forest Management and the Ministry of Forest Industry and of their successors. In the table on page 2, articles have first been grouped by reform issues. These issues are more narrowly defined than the ones used in the main text of the thesis, since an author might be for one issue but against another, which together were part of one reform.

During the reading of the articles, a list of reform issues was compiled, which developed over time, which in turn lead to repeated re-reading of the articles. The final list of reform issues that were mapped is presented in Table 1.

Table 1. Reform issues mapped for the article "Russian Reforms in Forestry 1990-2000".

-
- A Privatisation of forest industry
 - B Split of forest industry and forest management
 - C Reforms of legislation
 - D Changes in the central and regional forest management
 - E Reforms on level of leskhoz Ban on final felling
 - F Forestry financing by logging tickets or fund from them
 - G Forest lease
 - H Corporations/associations of forest industry
 - I Main influence over forest use to rayon
 - J Main influence over forest use to oblast
 - K Forbid leskhoz thinning
 - L Do something against overcuts
 - M Various forest ownership
 - N Separate forestry control
 - O FM certification
 - P One organisation responsible for land unit, not several
 - Q Resultbased leskhoz financing
 - R Increase stumpage fee
 - S Two types of leskhoz
 - T Form a Ministry of Natural Resources
-

For each article, notes were made on the organisation to which the author belonged, what reform issues were debated and what kind of arguments the author used. In this respect, only three kinds of arguments were used: Historic Experience (motivation for or against a reform by historic examples), Political Necessity (motivation by general reform processes in society) and Other.

Organisational belonging was recorded groups according to table 2.

Table 2. Organisational belonging of article authors.

Forest Management		Forest Industry		Other	
FMC	For. management central	FIC	For. industry Central	GOVC	Government central
FMR	For. man regional and local	FIR	For. ind. regional and local	GOVR	Gov. reg. and local
FMSC	For. man. science	FISC	For. industry science	ECSC	Economic science

In table 3, a summary of article mapping of some of these issues is presented as an example.

The mapping allows fairly well for mapping of interest group struggles, by simply counting articles for and against.

If we chose the reform issue "F - Forestry financing by logging tickets or fund from them" as an example, we find that during the studied period, 25 articles expressed support for such a reform, whereas 11 articles expressed that the author was against. Of the supporting articles, four were written by representatives of the forest industry, but 21 by representatives of forest management organisations. Of articles against this reform, all eleven were written by industry representatives. In order to analyse the influence of Historic Experience, articles with such motivation for or against reform had to be identified. These were rare and typically used by Forest management organisations. The main example was direct financing of forest management, where the pre-1917 model was used as a positive example.

This quantitative measuring does not give a full picture of the reform process, as discussed in section 3.2 of the Introductory Part of the thesis. As an example can be noted, that Government representatives (Ministers of Forest Industry and Management were not considered as "Government" but as part of their respective organisations) rarely wrote in the professional journals, but when they did, this had heavy weight in the reform process. When for instance the State anti-monopoly expressed opposition against Forest Industry Associations, this was done at the same time as the Associations were in reality stopped.

Table 3. Mapping of reform argumentation in Russian forest journals.

How to read: FIC 2 means that two articles were written by Forest Industry Central organisation and were for or against a reform. See also table 2.

Reforms and argumentation	1990-93	1994-95	1996-2000	SUM 1990-2000
A Privatisation of forest industry				
<u>For</u>				
Political necessity	GOVC 2 FIC 1			GOVC 2 FIC 1
Other: Interest group argument	FIC 4 FIR 6	FMSC 2		FIC 4 FIR 6 FMSC 2
Historic examples				
<u>Against</u>				
Political necessity				
Other: Interest group argument	FISC 2	FIC 1		FIC 1 FISC 2
Historic examples				
B Split of forest industry and forest management				
<u>For</u>				
Political necessity	GOVC 1 FMC 1			GOVC 1 FMC 1
Other: Interest group argument	FIR 2 FMC 3 FMSC 3	FMC 1 FMSC 1		FIR 2 FMC 4 FMSC 4
Historic examples			FMC 1	FMC 1
<u>Against</u>				
Political necessity				
Other: Interest group argument	FIC 5, FIR 5, FMSC 1	FIC 1	ECSC	FIC 6, FIR 5, FMSC 1, ECSC 1
Historic examples				
F Forestry financed by logging tickets or fund from them				
<u>For</u>				
Political necessity				
Other: Interest group argument	FIR 1 FISC 2 FMC 4 FMR 2 FMSC 6	FISC 1 FMR 1	FMC 1 FMSC 3	FIR 1 FISC 3 FMC 5 FMR 3 FMSC 9
Historic examples	FMC 2 FMC 2			FMC 2 FMC 2
<u>Against</u>				
Political necessity				
Other: Interest group argument	FIC 2	FIC 4	FIC 4 FIR 1	FIC 10 FIR 1
Historic examples				
G Forest lease				
<u>For</u>				
Political necessity	FMC 1			FMC 1
Other: Interest group argument	FIC 1 FIR 1 FISC 2 FMC 2 FMSC 1			FIC 1 FIR 1 FISC 2 FMC 2 FMSC 1
Historic examples				
<u>Against</u>				
Political necessity				
Other: Interest group argument	FMR 1			FMR 1
Historic examples				
H Corporations/associations of forest industry				
<u>For</u>				
Political necessity				
Other: Interest group argument	FIC 4 FIR 1	FIC 4	FIC 1	FIC 9 FIR 1
Historic examples				
<u>Against</u>				
Political necessity	GOVC 1			GOVC 1
Other: Interest group argument	FIR 1			FIR 1
Historic examples				
I Main influence over forest use to rayon				
<u>For</u>				
Political necessity	FMC 1			FMC 1
Other: Interest group argument	FIC 1 FISC 1			FIC 1 FISC 1
Historic examples				
<u>Against</u>				
Political necessity	FMC 1	FMSC 1		FMC 1 FMSC 1
Other: Interest group argument	FMC 1 FMR 1	FMC 1 FMSC 2		FMC 2 FMR 1 FMSC 2
Historic examples				

Supplement 2. List of terms and abbreviations

Terms

Institutions and organisations This thesis uses the definitions made by North (1990), separating institutions (such as laws and regulations) from organisations (such as Ministries or private companies).

Latvia

Zemkopības ministrija Ministry of agriculture (MoA)
Valsts meža dienests State forest service (SFS)
Latvijas valsts meži Latvian State Forest Company (LVM)

Russia (and the Soviet Union)

Superior Soviet Russian Federation Parliament prior to 1993.
Duma Russian Federation Parliament after 1993.
Oblast Region. Note that republics and autonomous regions principally function under the same laws and regulations as do oblasts. In this thesis, the word oblast is used to cover all of these, although the official term is “subject of the Russian Federation”.

Rayon District.
Gosleskhoz/Goskomles SSSR Soviet State Committee of Forestry 1965-1992.
Minleskhoz RSFSR Ministry of Forestry, 1965-1992.
Rosleskhoz State Forest Service, 1992-2000.
Leskhoz State forest management unit on rayon level.
Lesnichestvo District within Leskhoz. Before 1929, State forest management unit on local level.
Minlesprom/Minlesbumprom SSSR Former Ministry of Forest Industry 1948-1990.
Roslesprom State Forest Industry Holding Company 1992-1996.
Goskomlesprom State Committee of Forest Industry 1996-1997 (thereafter within Ministry of Finance).
Lespromkhoz Soviet forest felling organisation on rayon level.
Kompleksny Lespromkhoz Soviet combined leskhoz/lespromkhoz.

Ukraine

Oblast	Region
Rayon	District
Derzhlishosp level, Ob'ednenya	State forest management unit on district often called forest enterprises. Soviet regional co-ordinating organisation or holding company. The term is from the 1990-ies used for the Forest Ministry's (Committee's) regional level
Upravlinnya	Regional level of the Forest Ministry before 1987.
Kombinat	In the Soviet forest sector a forest industry also having forest raw material base on long-term use

Abbreviations

NGO	Non-Governmental Organisation
AAC	Annual allowable cut - Here used for the planned harvest volumes determined by State forest taxation from 1993 onwards.
Forest Code of SSSR	Foundations for Forest Legislation for the SSSR and its Republics of 17 July 1977
FSC	Forest Stewardship Council
PEFC	Programme for the Endorsement of Forest Certification (earlier Pan-European Forestry Certification)

Russia

Forest Code of 1993	Foundations for forest legislation of Russian Federation of 16 April 1993
Forest Code of RSFSR	Forest Code of the RSFSR of 8 August 1978
Forest Code of 1997	Forest Code of the Russian Federation, of 4 February 1997

Latvia

LVM	Latvijas Valsts Mezi - Latvian state forest company
VMD	Valsts mezi dienests - State Forest Service
LM	Latvijas Mezs - Latvian forest industry association
CoM	Cabinet of Ministers.