



The economic impact of forest management certification in Russia: costs and benefits on the corporate level in the north-west region

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Summary

Forest Certification as a non-market tool has generally been thoroughly studied, but the impacts of Forest Certification have not been examined widely. Particularly very little research has been conducted regarding its economic impact. The present study examines the costs and benefits of forest management certification via interviews with representatives of twelve forest industry companies operating in the north-west of the Russian Federation. A range of questions was compiled according to the classification scheme of costs and benefits based on literature and discussions with stakeholders before the main interview. The questionnaire included structured and open-ended questions. Five companies during the interview provided more comprehensive information about costs.

The classification scheme of costs and benefits on the corporate level has been elaborated in the research and can be applied in future studies. The study presents comparative tables and diagrams of costs for the certification process, forest management improvement and overtime by companies for two periods (for the main assessment, including pre-assessment and annual audit).

It was found that certification process costs per hectare are increased by a decrease of certified forest area. Improvement of forest management, which has recently been far below international forest management standards, is one of the most visible changes on the corporate level due to Forest Certification. Efforts to improve forest management in line with certification requirements cause complex measures and high costs for companies. The arrangements implemented by companies to comply with Forest Certification requirements were described. The most significant arrangements, which are absolutely new for Russian forest management, are providing loggers with safe equipment, inventory of rare and endangered species, state registration of HCVF, planning on an ecosystem basis and improvement of logging technology to minimise environmental impact. The author found that the structure of forest management improvement costs is similar in companies of the same size. Many of the required arrangements are still in the development stage, which implies that the costs may potentially increase.

The primary motivation for companies to undergo Forest Certification is the struggle for buyers.

The findings of the thesis broaden the field of research on the economic impact of Forest Certification and provide an overview of the formation of Forest Certification costs and benefits in businesses in the north-west of Russia.

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1 Introduction

Increasing public concern regarding the environment during the last few decades has led to environmental issues beginning to take more of a centre stage in global economic and trade policies. The emergence of “eco-labelling,” a process that attempts to provide an indicator of how well a product is environmentally adapted, is a contemporary example of how consumer interests have driven information processes aimed at differentiating the environmental appropriateness of goods and services (Perera and Vlosky 2006). Widespread deterioration of forest ecosystem structures and functions has become the most critical issue in consideration of its role in global ecology. Intergovernmental processes stimulated by environmental and social groups in favour of forest protection have not been successful in achieving their goals. In 1993 the failure of the Rio Earth Summit to achieve the global forest convention has given rise to many environmental groups, private foundations and their allies deciding to bypass intergovernmental efforts, which they reasoned to be a great waste of time with little result, and instead creating a highly unusual policy instrument known as Forest Certification (Gustave 2006).

Forest Certification started with the Forest Stewardship Council (FSC), officially founded in 1993 as a non-governmental, non-profit, multi-stakeholder organisation (Meidinger et al 2003). The FSC turned to the marketplace to generate incentives for forest companies to conform to environmentally and socially responsible forest practices. This has led to Forest Certification having started to be considered a way to improve the environmental, social and economic aspects of forest management. While the aspects of the emergence of Forest Certification have been studied broadly, research in clarifying its impacts and especially attempts to measure them is very minimal. This is seen as a big challenge since the appearance of the impacts is stipulated by the factor of what a certified area is. Experience shows that the effects of Forest Certification in developed and developing countries are different. It seems to have improved forest management practices mainly in developed countries and working conditions mainly in developing countries, but not substantial in either case (Ozinga 2004).

The author’s review of literature revealed that the economic impact of Forest Certification is least studied among the other impacts of certification. The lack of different approaches to measuring it, considering the new conditions of the environmentally and socially oriented economy, could be one of the reasons. At the same time the economic impact of For-

est Certification is more arguable since in contrast to other impacts it is comprised of both positive and negative results. Finding a balance between the results is very essential in providing the satisfaction of each stakeholder. This will be a determining factor of the economic viability of Forest Certification.

1.1 The purpose of the study

Since timber exports occupy an important place in the Russian forestry sector (in 2004 the export turnover of timber production contributed 65% of the total turnover of the forestry sector [Госкомстат¹ 2005 in Ptichnikov and Park2005]), the forest industry has started to respond to market demand for certified timber production. Many large forest companies selling timber to foreign partners made the decision to get certified in order to secure their future business relations (Klimov2006). Today the growing speed of the spread of FSC Forest Certification in Russia is observed, with more than 12 million ha of forest FSC-certified, placing Russia in second place in the world after Canada and before Sweden (WWF 2006b). The investment level in certification for leading forest industry companies such as IlimPulp, Mondi Business Paper Syiktyivkar, Titan Group, etc., are calculated in billions of dollars (Artem'ev et al. 2006). Companies are waiting for the output from these investments. The purpose of the present research is to clarify the costs and benefits from forest management certification taking place on the company level.

1.2 Hypotheses

The number of export-oriented companies pursuing certification is likely to grow. The support for Forest Certification is much greater in the European part of Russia, largely owing to European buyers' demands for certified timber, who came under pressure themselves from non-governmental organisations to make such demands (Tysiachniouk 2006). This has led to the most prominent impact of Forest Certification in Russia being the protection of high conservation value forests and the introduction of intensive forest management in place of extensive forests (Tysiachniouk 2006). The question that then arises has not been the emergence of Forest Certification but rather the result of pressure from environmental non-governmental organisations (NGOs) that forces companies to support Forest Certification. In order to conduct efficient research the author has marked the questions whose answers may help to achieve this goal. These questions have found reflection in the hypotheses the researcher has formulated:

¹ Госкомстат—State Committee of Statistics (Author's note).

- 1) Forest companies that support Forest Certification are export-oriented companies;
- 2) The indirect costs of Forest Certification in large companies are dominant over direct costs while in small forest companies the indirect costs are a minor share of the total costs of certification;
- 3) Forest companies do not expect to see any direct benefits from Forest Certification (the overall opinion about the performance of economic benefits is low);

2 Background factors

2.1 Forests in Russia

Forests in Russia cover a total area of 1.2 billion hectares, which is about 69% of the entire territory of the country. Russian forests have global ecological importance and are considered as one of three mega-woodlands, including boreal forests, and the forests of the Amazon and the Congo River Basin. Some of the main ecological features of Russian forests can be described by the following:

- Russian forests amount to 22% of global forests and 50% of all coniferous forests;
- 25% of untouched landscapes;
- Provide a high level of diversity of boreal trees in the world;
- Absorb 15% of the carbon dioxide which is absorbed by world forests.

Today forest management is governed by the Forest Code, which was signed on December 2006 by President of the Russian Federation Putin and entered into force on January 1, 2007. The previous Forest Code had existed for 10 years, since 1997. Non-governmental organisations, especially the Forest Club and Worldwide Fund for Nature (WWF), have taken an active role in the development of the new forest code. They prepared joint suggestions on the New Code and submitted them to the government officials in charge of drafting it (Tysiachniouk 2006). The New Code has led to decentralisation of the decision-making power from the federal direction to administration of federal subjects². Concession has given more responsibilities to companies for forest revitalisation and thinning (Greenpeace 2007, meeting at St. Petersburg Forest-Technical Academy [November], author's notes).

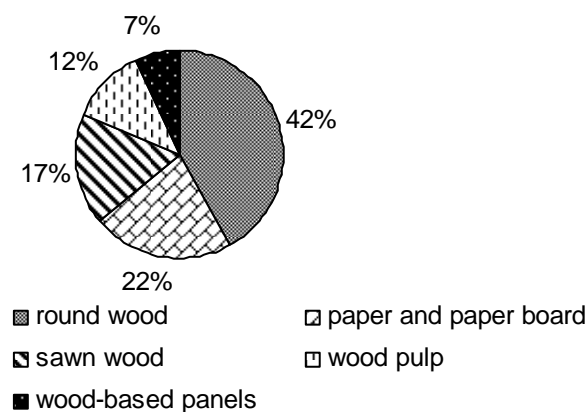
From the authorities' viewpoint the development and approval of the new version of the Forest Code have been stipulated by the need to reflect the socio-economic changes that have occurred since the last time the Code was up for passage. Also they think that the New Forest Code shall provide consistent and efficient forest management regarding the use, protection and reproduction of forests which in its turn shall create a favourable cli-

² Subject of the Russian Federation – state juridical formation of the Russian Federation. Subjects of the Russian Federation form in aggregate the Russian Federation. The constitution establishes six kinds of subjects: a republic composed of the Russian Federation, region, oblast, city of federal importance, autonomous oblast and autonomous district (Author's note).

2.3 Markets

Logging operations in Russia exist on 100 million hectares of forested land. The annual harvested level is about 140–160 million cubic meters of timber while the possible harvested level per year is 500 million m³ (Tysiachniouk 2006). Russia is the second exporter of round wood after Canada, takes sixth place by export of sawn timber and eighth place by export of cellulose production (Ptichnikov and Park 2005). Figure 1 shows the forest industry structure by production value in Russia (Госкомстат 2004 in Ptichnikov and Park 2005). The Russian share in world output from timber production is quite modest and amounts to 2–5% despite possession of huge forest resources (FAOSTAT 2004). Two-thirds of all harvested timber is exported as processed products. In 2003, 40% of Russia's timber exports went to the European Union, 24% to China, and 15% to Japan (Ptichnikov and Park 2005). The main factors for successful competition are production quality and flourishing logistics. Russia has a fortunate location for supplying the markets of Western Europe and China but it is short of transport infrastructure, skilled labour and advanced manufacturing sciences. That is why in spite of low value resources and inexpensive labour Russia is considered as a secondary supplier of low-grade, cheap raw material (Ptichnikov and Park 2005). Russian timber production doesn't take any status in the market's niches and doesn't have privileged world market access.

Figure 1. The forest industry structure (production by value), State statistics committee 2004 (Ptichnikov, Park 2005)



The percentage of certified timber trade in Russia is quite low. Members of the Global Forest Trade Network account for only 7% of Russian timber exports, while non-members account for 93% (WWF 2006). Leading importing members of European buyer groups are Van Hoorembeke Timber, IKEA International A/S and SCA Forest products.

mate for implementation of the rational use of forest resources resulting from economic growth.

2.2 Ownership and tenure

Russian forests are publicly owned and administrated by the Federal Ministry of Agriculture (FMA), whose policies are implemented by the subjects of the federation, except forests situated on protected nature territories administrated by the Ministry of Nature Resources. The Federal Forest Agency is subservient to the FMA and provides management of forest subventions and revenue of the federal budget and implements the administration of those forests that have not been handed over to the level of subjects of the Russian Federation (including administration of forests of the Moscow region). While according to the previous Forest Code the main forest management unit was the so-called “leshoz,” which granted the forest area for renting to leaseholders, the New Forest Code doesn’t mention this unit at all, much less its responsibilities. According to the opinion of many representatives of NGOs it is likely that the government plans to abolish the “leshoz” over time. Corresponding to the New Forest Code the “lesnichestvo” and “lesopark” are considered to be the main administration units (corresponding to the former “leshoz” by a scale of territory). The “leshozs” with its property are handed over to federal subjects. The administration of forests, granting forests in use and state surveillance are implemented by the governmental authority of subjects of the Russia Federation. Economic activity in forests is carried out by a leaseholder (in forests they lease) or by a management structure established on the basis of the former leshoz or by winning a procurement on execution of protection, conservation or restoration works. The lesnichestvo grants the forest area including renting tracts of forests to leaseholders (private timber companies) on the basis of a lease contract. According to the lease contract the leaseholder is obliged to carry out activity on the protection, guarding and reforestation in compliance with article 19 of the Forest Code. In line with articles 53, 55, 62 and 64 of the Forest Code leaseholders must practice fire and sanitary safety, transportation and reforestation activities in forests. With the New Code the leaseholders are carrying out thinning, which was previously the responsibility of the “leshoz.” The rent paid by forest timber companies goes to the federal subject’s budget. The forest management plan is made for a 10-year period for the “lesnichestvo” and which is developed by the Forest Inventory Agency.

2.4 The structure of the forest industry in Russia

The forest industry with some exceptions is private in Russia. The interesting exception is logging companies which create colonies for prisoners in some regions and these prisoners raise funds to improve their living conditions. The large timber processing industry is concentrated in a small number of regions and is owned by some industry companies. Small and medium-sized processing companies are situated in regions where logging is carried out. Large and medium-sized companies are dominant: approximately 20 large companies produce about 40% of timber production by value and 50 large companies supply the processing of 75% of timber production by value (Ptichnikov and Park 2005).

Large companies are integrated vertically, including forestry (recently), logging, transportation, processing (sawn timber, pulp-and-paper production), marketing and selling. Some examples are the Ilim Pulp Business, the Titan group and Mondi Business Paper Syktyvkar.

Compared to other countries the level of horizontal integration has developed more weakly. For example, in Scandinavian countries horizontal integration is carried out by the creation of different unions: Metsaliito in Finland and Sodra in Sweden (Ptichnikov and Park2005).

Large companies involved in timber production for export admit that Russia does not have a good reputation when it comes to sustainable forest management. The peculiarity of the Russian situation is that the European, North American and, to some extent, Japanese markets are paying more and more attention to the ecological and social quality of production. Thus large Russian companies have started to resort to corporate social liability via such mechanisms as Forest Certification. The most desirable markets in terms of price are Europe and Japan. European markets are very “green,” which is an advantage for certification production. Getting access to the Japanese market of processed timber is more difficult since there are many specific technical requirements. The Chinese market is not easy to reach either due to low prices and competition with illegally harvested timber. At the moment Finland is a major importer of Russian timber for the European part and it doesn’t actively require certification, which brings down the speed of the Forest Certification process.

The north-west region of Russia is considered as one of the three big forest industry centres in Russia and includes the Leningrad region, Karelia, the Arkhangelsk region, Karelia, Komi, the Kirovsk region, Perm region, Vologda region and others. The second centre is

the Far East and the third one is the southern part of Siberia. The studies of the present research were conducted in the north-west region, mainly in the Leningrad region. The particular feature of the region is that the timber is mainly exported to Scandinavia, Western Europe and some countries of Eastern Europe (Estonia). The main forest industry companies of processing of pulp-and-paper production are also concentrated in the region located.

3 Forest Certification overview

3.1 The emergence of Forest Certification

Social and governmental organisations have paid much attention to environmental problems in the last decades. The world community has realised the disastrous socio-economic, environmental and biological consequences that will result if traditional nature management approaches are maintained. The UN General Assembly entrusted the World Commission on Environment and Development with elaborating strategies in environmental protection up to 2000.

The Commission used the term “sustainable development” with regard to this in its report titled “Our Common Future” published in 1987—“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. [...] the strategy for sustainable development aims to promote harmony among human beings [sic!] and between humanity and nature.” (Report of World Commission on Environment and Development).

In 1992 a global effort to deal with sustainable development issues resulted in the UN Earth Summit, held in Rio de Janeiro. Although no legally binding commitments were made, the Agenda 21 forestry principles set out an action plan for delving into sustainable forestry issues.

The formal international effort continued with the Helsinki Process in 1993, which developed general guidelines for the sustainable management of forests in Europe. In 1993 there was a parallel effort called the Montreal Process, which developed criteria and indicators for the sustainable management of non-European temperate and boreal forests. While the formal processes of developing criteria for sustainable forest management continued Forest Certification started to take shape through an NGOs channel. Environmental and social groups, frustrated with slow governmental responses, undertook two complementary efforts in 1980: launching boycotts of timber products from certain regions of the world such as undisturbed tropical rainforest and Canada’s remaining temperate old growth forests, while simultaneously supporting efforts to achieve a meaningful and binding forest convention (Gustave 2006).

³ <http://www.un-documents.net/ocf-02.htm> (Obviously “human beings” is intended. Author’s note.).

This innovative idea to create Forest Certification was developed during the parallel NGO Rio meetings. The concept was to develop a system for certifying and labelling forests and forest products. In other words, to use consumer purchasing as a catalyst for responsible forest management.

Although the idea of labelling timber products with a mark of quality can be traced back in Europe to a French royal decree of 1637, which stipulated that members of the guild of cabinet-makers had to mark furniture they made (Pradere 1989 in Perera and Vlosky 2006), another form of labelling—Forest Certification—emerged in 1990 and has become a market-based response to address public concerns related to deforestation.

Over the years policy instruments initiated by governments for addressing deforestation such as export restrictions, logging bans and market-based incentives such as tax-subsidies have been developed. According to a wide range of contemporary scientists, the underlying change in forest policy has been introduced by the emergence of non-state market-driven (NSMD) governance systems (Cashore 2002; Cashore et al 2004; Kooten et al 2004). Presently the most comprehensive and well-developed sample of such non-state policy instrument is forest management certification (Cashore 2002). The research of Benjamin Cashore is devoted to developing an analytical framework designed to better understand the emergence of NSMD governance systems. Thereby the privatisation of governance is observed. The emergence of domestic and transnational private governance systems derive their policy-making authority not from the state, but from the manipulation of global markets and attention to customer preferences (Cashore 2002).

On the other hand certification is seen as an efficient policy approach. When principles of policy are formulated at higher levels of government and implemented under governmental authority the top-down approach is observed. The success of these command and control methods heavily depends on the strength of the governing body. The bottom-up approach relies more on the participatory method where the public agrees on the need for and forms of the policy and implements it by tradition, cooperative agreement or local rule. In modern complex societies, common interests uniting the members of smaller communities are lacking, which hinders the success of this approach (Perera and Vlosky 2006). The third approach, “Certification,” has become the one approach that introduces policy changes through commercial rather than central or local power and uses market acceptance rather than regulatory compliance as an enforcement mechanism (Naka et al 2000).

3.2. FSC Forest Certification system

3.2.1 The emergence of the FSC certification system

The failure of the Earth Summit in 1993 to sign a global forest convention (Bernstein and Cashore 2004) provided environmental NGOs with the lesson that the time was ripe to develop their own private regulation scheme. As a result, transnational groups led by WWF helped create an international FSC programme that turned to the market for influence by certifying forest landowners and forest companies that practiced “sustainable forestry” according to FSC rules, thus expanding the traditional “stick” approach of the boycott campaign by offering carrots as well (Cashore 2002).

Although promoted primarily by environmental NGOs, the FSC was structured as a free-standing organisation which would incorporate members with a full range of interests, from environmental protection and commercial development to social justice (Meidinger et al 2003). At a 1990 meeting of the Woodworkers Alliance for Rainforest Protection (WARP), the idea of the FSC emerged as a response to the “likely proliferation of certifiers” (Cashore et al 2006). WARP’s concern was shared by the New York City-based Rainforest Alliance, which had established its SmartWood programme in 1989 to certify timber from well-managed forests. The Forest Certification Council was officially founded in 1993 as a non-governmental, non-profit, multi-stakeholder organisation with a mission of promoting environmentally appropriate, socially beneficial and economically viable management of the world’s forests (FSC 2005). One of the main aspects of the FSC’s uniqueness is that it is the only global forest management certification system where social, environmental and industry interests carry the same weight (FSC 2005).

The General Assembly of the FSC is the highest decision-making body and its members are divided into economic, social and environmental chambers each with equal voting power and affiliations can be chosen freely by applicant members. The main functions the FSC implements are setting standards, accreditation and control of certification bodies, national initiatives and national standards, promoting the FSC label.

3.2.2 Standard setting

The FSC’s standard-setting process reflected the worldwide discussion of sustainable development occurring at that time. The FSC created nine principles (later expanded to ten), including the following aspects: compliance with legislation, local community relation, workers’ rights, indigenous people’s rights, environmental impact and ecosystem protec-

tion, profit from a variety of the benefits forests offer, forest management plan and monitoring the impact of operations on forest ecosystems.

Simultaneously the FSC developed criteria and indicators to help implement these general principles. The FSC enables local stakeholders to develop criteria and conform to the principles. Thus national and regional standards are developed locally, after which they have to be approved by the FSC in order to be enacted. These national standards are set by national FSC working groups. The compliance of national standards and the national working group setting these standards with the global FSC programme is very crucial in this process. After the national and regional standards are approved they shall be applied by all the certification bodies working in of the region. In case the national or regional standards are not available the certification bodies will use interim standards developed by them and approved by the FSC.

3.2.3 FSC certification process

The FSC does not carry out certification. Instead, it accredits certification bodies that may conduct certification of the FSC system and issue FSC certificate afterwards. As was mentioned above the full Forest Certification process consists of forest management certification and a chain of custody certification. Since the author further studied the costs and benefits from forest management certification only the essential elements of this process will be discussed.

The certification process includes two main actors: the forest management organisation (FMO), which makes a decision to pass FSC Forest Certification; and the FSC accredited certification body, verifying the compliance of the forest management organisation with FSC requirements. Many other actors are certainly involved in the process as well: local communities, NGOs and other stakeholders.

The auditing process usually starts from the pre-assessment. Pre-assessments (sometimes referred to as “scopings”) are audits prior to a main assessment with the objective of identifying barriers to certification and preparing for the main assessment. Pre-assessment is not a compulsory procedure except in the case of large-scale and high-conservation-value forests when the FSC to that pre-assessment be conducted prior the main audit. An auditor body might also require that the procedure be carried out if any social conflicts, political unrest or other obstacles emerge. The main, or full, assessments then follow. This is a formal evaluation of a forest management operation to determine whether they meet FSC forest management certification requirements. The assessment follows a standardised process

after the auditing body makes a decision. In the case of a positive decision, upon a certification agreement being signed with the client, an accredited auditor organisation issues a forest management certificate for a 5-year period. According to the FSC, the issuance of a forest management certificate provides a credible guarantee that there is no major failure in conformance with the requirements of the specified Forest Stewardship Standard at the Principle and Criterion levels in any forest management organisation (FMO) within the scope of the certificate. After the FMO obtains a forest certificate a certification body carries out surveillance audits. Certificates will be audited at least 4 times during each five-year certification period. When the certificate period is finished a re-assessment is necessary in order to extend the certificate.

Basically the assessments are implemented by an audit team headed by a leading auditor.

To evaluate whether forest management complies with FSC requirements the audit team has to gather all available information to conform to it. This information can be obtained during the field visits, documentation review, and while interviewing staff and stakeholders. For gaining an overview all available sources of information are used. Evaluations are carried out for each criterion, and indicators play a role as measurable tools for this.

After all information has been gathered (about the compliance with the criteria and principles and findings revealed) the audit team prepares a report in which all the findings are fixed in detail and the recommendation on whether or not to issue a certificate is given. The report is reviewed by the client to ensure clarity of the report and after that by an independent reviewer; finally, the certification body makes a decision.

During annual audits the certification body monitor the organisation's forest management. In case a non-compliance has been revealed the certification body submits corrective action requests (CAR). The corrective action must be conducted during a certain time period (usually 3 or rarely 6 months) so the certification body does not suspended the certificate. However, if non-compliance is significant, the forest certificate may be suspended.

3.2.4 FSC competitor Forest Certification systems

Lumping together in one chamber those economic interests that must implement sustainable forest management (SFM) rules (i.e. companies and non-industrial forest owners) with companies along the supply chain that might demand FSC products and consulting companies created by environmental advocates has been the source of much controversy and criticism (Cashore et al 2007). This negatively influenced forest owners' evaluation of the FSC, which led them to believe they would have their independence and autonomy reduced and encouraged the development of alternative programmes to the FSC. Many do-

mestic and regional schemes arose as industry-led competitors to the NGO-led FSC (Bernstein and Cashore 2004). The Programme for Endorsement of Forest Certification Schemes (PEFC), Sustainable Forestry Initiative (SFI) and Canadian Certification Initiative (CSI) are perhaps the most well-known Forest Certification schemes besides the FSC (Ozinga 2004).

The PEFC is a global umbrella organisation for the assessment of and mutual recognition among the numerous national certification standards developed in a multi-stakeholder process (PEFC 2009). A PEFC Secretariat and Council, which tend to be dominated by landowners and industry representatives, determine the acceptance of national initiatives into the PEFC recognition scheme (Cashore et al 2007). The programme was explicitly designed to address forest managers' universal criticisms that the FSC did not adequately take private landowners' interests into account. The Sustainable Forestry initiative (SFI) programme was established by the American forest and Paper Association (AF&PA) in 1994 with the intention of promoting sustainable forestry practices in the United States of America. The SFI verification includes both first and second party verification as well as independent third party certification of conformance to SFI standards.

Certain countries involved in the timber industry have found it difficult to comply with certification standards developed by different certification programmes due to their inappropriateness to the political, cultural, economic and ecological realities of the particular country (Perera and Vlosky 2006). An increasing number of stakeholders in countries around the world have focused on developing their own certification standards based on the principles and criteria of well-known certification programmes. The Canadian Standards Association (CSA), the official standards-setting body for Canada, produced a Sustainable Forest Management standard based on a comprehensive set of internationally recognised sustainable forestry criteria in 1996. Similar to the SFI, the CSA focus began as "a system-based approach to sustainable forest management" where individual companies were required to establish internal environmental management systems. The standards cover six criteria (key environmental, social and economic values) and more than 80 indicators associated with sustainable forest management (CSA 2009). This certification includes both a process component and performance measures. The American Tree Farm System (ATFS) is also well-known among the national Forest Certification systems. The ATFS can be considered as one of the oldest programmes established to promote sustainable forest practices (Perera and Vlosky 2006). The system focuses on private non-industrial forests in the United States.

All of the competing certification schemes were developed by the timber industry in response to FSC certification. Some of these competitors face criticisms from environmental groups and FSC supporters for being more concerned with industry control than with promoting sustainable forest management (Bernstein and Cashore 2004). Environmental NGOs tend to consider FSC standards the only credible certification system due to its high level of forest management requirements.

4 The emergence of Forest Certification in Russia

The forests of Russia comprise 1/5 of world forest lands and are a major catalyst of maintaining not only Russia's sustainable development but the whole of humanity.

Western importers of Russian forest production at the moment have set harsh requirements for the compliance of ecological indicators with international demands. In the near future Russian forest companies will be able to access the promising markets of European states only if they produce evidence that they participate in protection of the environment. Without access to new markets the Russian forest industry sector is doomed to stagnation. The vast majority of forest industry companies are quite far from ecological perfection: the problem of illegal logging, logging in small, violated forests, carbon dioxide emissions and so forth. Some of the Russian companies have started to introduce new technologies, long in use in the West. The passivity of timber merchants to invest in financial means and time is connected with the uncertainty in the future of their tenure. Further, the old, traditional approaches to forest management often make evaluation of their practice impossible from the position of ecological responsibility.

Russia takes part in international nature conservation activities involved in international organisations' work and supports the policy of the world community on protection and restoration of world forests. The participation of Russia in the Montreal Process contributed to the development of the national lists of criteria and indicators of sustainable forest management on the basis of international criteria (Klimov2006). The aspects of sustainable development form the long-term strategy of use, protection, conservation and reproduction of forest resources, called national forest policy.

Item 71 of the Forest Code anticipates Forest Certification realisation aimed at making forest management realisation ecologically valid, economically profitable and socially effective.

For practical realisation of this item it is necessary to develop a corresponding normative guide, conformed to all interested parties, including bodies of forest management, forest users, conservation bodies and public organisations. Meanwhile this law item is not supported with corresponding sub-legislative acts, and upcoming Forest Certification in our country is oriented in general to international standards (FSC/CoC). Certification is a procedure, a result of which is the certification of an independent party, which has official seals for it. This party estimates a location and a level of forest management, from which forest production is received as a result. In order to understand the necessity of Forest Certification, it is needed to determine how profitable it is for forest industrial managers. In-

creasing a company's profitability in the growth of demand for ecological production is reasonable, as is increasing sales of this production in more ecologically perfect markets, such as: Great Britain, Germany, Finland, Denmark, Switzerland and Sweden. The necessity of Forest Certification in Russia is dictated on the one hand by further forest exploitation and biodiversity conservation issues. On the other hand this question became especially relevant in relation Russia's plan to join the World Trade Organization (WTO), where there are common rules of trade, including for the forest industry. At the moment there are three national initiatives in Russia: two national initiatives and the FSC.

4.1 National FC initiatives

The development of the national FC system has become the response of business and state forest protection organisations to active promotion of the FSC in Russia. In addition, it has become a part of the World Bank's policy, which as a global factor affects advancement of sustainable forest management, including development of national systems of FC. The national Russian FC system shall express interests primarily in the Russian forest business and some positions of state forest protection organisations. One reason for promoting the national FC system is that it will cost less compared to FSC certification, resulting in more companies being able to get certified. It will also cost less because certification in the national FC system will be implemented by Russian audit companies. One more reason for creating the national FC system is systemic problems connected with non-compliance with the requirements of the FSC system and Russian legislation.

The development of the "National FC System of the National Council on FC," which is an initiative of the Timber Merchants Union and Russian forest exporters, encouraged by the Department of Timber Processing of the Russian Ministry of Industrial Science, started in 2001. In 2001 the experimental audit was conducted and the Vogegales corporation was certified. The second national initiative is the "National System of Russian FC of the Russian National Council on Voluntary FC," which is an initiative of the Russian government via the Ministry of Natural Resources and Environmental Protection, encouraged by the World Bank of Reconstruction and Development. Its development began in 2003. The first initiative is supported by Russian timber exporters and is directed toward PEFC accreditation; the second one is supported by timber processors and focus on FSC and PEFC accreditation. PEFC International today announced the endorsement of the Russian National Forest Certification System (RNCF) (PEFC 2009b). Up till now the only internationally recognised system of voluntary Forest Certification used in Russia was the FSC system.

4.2 FSC certification initiatives

The end of 1998 to the beginning of 1999 can be considered as the beginning of Forest Certification implementation in Russia (Stanevich 2007). It is related to the first seminars and conferences, the foundation of the first Forest Certification centre and this theme being financed by foreign donor organisations.

An activity of foreign NGOs in Russia determined adoption of the Forest Certification system in accordance with the FSC scheme in many respects. The other systems were not advertised and not suggested in the Russian forestry sector. The first FSC certificate was issued by the auditing company Soil Association (SA) for Kosihinsky leshoz in the Altay region in Russia. In 1998 the environmental organisations WWF, Greenpeace, Social Ecological Union (SEU) and the Biodiversity Conservation Centre (BCC) began to promote FSC certification in Russia (Tysiachniouk 2003). The NGOs mentioned above have dispersed information about FSC certification among producers and companies. In 1998 the WWF organised a conference on FSC certification in Petrazavodsk, Republic of Karelia to start dialogue with business and show the government that Russia needed both compulsory and voluntary certification (Tysiachniouk et al. 2007). As a result of the conference, the Federal Forest Service became informed about the FSC and started to pay attention to the FSC (Tysiachniouk et al. 2007). In 1999, a second conference took place in Pushkino, Moscow oblast, where an FSC national working group was created to promote the FSC system; it used a Coordination Centre as a governance body (Tysiachniouk et al. 2007).

After a number of seminars and conferences organised by non-governmental organisations regional certification centres have been being founded since 1999 (Yakovleva2007). The idea to create certification centres belongs to the Forest Programme of the WWF. The first certification centres were established in 1999–2000. To a great degree it has been stipulated by WWF activity in the scope of the programme in many regions. Meanwhile FSC certification was promoted in regions. A number of certification centres (the Arkhangelsk, Vologda, Irkutsk, Krasnoyarsk and Kirov regions) have been supported since 2002 in the course of the WWF-IKEA Partnership project for assistance in the development of sustainable forest management. The priority directions of certification centres are:

- 1) Development of the ecological policy of forest management companies
- 2) Preparing companies for Forest Certification
- 3) Sustainable forest management counselling, allocation and conservation of high conservation value forests (HCVF)

4) Development of programmes for carrying out demonstration of HCVF

5) Preparation of programme documentation and dataware of companies

Forest Certification centre staffs are qualified and educated specialists of standing. The number of staff varies, for example at the Vologda Forest Certification centre there are five staff members. Usually a centre's financing is implemented at the expense of contracts with forest companies; however, income earned is only enough for staff salaries (Korchagov 2006).

In the beginning the most active centre was the Novgorod certification centre, created by the Federal Forest Service. The most active FSC centre now is in Arkhangelsk, where there are many companies exporting timber to Europe and are accordingly interested in FSC certification.

From 2001 to 2006 the Coordination Council was developing the project of National Framework Principles and Criteria of the FSC in Russia. In August 2007 the Coordination Council had received the official review from FSC International. The FSC has given three prerequisites and nine conditions as well as six recommendations under the accreditation process of the Russian standard.

The development of the national FSC standard is criticised by some stakeholders. As reported in "Review on the project of the Russian National Framework standard" the positions and opinions of regional certification groups have not been accepted in full primarily because there was no contact with the National Certification Group while the national standard was being developed (Yakovleva2007). Russia's national voluntary forest FSC certification was endorsed by the FSC's national initiative on December 25, 2007 and was accredited by FSC International on November 11, 2008.

5 Overview of the economic impact of certification

Economic impact is perhaps more noticeable than the other impacts of Forest Certification since it is comprised of positive and negative effects at the same time. As the author of this research has observed, it appears to be the least studied. The lack of approaches to evaluate the economic impact is the main obstacle to solving the problem. Existing studies mainly describe the potential economic effects of Forest Certification and available data only characterise particular cases. To examine these effects as they are reflected in case studies, it is helpful to divide them into microeconomic and macroeconomic effects (Cashore et al 2006). The economic effects can be perceived at the company level and more broadly. Extensive material about Forest Certification impacts, including economic impact, on both levels has been presented by Yale Program on Forest Certification in the network of the project devoted to Forest Certification in developing countries as well as countries in economic transition, being parts of the post-Soviet space. This project has included case studies prepared by many scientists and findings used by many practitioners from interviews, questionnaires and their own experience. Forest Certification development in Russia has been described by Maria Tisyachniouk in comparison with other countries. Although the studies have not included quantitative data a wide range of effects has been scrutinised. Case-study authors notice such visible macroeconomic effects as taxation collection, market transparency, employment, wages and investment. Tax collection improvement is revealed due to companies undertaking the commitment to comply with national laws. Also they stress that Forest Certification has made companies open to showing their contribution to local development projects. Transparency stimulated a reduction of illegal logging, one of the essential problems in Russia and many other countries. Improvements in working conditions have been registered and have reduced days lost due to sickness and injury. Forest Certification has also increased banks' interest in extending credit to companies due to the guarantees of secured contracts. This leads to investment resources being channelled to the forestry sector. Among the negative effects are declines in hectares available for timber production and per-hectare volume produced, one of the widely discussed consequences. This potentially increases prices in the absence of imports, and reduces the processing efficiency of mills designed for large volumes.

At the company level it is supposed that better market access and price premiums will be market incentives to involve more forest companies in the Forest Certification process. It is appropriate to point out that a primary price premium can be considered as the one of the tradable credit instruments in climate stabilisation. The first trading system of non-timber

benefits can be traced back the Kyoto Protocol being signed in the network of the International Framework Convention on Climate Change conducted in 1997. Countries that ratify this protocol commit themselves to reducing their emissions of carbon dioxide and five other greenhouse gases or engaging in emissions credit trading if they maintain or increase emissions of these gases (Kill and Watch 2003). The price premium for certified forest products was intended to be a monetary incentive for forest companies to promote responsible forest management and hereby contribute to climate stabilisation by maintaining biodiversity and reducing carbon dioxide emissions. The estimates of green premiums vary by product, country of destination, market and phase of the economic cycle (Simula 1999). The rate of the price premium varies in different markets. For example, it is registered from 15% in Indonesia to a 37% increase in Malaysia, to a reported increase from 100 USD to 297 USD per cubic meter in the Solomon Islands (Cashore et al 2006). This is more of a best-case scenario since in most cases the FSC doesn't provide price premiums or provides very little (Baharuddin and Simula 1994). If certification becomes a basic requirement in the market the price differential is likely to disappear (Baharuddin and Simula 1994). While the price premium is available only to some producers many authors reported that the most extensive positive effects are improved market access and securing existing markets. Eco-labelling provides market access to forest products among environmentally sensitive consumer groups. However, this group exists mainly in Western Europe, while only a small number of producers are able to enter them on a global scale. It is estimated that worldwide some 53% of all round timber is consumed as fuel timber and only some 6–8% of total round timber production enters international trade (Sarre 2003). Even in markets with well-developed consumer preferences for sustainably produced forest products, customers and/or consumers need to be convinced that the claims of sustainable management are credible (Glück et al 2005). In addition to improved market access and better prices, stabler contracts, more favourable credit arrangements, enhanced public image, improved forest management efficiency and better credit markets are mentioned as benefits from Forest Certification. Some Russians involved in the Forest Certification process undertook attempts to explore the economic impact at the company level. Such attempts have been embraced in the project “The intensification of Russian involvement in trade-oriented corporate and social liability: outcomes and recommendations from the forestry sector’s experience for other sectors” financed by the joint service of the International Finance Corporation and World Bank and conducted under the direction of Andrey Ptichnikov and Jon Park. The main effects of voluntary Forest Certification and socio-corporate liability in Russia have been examined in the project. The economic effect of Forest Certification at

the company level was also discussed. Among the positive economic effects of FSC Forest Certification, the upgrading of planning forest exploitation, including conducting relevant documentation, monitoring and confirmation of the maintenance of the capacity of logging in the long-term outlook are noticed.

The cost analysis of Forest Certification seems to be a more difficult task considering the large variety of Forest Certification schemes, economic conditions and legislative base of the country. The criteria and indicators used in the assessment of forest management organisation may be expressed in terms of standards that determine the costs of certification (Simula 1999). The incremental costs of sustainable forest management depend on the difference between the standards applied in assessment and the current status of forest management. It is very crucial to distinguish certification standards and the standards defined by the national laws, which are unavoidable. On the contrary, Forest Certification is a voluntary process whose standards are set above those defined by the government (Simula 1999).

This arrangement demanded additional costs, which stem from the standards of the Forest Certification system. According to Simula (1999) the additional costs of forest management can generally be derived from five different sources:

- 1) costs of planning and monitoring (activities typically include mapping, inventory, logging preparation, road and trail planning, sample plot establishment, post harvest inventory, environmental impact studies, etc.);
- 2) additional silviculture and harvesting costs (usually increased when non-timber resources are managed);
- 3) lower yield and thus higher per-unit costs in harvesting areas (in natural tropical forests this may be due to low “impact logging” to reduce damage to remaining vegetation);
- 4) setting a side area for protection (for protection of key biotopes or landscapes, depending on local conditions);
- 5) changes in the distribution of costs and benefits in time that alter the present net value of the investment (foregone benefits through alternative, non-certified management may be high in the initial years of sustainable forest management).

Apparently forest management costs depend on the pre-Forest Certification quality of a company’s forest management.

The main share of certification costs for companies is indirect costs, which is around 75% of total certification costs, 50% of which goes to retrofit installation, protective means and recycling, and the other 50% is spent on different kinds of consultations and preparation of

the new documentation required by the Forest Certification process (Artem'ev et al. 2006). However, the data has been provided by two groups of large companies and cannot be applied to small and medium-sized companies.

Except for the costs mentioned above it is needed to keep in mind the social costs, which can also be classified as indirect costs of Forest Certification. Although the social costs are difficult to calculate and are not even considered at all in many cases, they have occurred in each business. They are associated with additional work that workers have had to bear due to Forest Certification. Whether it is additional bureaucracy or additional responsibilities, Forest Certification demands extra time from workers. Forest Certification has a quite a positive effect on both levels in general but contradictory data has been reported across the regions, revealing the need to research it further to clarify the nature of the effects (Cashore et al 2006). It should be noted that among the attempts to examine the economic impact of Forest Certification mentioned above the economic valuation of the effectiveness of Forest Certification has been studied, based on the example of three forest companies in Arkhangelsk by Klimov (Klimov 2006). He has proposed a methodology of calculating FC economic effectiveness in a medium-term perspective incorporating the range of economic profit and costs, as well as considering the certification risk dynamic. Klimov classified and calculated the costs of Forest Certification (FM/CoC) of three companies of the Titan group for the first five-year period. It has been concluded that Forest Certification provides a positive economic effect on the mentioned companies in extra income obtained mainly at the expense of the price premium of certified timber production. Calculation results showed the payback cost period of Forest Certification with time factors of 1 to 3 years. The weighted average price premium per m³ for certified sawn timber amounted to 229.2 RUB = 6.644 EUR (1 RUB = 34.5 EUR). From the author's analysis of data obtained, it has been determined that the share of contracts providing the price premium constitutes 18.5% while 81.5% of exporters do not intend to pay the price premium for final timber products. The author calculated the certification risk ratio per m³ of certified sawn timber for three companies as 186.7 RUB (5.41 EUR).

The author pointed out the necessity to take into account the certification risk, which shows the probability of decreasing expected income. The economic sense of the certification risk consists in the probable occurrence of consumers ceasing to pay the price premium solely for the presence of a certificate.

6 Methodology

6.1 Steps of analysis

The present research was a part of the project aimed at comparing the economic impact of Forest Certification in forest companies in Russia and Poland. In both countries analogous studies were conducted in July–December 2007. Since the aim of the research was to clarify the costs and benefits from Forest Certification in forest companies that have passed the forest management certification of the FSC system, the main method was interviewing internal stakeholders of Forest Certification. In Russia's case the internal stakeholders were timber merchants leasing state forest areas and supplying foreign customers with timber and timber production.

The methodological part of the research consisted of a number of stages. Figure 2 illustrates an overview of the sequence of the approach. The most crucial stages were development of the classification scheme of the economic impact of FC and development of the interview structure. The classification of the economic impact of FC reflects possible costs and benefits and can be supplemented with others. The more costs and benefits are taken into consideration, the more aspects will be touched upon during the interview and costs and benefits will correspondingly be more objectively clarified.

1	Literature review
2	Development of classification scheme of economic impact
3	Development of interview structure
4	Conducting interviews
5	Analysis of interview and interpretation of results

Figure 2. Overview sequence of the methodology

6.2 Selection of companies

The core of the study is 12 interviews with one representative from 12 companies, one respondent from each.

The selection of companies was based on the origin of the forest management certified areas of companies. All 33 certified forest companies leasing forest areas in the north-west

region were selected. Inside of the region there are quite similar geographical conditions, markets and business planning between districts. To collect information about certified companies in the north-west of Russia various websites (www.fsc.org, www.forest.ru, www.metafore.org) were reviewed. The size of the certified forest area and time period of the certification process in business was not considered. Conversely, the author aimed to collect as many interviews as possible. Each contact person of those companies was contacted by phone and e-mail with the offer to participate in an interview (in person or electronically). Twelve companies agreed to arrange personal interviews. One person involved in the Forest Certification process from each company was chosen by the company's leadership for participation in the interview. Six of twelve interviews with respondents were conducted at companies and seven interviews during the meeting of the Union of Timber Merchants held in October 2007.

6.3 Interview structure

The interview consisted of four sections: 1) basic attitude of respondents to Forest Certification; 2) Forest Certification costs; 3) Forest Certification benefits; 4) questions about companies' general activity.

The interview format has included various questionnaires. It has been composed corresponding to the author's literature findings and reflected different aspects which could have potentially affected the formation of FC costs and benefits. For the questionnaire the responses were limited to a four-point scale indicating the respondent's position regarding the statements (from full disagreement to full agreement). Open-ended questions helped the author to get some explanations for the results of the questionnaire. The interview format also contained the tables collecting the quantitative data obtained during the interviews. The respondents were asked to comment on any aspect or statements touched upon and express their opinion.

The first section of the interview helped to prepare the background for further analysis. The second part studied the costs of Forest Certification that takes place in the forest industry business. The costs part was divided into two subsections: direct (auditing) and indirect costs. The indirect costs were supposed to be more complex. Indirect costs are needed for transforming the present forest management system to the FSC standard level. Usually companies do not filter costs arising during the certification process from usual business

investments to support the work process. The characteristic feature of Forest Certification is that it might be considered as an independent process in the general system of types of a company's activity. This process has its own core and ultimate objectives and affects general financial results. In order to obtain the forest certificate a forest company has to bring up the existing level of forest management to FSC requirements. These requirements are expressed in ten principles of the FSC standard. For each principle there are several criteria which can be assessed by the indicators for different operations. Table 1 gives an example of the interim standards of SmartWood for evaluating Forest Management in the Leningradskaya and Novgorodskaya oblasts in Russia.

Table 1. Part of the interim SmartWood forest management standard for the Leningradskaya and Novgorodskaya oblasts.

Principle 1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES	
Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC principles and criteria.	
Criteria	Indicators
1.1. Forest management shall respect all national and local laws and administrative requirements.	1.1.1. The FMO shall be established and registered in compliance with applicable laws.
	1.1.2. The FMO should meet national, state/provincial and local environmental, labour and forestry laws.
	1.1.3. In case of non-compliances being identified, corrective actions shall be implemented.
	1.1.4. Responsible staff shall be aware of the relevant requirements of legislation and their responsibilities.
	1.1.4a. Large FMOs shall make copies of relevant legislation available in the head office and accessible to the staff. Copies may be available either on paper or in electronic format.

The indicators play a key role during assessment since it contains the information about what operation shall be done.

The audit companies working with the FSC system evaluate the FMO with FSC standards adapted for the certain area. Since at the moment the national version of the FSC standard is under examination the certification body uses their own interim standards approved by the FSC. This might cause indicators to be interpreted differently by different certification bodies. Different internal stakeholders in their turn may also interpret the indicators in different ways. The author tried to generalise the arrangements drawn from the indicators of the standards used in the region by different certification companies.

The author has laid down these arrangements that shall be done by companies in order to meet the criteria (FSC requirements). The respondents were asked to check the arrangements independently from certification (required by national legislation or implemented before certification due to some other reasons).

The arrangements may demand different types of costs (monetary and/or social) and the respondents were asked to identify what types of costs had taken place due to certification and specify them in the table (see Appendix 1).

The third part of the interview clarified the benefits that forest management certificates have brought to companies. The possible direct and indirect benefits have been formulated into the statements evaluated by respondents according to the scale of agreement. Further in the section the open questions were offered to respondents to quantify benefits: rate of price premium, additional buyers and sales gained due to Forest Certification.

Finally, the last section contained the specified questions about the company and its activity directions.

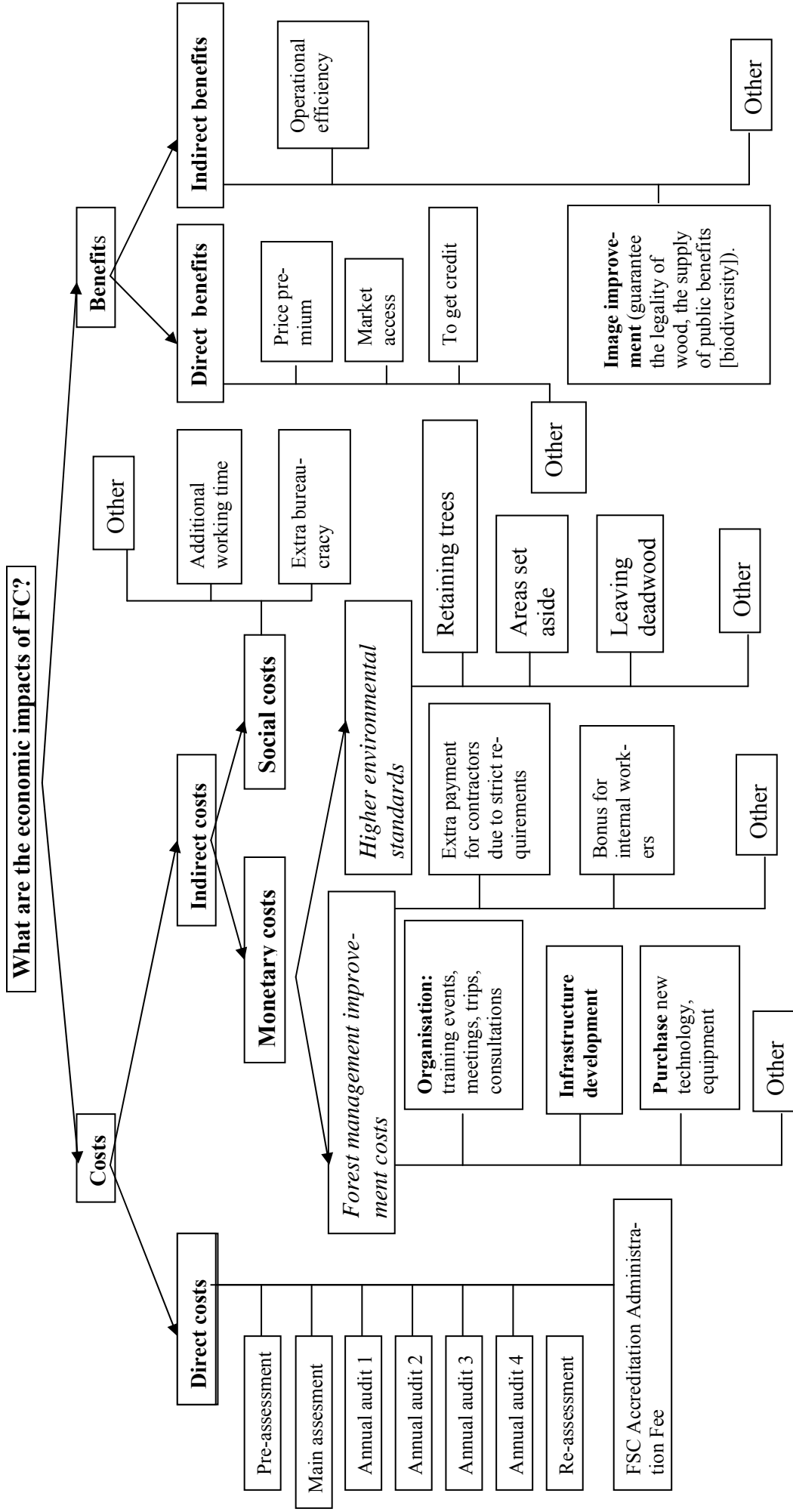
7 Results

7.1 Cost and benefit classification

Costs connected with Forest Certification can be divided into direct and indirect costs (Figure 3). Direct costs are paid to the certification body for the certification process. These costs can vary significantly depending on local conditions. The certification systems are self-financed and operated by commercial certifiers. The data about these costs is very limited since it is considered as confidential commercial data. In general, forest management certification process costs can be expressed in three ways: costs (monetary aggregate) for certification services, costs per area (EUR/ha/year) and certification costs per volume of timber harvested (EUR/m³). The costs for certification services include costs for audit experts' work and travelling expenses (fuel, food, etc.). Accordingly it depends on the period of the process and the audit team (number of persons, foreign or local) involved. The main obstacle for small companies is costs per area since by decreasing the area, costs per ha increase. Except for the auditing process costs, companies usually pay the annual FSC Accreditation Administration Fee (AAF) the rate of which depends on forest area and forest type (FSC 2005). Some data suggests that the average costs of forest management certification for large forest companies in Russia amount to 0.1–0.2 USD/ha/year (Artem'ev et al. 2006).

Indirect costs in their turn are stipulated by bringing the current level of forest management to meet Forest Certification system requirements. Research on indirect costs is even more complicated due to methodological difficulties. As for forest management improvement costs one main difficulty is filtering these costs from the usual investments of a company into a working process. The second problem is defining what arrangements required by the Forest Certification system bring additional costs hereby to detecting the costs not coinciding with the costs required by national law. Indirect costs can be monetary and social. Monetary costs consist of forest management improvement costs and costs stipulated by high environmental standards. The indicators of the criteria clarified in the principals of FSC standards contain descriptions of arrangements of what shall be done to improve management (for example, providing loggers with safety equipment). Such extra costs of forest management improvement as extra payments for contractors due to strict requirements might be considered here. Higher environmental standards may also lead to a "monetary loss," for example a loss connected with retaining living trees. Social costs are connected with extra bureaucracy (documentation, procedures, etc.).

Figure 3. The economic impact of Forest Certification for a forest management business



FC benefits can be divided into direct and indirect costs. Among the direct benefits price premium and market access are the main expected economic incentives, at least from the beginning of the FC process; however, some other benefits such as readily available bank credit for a company intending to undergo certification.

Indirect benefits may for example include operational efficiency and image improvement. FC may guarantee the legality of timber and the supply of public benefits (biodiversity), which leads to image improvement. A similar scheme presented in Figure 3 can be enlarged with other possible cost and benefit items.

7.2 Market place of companies

The study revealed that companies had quite little concern regarding the studies. 12 companies have been examined via interview to a different extent for Forest Certification costs and benefits. The companies showed different levels of transparency. 6 of 12 companies (hereinafter referred to as A, B, C1, C2, D and E) provided a wider spectrum of data during the interview, which afforded a precise analysis to be made. Five of them particularly disclosed FC cost data.

The studies have shown that the current organisational structure of certified companies is different. In some cases companies correspond to a logging company leasing forest areas and selling timber, while in other cases companies are vertically integrated organisations, some of which are logging companies leasing the forests of a lespromhoz or a lespromhoz itself whose shares belong to a company. Thereby the logging company/unit or lespromhoz is becoming responsible for forest management practices.

According to this forest companies are classified in table 2 below.

Table 2. Type of companies

Independent logging company	Logging companies are parts of forest industry companies
D (26,988 ha)	A (4,000,100 ha)
E (13,000 ha)	C2 (392,000 ha)
	(lespromhoz) B (184,000 ha)
	C1 (161,000 ha)

The results are further discussed according to the interview structure.

While for five companies the certified area amounts to 100%, for company A the certified area constitutes 75% of the total area. The main importers for companies are Scandinavian countries (mostly Finland), EU countries (Western and Eastern Europe) and in case of company A some Asian countries as well (China, Japan and Vietnam). The companies that

are parts of forest industry companies mostly supply timber to processing companies inside such companies and only a small share of timber is exported to other importers. Company D is one of the suppliers of a large Scandinavian company (92% of total harvested timber goes to processing companies within the company).

Figure 4 shows the export share of total sales volume for companies. It is seen from Figure 4 that all companies are export-oriented, which supports the hypothesis, “Forest companies that support Forest Certification are export-oriented companies.” The majority of companies supply timber to their own processing companies (A, B, C1 and C2). Company A supplies mainly processed timber production to Scandinavia (mainly to Finland) and other European countries, China, Japan and Vietnam. Harvested timber of company B goes to processing companies within the company (80%) and 20% is exported to European countries (mainly to Finland). Timber production of the company is supplied to Finland and other European markets. In case of companies C1 and C2 of the same company timber is exported to Poland, Denmark, Finland, Latvia and Sweden essentially to their own companies. Company D is one of the suppliers of a company exporting about 92% of its logged timber to processing companies in Finland. Company E supplies 80% of total exported timber to Finland, and the rest (20%) goes to Estonia.

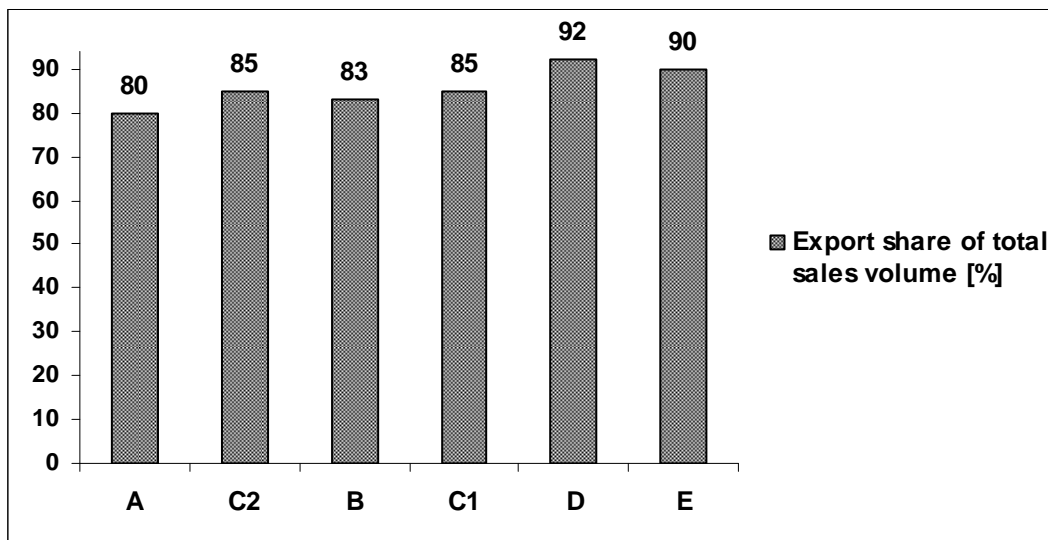


Figure 4. The export share of total sales volume by companies [%]

7.3 Basic attitudes to Forest Certification

This section describes the opinions of respondents about Forest Certification. Company representatives have evaluated the statements by selecting a number characterising the extent of agreement (from 1—full disagreement to 4—full agreement). Figure 5 below pre-

sents the frequency of responses according to the scale of agreement. The total amount of responses is 12.

General opinion of respondents about Forest Certification

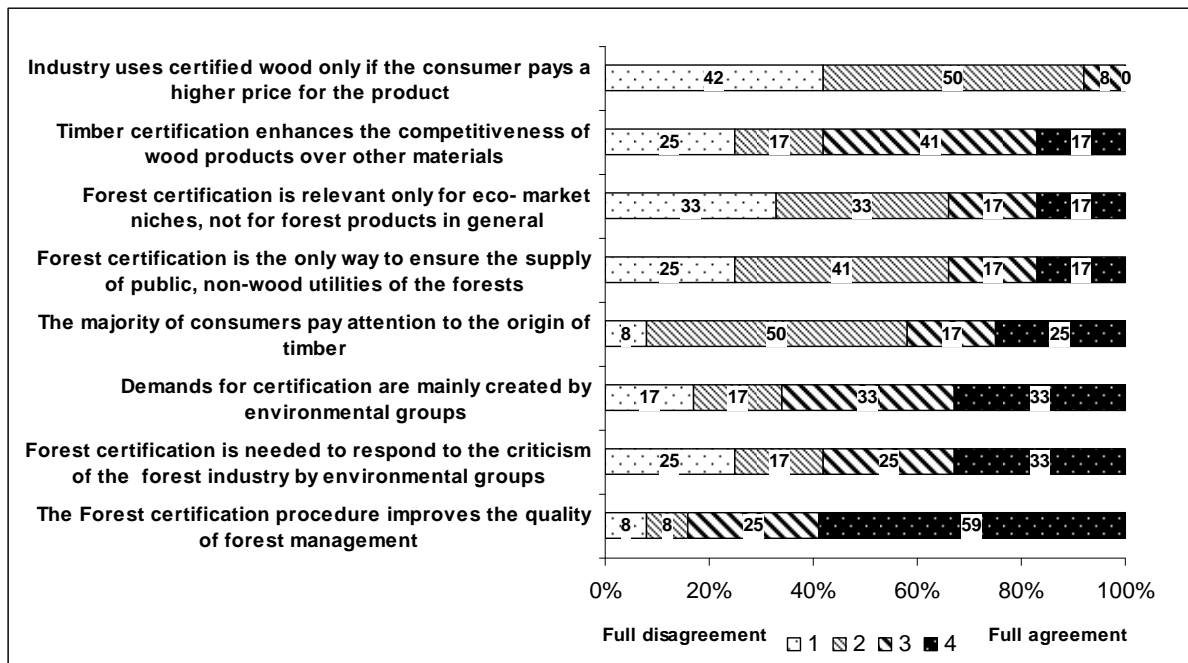


Figure 5. General opinion of the respondents regarding the statements in based on the scale of agreement (full disagreement—1, full agreement—4)

The figure reveals a high variety of opinions. None of the respondents fully agreed with the statement that industry uses certified timber only if the consumer pays a higher price. 58% of the respondents were more in agreement with the statement that Forest Certification enhances the competitiveness of timber over other products, versus 42% of the respondents who tended to disagree with the statement. 66% of respondents disagreed that Forest Certification is relevant only for the eco-market but not for forest products in general. This share of respondents believed that Forest Certification ensures the ecological quality of timber. 66% of respondents were inclined to disagree that Forest Certification is the only way to ensure the supply of public, non-timber utilities of the forests though. None could name another way to ensure it; however, respondents believed the supply of public utilities of the forests had been implemented independently of Forest Certification. Figure 5 shows that 58% of respondents tended to disagree that the majority of consumers pay attention to the origin of timber. The investigation suggests the influence both from environmental groups and buyers on the initiation of FC. The majority of respondents (66%) were inclined to agree that the demands for Forest Certification are mainly created by environ-

mental groups. The respondents who tended to agree with the statement explained that they see the role of environmental groups in extending the information about Forest Certification and promotion of the Forest Certification process. Those respondents who disagreed with the statement stressed that the decision to undergo certification had been made under the influence of customer groups. 58% of the respondents agreed with the statement that Forest Certification is needed to respond to the criticism of the forest industry by environmental groups. The majority of the respondents (84%) tended to agree with the statement that the Forest Certification procedure improves the quality of forest management. They linked the improvement of forest management to an increase of ecological responsibilities, which has an effect on the environment and sets documentation in order. Yet on the contrary, simultaneous research in Poland showed that Forest Certification has not caused anything new in forest management in regional directorates. Lack of agreement was found in case of statements about improved operational efficiency (Appendix 1).

What were the main reasons your company chose to be certified?

The respondents had different opinions regarding what the main reason the company underwent Forest Certification was. Figure 6 presents respondents’ opinions.

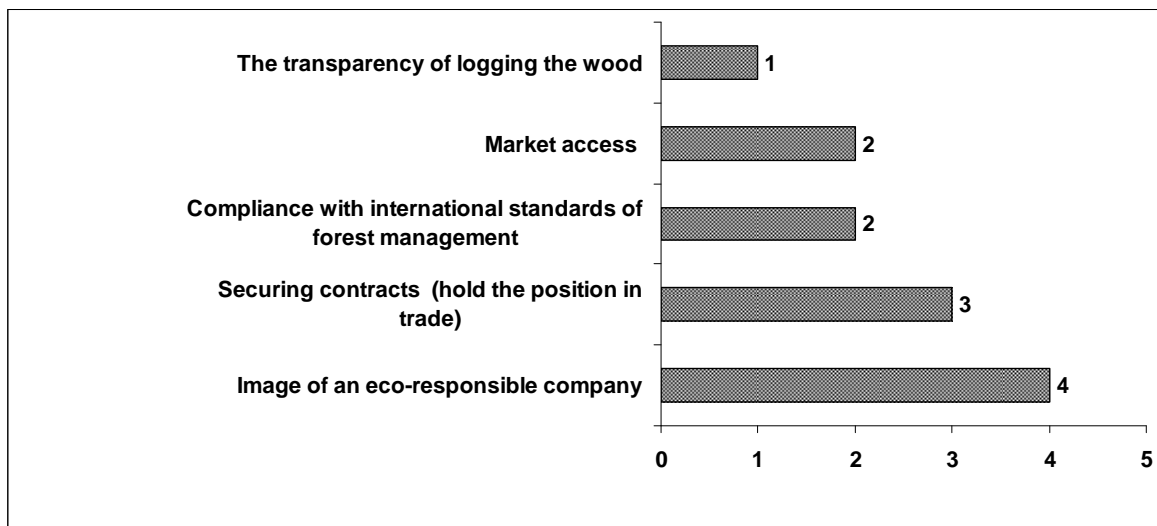


Figure 6. The responses regarding the question: What is the main reason your company chose to be certified?

Figure 6 shows that 4 respondents from 12 consider that the main reason was the image of the company. 3 respondents defined securing contracts as the main reason. 2 respondents indicated that market access was the main reason. In general the majority (80%) of the respondents of the companies commented that Forest Certification had come as a “market wave” and in order to hold their actual status companies made the decision to get certified,

thus avoiding possible problems with foreign partners in international business. The representative of the large company (A) has noticed: “There is too great a struggle for marketing among the sellers...it is important to hold your position in international business.” 2 of 12 respondents mentioned that they wanted to comply with international standards of forest management, and this was the main reason for implementation of Forest Certification. As mentioned, one of the companies initiated the establishment of the “model forest” where the introduction of new forest management practices was evaluated. One respondent defined their decision to undergo certification as having been stipulated by the need to respond to criticism from the external stakeholders regarding the legality of logging. One NGO, Greenpeace, criticised the company by accusing them of buying timber harvested illegally. This brought about many inspections and Forest Certification of their own company/supplier.

Do you advertise to your customer that you are certified?

All the respondents confirmed they advertised their forest certificate to their customers although to different degrees. While visiting companies and their webpages the author did not notice any publicly available information about forest certificates. They all use FSC labels on invoices while only one company put the labels on timber.

7.4 Costs of forest management certification

7.4.1 Direct (certification processes) costs of Forest Certification

5 companies provided data on auditing costs. Costs per hectare per year for different companies are given in Table 3 (PA—pre-assessment, MA—main assessment, AA—annual audit, FAA—Accreditation Administration Fee).

Table 3. The auditing process costs (in euros)

Company, certified area, ha	Costs/ha/year 2004 (cents)	Costs/ha/year 2005 (cents)	Costs/ha/year 2006 (cents)	Costs/ha/year 2007 (cents)	Certification body
A (3,000,880)	6.5 (PA + MA)	0.2 (AA)	0.2 (AA)	0.2 (AA)	X
C2 (392,000)		0.003 (PA)	1.3 (MA)	1.0 (AA + FAA)	Y
B (184,000)		1 (PA)	6 (MA)	1.3 (AA)	Z
C1 (161,000)		0.04 (PA)	2 (MA)	1.7 (AA + FAA)	Y
E (13,000)		28 (PA)	32 (MA)	8.5 (AA)	X

As it is observed from table 3 company A was certified in 2004 in contrast to other companies which were certified in 2005. Despite the usual time period between pre-assessment and main assessment being one year, company A underwent these processes in just one year. The pre-assessment and main assessment costs for a company make a sense as lump-sum costs various annual costs.

The table mainly provides the conformance tendency of the decreasing costs per ha with increasing the area. However some deviations can be explained by varying degrees of negotiation success. Also the data shows that main assessment is a costlier process for the companies while the pre-assessment in some cases may cost less than an annual audit (C1, C2 and B). Among the companies only companies C2 and C1 provided costs on the FSC Accreditation Administration fee, which constitutes 338 euros/year and 1100 euros/year, respectively. AAF consists of one regular element—equivalence of 10 USD and costs depend on the size of the certified forest area and type of management. The certified forests are divided into 8 categories according to the intensity of forest management. Forest area in the determined category multiplied by the proper rate for each category taken together gives the sum of money which makes the annual administrative-accreditation fee. The FSC charge depends much on the area size set aside—with increasing area costs decrease. In other cases companies do not separate AAF costs from the total sum of auditing costs.

7.4.2 Indirect (forest management improvement) costs of Forest Certification

Except for company A other companies' indirect certification costs are insignificant compared to the total requirements of Forest Certification. As was revealed during the interview the indirect costs of FC usually include the costs for training, organisation of seminars, purchase of safe equipment and consultations. All respondents reported that their internal staff have been required to perform additional activities due to Forest Certification but they have not received any respective raises. The companies do not incur extra costs to pay contractors who are involved in more complex logging operations due to FSC requirements. Usually loggers are trained in both usual practice and FSC requirements at special centres. This is more the responsibility of the contractor/company to provide training for its loggers. It has also been clarified that indirect costs are not accounted for separately from the usual company's investments for supporting the work process. The respondent who represented company E noticed that the process of filtering costs connected with certification was started at the beginning of the company's certification but had been ceased later on due to its time-consuming nature.

The total costs of improving forest management from the total sum of Forest Certification costs vary from company to company. Studies have revealed that a company's policy affects forest management improvement costs. The indirect costs of company A have included the full analysis of forest management and the amount of 446,038 euros and these costs were considered as the most significant while representatives from companies B, C1, C2, D and E asserted that certification process costs are more considerable in total sum costs. The changes toward the international practice of responsible forest management in company D have been encouraged by its main buyer to support the image as an eco-responsible company. This gradual transformation of company D from traditional to responsible forest management has reduced the factual initial costs of certification. Before Forest Certification they realised registration of red-listed species and conservation of its biotopes, assessment of the environmental impact of forest management, and introduction of economic activity planning on the landscape level, which is new for Russian forest management practices. Stora Enso as the main buyer-partner carried out the project "From Russia with transparency: introduction of principals of corporate sustainability in timber and the paper chain of custody." Within the limits of the project Stora Enso encouraged company D to implement these arrangements.

During the interviews feasible arrangements cause due to additional certification costs have been discussed with respondents regarding FSC standards. Interviews, forest legislation documentation review and consultations with stakeholders allowed identification of the generalities of forming the forest management improvement costs of companies.

Compliance with laws and FSC principles

The usual costs associated with the principle are costs connected with participation in both external and internal seminars and with the collection of information about active international conventions (books, prospects and slides). Studies showed that companies considered monetary costs due to the principle as being insignificant.

Tenure and use rights and responsibilities

According to national legislation local communities have rights to use non-timber benefits and do not have rights regarding the use of timber. The problem is rather focused on the roads. While the responsibility of supporting the conditions of roads lay on leasers the forests are open to local communities and the roads are used by them as well. As was noticed by the respondent in company E the local community quite frequently leaves trash on the roads. The difficulty is that national legislation does not provide any regulations for the

problem. The social audit (meeting with local communities and stakeholders) is conducted with the support of the leasers and it requires insignificant costs.

Indigenous people's rights

The studies revealed that only company D has a settlement of indigenous people close to the leased forest area. As it was mentioned during the interview the regulation of indigenous peoples' rights are implemented under the authority and the division of the forest area has been carried out by local administration. As a result the indigenous people have got the forest area for their own activity. This has prevented a conflict of interests.

Community relations and workers' rights

The respondents reported that Forest Certification has improved working conditions by providing workers with personal protection equipment. Equipment purchases for chainsaw operators (helmets with eye and ear protection, high visibility vests, safety boots, cut-proof trousers), on-site provision of medical kits for ongoing logging, and fire extinguishers are one big share of the costs. The other considerable share is associated with conducting expertises on the environmental impacts of forest management on residential populations. The respondents mentioned that the lack of experience to carry out such expertise exists at the moment and this practice is at a rather developmental stage. In reality this expertise implies the involvement of many of specialists, which might be very costly in case of big areas of forests. Also at the initial stages of introduction of the practice consultations with experts are needed, which add costs as well. The problems of forest management impact on residential populations are being partly discussed during social audits.

Benefits from the forests

Improvement of harvesting techniques requires more significant costs. The changes taking place in the Russian forestry sector brought uncertainty. At the moment companies are not determined to make such investments since investing money into an uncertain future is somewhat risky. Only large forest industry companies are able to make investments while small companies are continuing to use old techniques. The respondent from company A explained that high investments in modernisation of logging operations, for example buying modern equipment (forwarders), was a reason not only to increase economic efficiency but also to minimise environmental impact. These investments in logging modernisation for companies have become one of the preconditions for undergoing certification.

Environmental impact

This principle is the most arguable in the conditions of Russia since it is implemented in many ways. It promotes the evaluating monitoring system to minimise the impact of sites disturbing operations, identification and conservation of rare and endangered species, train-

ing the workers to handle the key habitats, and the methods of logging according to sustainable forest management. This practice is relatively new especially for logging companies and it is quite expensive since it demands the involvement of experts and additional workers' attention. The research showed that companies implement this activity in different ways. In companies C1, C2, D and E the identification of rare and endangered species has been carried out by the internal staff. Correspondingly the intensive activity from the staff of the company's forestry department is expected. However in case of lack of skilled assistance the company needs to invite a special work team from outside. It has been done in company B during the preparation for the main assessment. The representative of company A explained that internal qualified staff were involved in this activity and considerable costs were connected with consultations with expert organisations.

It has also created much work for preparation of documentation starting from descriptions of species, methods of identification of their habitats and ending with the strategy of protecting the species and implementing the upgrades of the logging operations in accordance with environmental requirements. These arrangements are usually carried out by foresters working at the forest management department of the companies in collaboration with external specialists.

From the respondents' opinions training workers to handle key habitats can hardly require extra costs. The representative of company A clarified that training for workers is provided at regional training centres jointly with research centres. It was also marked that training has always been provided and thus the introduction of the Forest Certification process has not brought about extra costs on instructions for FSC requirements since the new practices are adopted corporately.

From the other side the principle also requires so-called nature costs that have been recently discussed among many forest owners, for example in Scandinavian countries. These costs have arisen due to the unavailability of protected areas for harvesting. For Russia, for example the question of retaining standing timber for biodiversity remains painful due to non-compliance with the requirements of previous forest legislation. Very often retained ecologically valuable trees are of commercially low value (these are overripe, decomposed, damaged trees). Retention of these trees saves costs on their logging. In accordance with legislation loggers have to pay a fine for undercutting. As was mentioned many times during interviews in case of retaining rotten aspen companies are happy to pay the fine. Where felling has already been restricted (water protection zones, etc.), companies try to find ar-

eas with 5% representative forest ecosystems. Also in many cases companies are not able to master a volume due to inaccessibility under the bad weather conditions of the felling areas, which leads to unavoidable loss.

Management plan

Management planning is conducted during the forest inventory once every 10 years. At the moment all arrangements connected with the principle are implemented by forest inventory organisations. Basically the FC standards put forth wider requirements for the forest management plan than national legislation. The traditional plan does not include a detailed inventory of rare and endangered species, state registration of HC VF, or planning on an ecosystem basis. This results in the cost of the new forest management plan being significantly higher than expected compared to the cost for the traditional FM plan. Such processes as gaining and analysing non-timber information are only just now coming into practice.

Monitoring and assessment

The development of a special separation and registration system for certified and non-certified timber is the main challenge of the principle. Actually the arrangement is very costly, which is why in many cases timber is not marked. In case of company A the certified timber is supplied to processing companies within the company and this doesn't demand that the material be marked.

Maintenance of high conservation value forests

The maintenance of high conservation value forests does not incur much cost since in many cases it is rather beneficial to leave forest areas for conservation. Usually such forests are located in underproductive and swampy areas.

From the interviews the quantitative data of forest management improvement costs has been obtained for 5 companies. As has been clarified the companies incurred considerable costs at the beginning of certification. These costs took place over a two-year period (during the pre-assessment and main assessment years). Later the costs are presented together for 2005–2006. In case of company A the abovementioned period is shifted from 2004–2005 to 2005–2006 to make cost comparison between the companies easy. Table 4 shows how costs were delivered among the principles during 2005–2006.

Table 4. Total forest management improvement costs by companies and principles [EUR] for 2005–2006

Compliance with laws and FSC principles					
Measure unit	A	B	C2	C1	E
EUR	insign. ⁴	insign.	insign.	insign.	insign.
Tenure and Use rights and responsibilities					
Measure unit	A	B	C2	C1	E
EUR	10,000	insign.	insign.	insign.	insign.
Indigenous people's rights					
Measure unit	A	B	C2	C1	E
EUR	insign.	insign.	insign.	insign.	insign.
Community relations and workers' rights					
Measure unit	A	B	C2	C1	E
EUR	50,000	6000	5500	4000	2000
Benefits from the forest					
Measure unit	A	B	C2	C1	E
EUR	200,000	insign.	insign.	insign.	2000
Environmental impact					
Measure unit	A	B	C2	C1	E
EUR	80,000	3500	insign.	insign.	insign.
Management plan					
Measure unit	A	B	C2	C1	E
EUR	130,000	3000	5000	3000	1000
Monitoring and assessment					
Measure unit	A	B	C2	C1	E
EUR	insign.	insign.	insign.	insign.	insign.
Maintenance of high conservation value forests					
Measure unit	A	B	C2	C1	E
EUR	difficult evaluation	difficult evaluation	difficult evaluation	difficult evaluation	difficult evaluation
Total costs					
Measure unit	A	B	C2	C1	E
EUR	470,000	12,500	10,500	7000	5000

After lump-sum costs companies incurred annual costs. The interview showed that respondents had difficulties in identifying how the annual costs are allocated among the FC prin-

⁴ Insign.—insignificant (Author's note).

principles. As was described by the respondents annual forest management improvement costs are generally for training staff, travelling and organisation of internal seminars.

Table 5 presents quantified data on forest management costs per ha for each company.

Table 5. Forest management improvement costs /ha [EUR] for 2005–2006 and 2007

Company	MA (incl. ⁵ PA) costs /2005–2006	AA costs/2007	MA (incl. PA) costs/ha/2005–2006	AA costs/ha/2007
A 3,000,880	477,556	10,000	0.16	0.003
C2 392,000	10,816	2250	0.034	0.006
B 184,000	10,500	1400	0.059	0.008
C1 161,000	8210	1500	0.065	0.009
E 13,000	3370	700	0.26	0.054

7.4.3 Staff overtime costs

The studies revealed that the representatives of the companies see negative effects of Forest Certification. Based on the overall opinion of respondents increased paperwork is the most time-consuming activity, increasing the workload by half for staff involved in forest certification preparation. The respondents reported that the paperwork in the company is fulfilled by the internal staff. More specifically, the preparation of many procedures demands review of special documentation and compilation of procedures (for example, the procedure for setting aside high conservation value forests, and the procedure for identification and protection of rare and endangered species).

Identification of key habitats is conducted by the internal staff of the forestry department as it is in company A or by external specialists (for example, in company B a group of experts has been invited to carry out field monitoring on identification of key biotopes). The studies showed that the companies do not hire additional workers for Forest Certification activity.

The respondents of the companies loosely defined staff overtime as for preparation of the company for Forest Certification and annual audits. For example for company A 2 months of additional work for six employees were required to comply with standards in 2005–2006. As was mentioned by the representative of the company about 70% of the extra work constitutes preparation for procedures (collecting the information, compiling procedures). The rest of the time (30%) is shared between time for consultations with stakeholders and

⁵ Incl.—including (Author’s note).

field work (for example, identification of key biotopes). In case of company E 90% of staff overtime is spent on preparation for procedures, and the rest of the time is expended on consultations with stakeholders.

The most involved staff in the process are secretaries who prepare the documents and forest managers implementing the activity on bringing the current level of business forest management to FSC standards.

Based on the respondents' opinion, internal loggers and other operators have not acquired additional work due to strict FSC requirements. For example, in case of key habitats in a forest area the forest management plan provides for setting aside these areas and loggers just do not need to operate selectively with key habitat elements.

Table 6 shows staff costs calculated per ha considering average salary, number of staff involved and the amount of hours for 2005–2006 and 2007. While overtime costs do not directly influence the company they are quite high and exert pressure on the staff.

Table 6. Staff overtime costs/ha [EUR] for 2005–2006 and 2007

Company (ha)	Hours/2005–2006	Hours/2007	Salary/hour ⁶ (euro)	Costs/ha/2005–2006	Costs/ha/2007
A 3,000,880	8240	1440	2.5	0.007	0.001
C2 392,000	3090	540	2.5	0.02	0.003
B 184,000	2060	360	2.5	0.028	0.005
C1 161,000	2060	360	2.5	0.028	0.005
E 13,000	1030	180	2.5	0.198	0.035

7.4.4 Comparisons of Forest Certification costs per ha.

The calculated auditing, management improvement and overtime costs per ha in EUR for each company for 2005–2006 and 2007 are illustrated in Figure 7 and Figure 8, respectively. The figures reveal an increase in social costs per ha with a decrease in total forest area. Other costs are more comparable inside of companies' groups associated with the certification bodies (AE, C1C2, B). It is observed from Figure 7 that lump-sum certification costs (pre-assessment and main assessment costs) per ha gradually increase, but inside groups while the auditing costs for company A are higher than for C1 and C2 companies, for company B the auditing costs are higher than for company C1. The forest management improvement costs per ha substantially increase in two opposite ways: they are signifi-

⁶ Average salary per hour of forestry specialist in Russia (1 EUR=35 RUB).

cantly higher in case of companies A and E while for companies C1, B and C2 these costs increase with a decrease of the area. Figure 8 illustrates annual auditing costs per ha, which are noticeably lower compared to the period of lump-sum costs. For Figure 8 the increase of auditing costs per ha with the decrease in forest area is more demonstrable compared to the previous figure. The figure shows that forest management improvement costs increase in one direction, with a decrease in forest area.

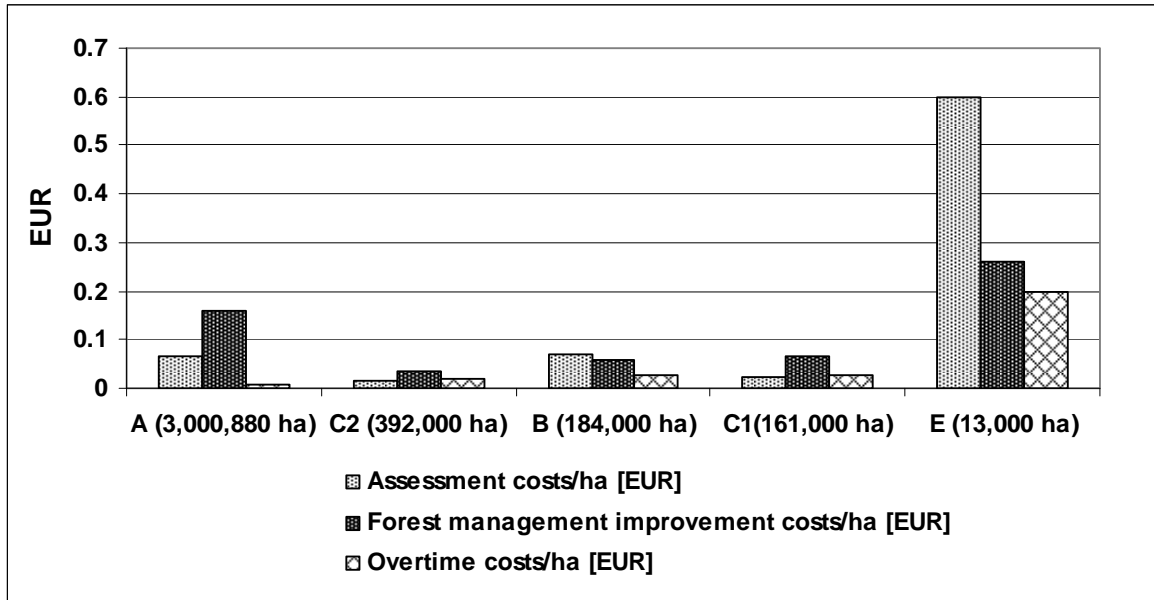


Figure 7. Comparison of costs per ha by companies for MA and PA [EUR]

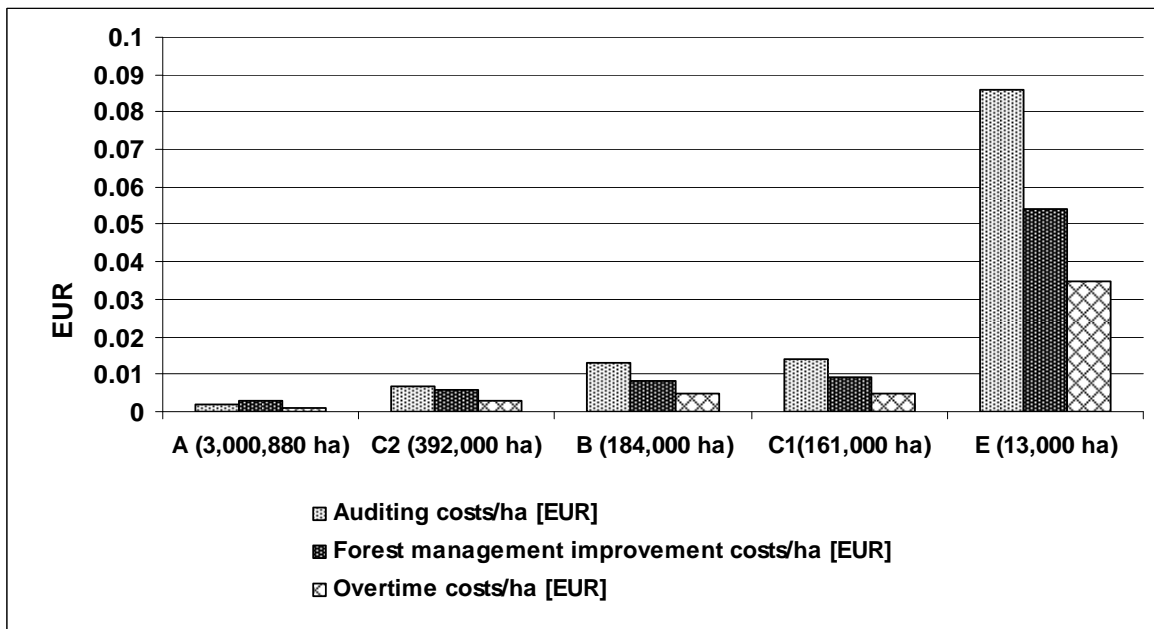


Figure 8. Comparisons of costs per ha by companies for AA [EUR]

Figures 9 and 10 present the ratio of auditing forest management improvement costs for companies for 2005–2006 and 2007, respectively. Figure 9 substantially shows that the share of forest management improvement costs per ha decrease with a decrease in area,

which can be observed inside of groups of companies (A, E, C1, C2 and B). For 2005–2006 for company A the share of forest management improvement costs amounts to 70% of total costs while for company E the share of these costs is minor (30%). In case of 2007 it is observed from Figure 10 that the share of company E’s auditing costs has increased compared to the previous period while for companies A, C1, B and C2 this share has decreased to a different extent. The respondent from company E maintained that certification process costs still remain the most highest for the company.

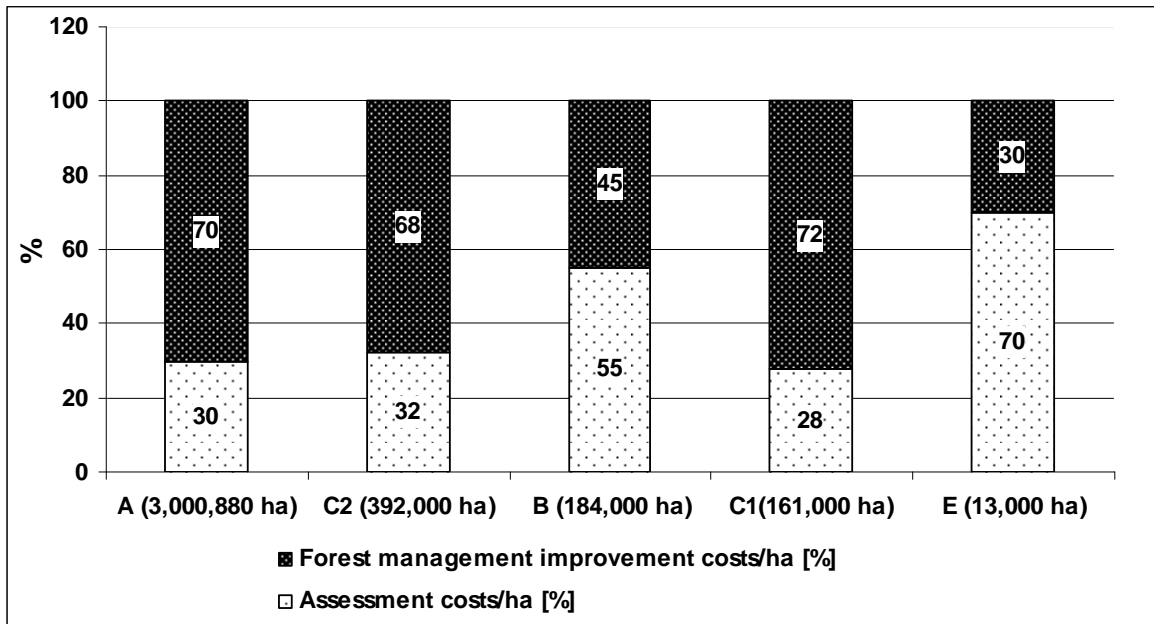


Figure 9. Ratio of costs per ha for companies for MA and PA [%]

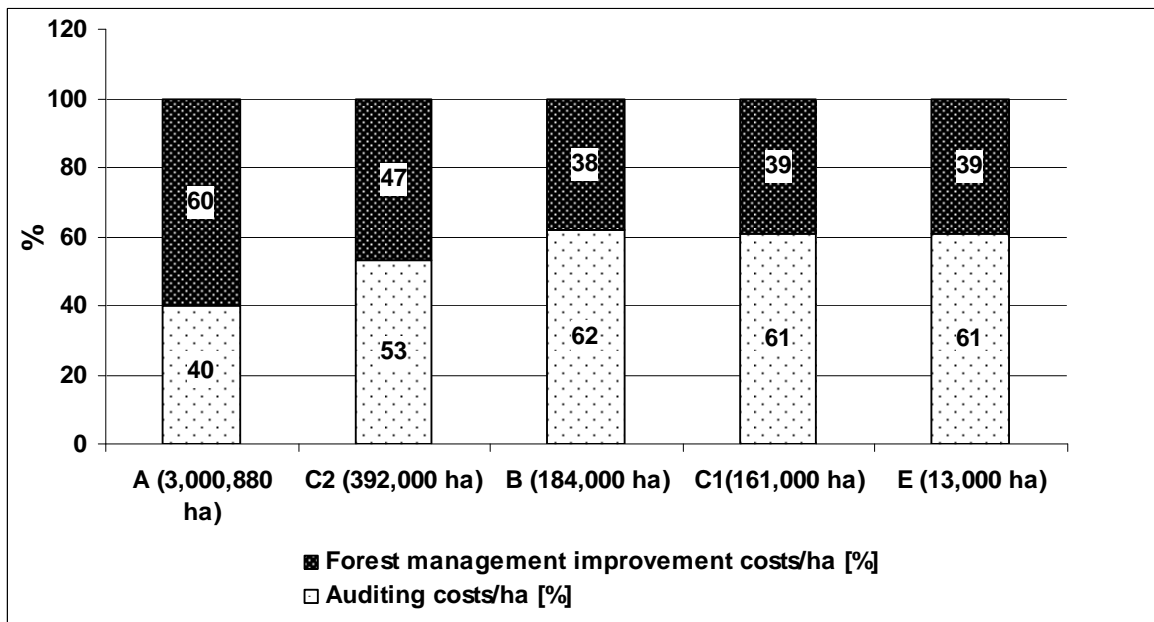


Figure 10. Ratio of costs per ha for companies for AA [%]

The figures of the section confirm that FC costs increase with a decrease of certified forest area; however, the ratio of certification process and forest management improvement costs is different for the studied companies. The share of forest management improvement compared to forest operation costs is higher for company A, while for company E certification process costs are dominant in both MA (incl. PA) and AA. The hypothesis that for large forest companies forest management improvement costs are dominant over certification process costs and for small companies vice versa is in compliance with results of the interviews. Certification process costs per ha are indeed higher in company E while forest management improvement costs are less per ha. As it was mentioned before in the results of the interview small companies are not willing to make big investments in forest management on account of the uncertainty of its future (they usually do not invest in new technologies or techniques, and the level of monitoring practice of environmental impact is low). They usually try very carefully to avoid the risk of high costs associated with investing in management.

7.5 Forest Certification benefits

This section represents the results of studies regarding the respondents' opinions about the benefits Forest Certification has brought to their companies. In general at the beginning of the interview respondents stated that for their companies FC is quite unprofitable and does not bring any benefits. However, by going through the survey and exploring the topic more deeply some benefits were disclosed.

What are the main outcomes after certifying the company?

Companies' representatives evaluated the statements by ticking off numbers corresponding to the extent of their agreement (from 1—full disagreement to 4—full agreement). Figure 11 below presents the frequency of responses according to the scale of agreement. The total amount of responses is 12.

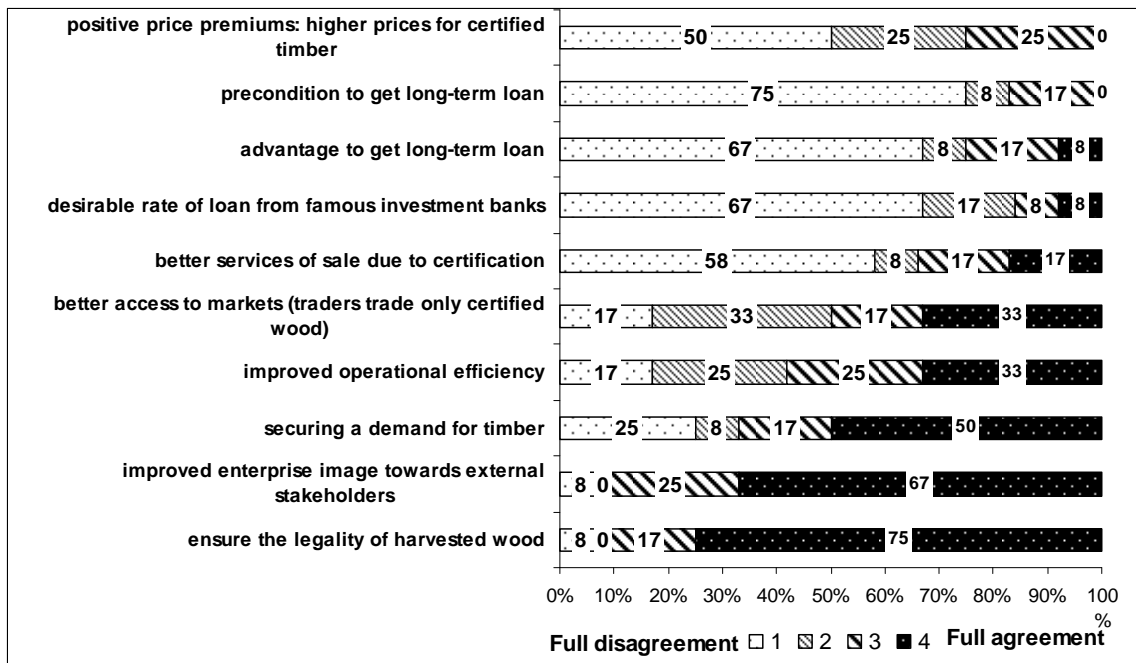


Figure 11. General opinion of the respondents about main outcomes obtained after certifying the company in accordance with the scale of agreement

It is seen from Figure 11 that there was no respondent who fully agreed that the positive price premium was the main outcome of Forest Certification. Also no one fully agreed with the statement that Forest Certification has become the precondition to getting a long-term loan for the company. One of the respondents noted from his experience that Forest Certification for a company could be an advantage but it was not a pre-condition to getting a long-term loan because of competition between investment banks. One respondent (8%) fully agreed that their company had obtained a desirable loan rate from a well-known investment bank due to Forest Certification. Better services of sale due to Forest Certification have been confirmed by 34% of the respondents. 50% of the respondents tended to agree that Forest Certification had improved their access to eco-markets. 58% of respondents were in favour of FC-improved operational efficiency. The majority of the respondents (67%) tended to confirm that Forest Certification secured demand for timber. 92% of the respondents were in favour of the statement that Forest Certification improved their corporate image towards external stakeholders. 92% of respondents agreed that Forest Certification ensured the legality of harvested timber.

Have buyers shown greater interest in certified products as compared to non-certified products?

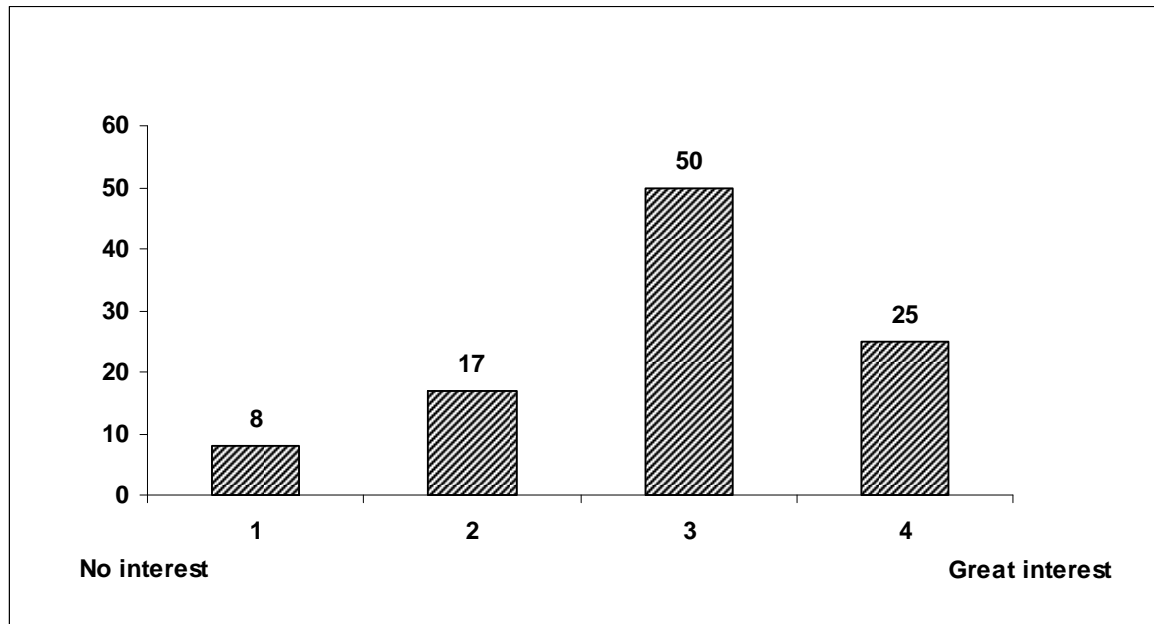


Figure 12. The frequency of responses regarding the question: Have buyers shown greater interest in certified products as compared to non-certified products?

As seen from Figure 12, 75% of respondents (9 respondents of 12) evaluate their interest in certified production as rather high. One respondent (8%) noticed that buyers had no interest in it.

Price premiums

The studies revealed that forest companies do not obtain any price premiums for certified timber. Only some importer-countries pay price premiums for final certified timber products (pulp, paper and furniture). It was mentioned by the respondent representing the forest industry company that price premiums for certified timber products seemed to be higher in England and Germany by as much as 20–25% of the usual price while in the Netherlands for example no price premiums have been offered to suppliers. Some respondents reported that price premiums for certified timber constitute about 1% of the usual price but they didn't specify the importer. In case of company D it was mentioned that the company got the opportunity to negotiate the contract with buyers from Japan in which possible price premiums might be higher by 10–15% compared to the usual price; however, under the negotiation process the price premiums were intended only for 50% of certified timber since only 50% of the certified timber meets the high requirements.

Has Forest Certification implementation met all the expectations of the company?

No interviewed respondents have noticed additional sales or additional buyers due to Forest Certification.

Figure 13 shows the number of responses regarding the question of whether the company has met all expectations after certifying.

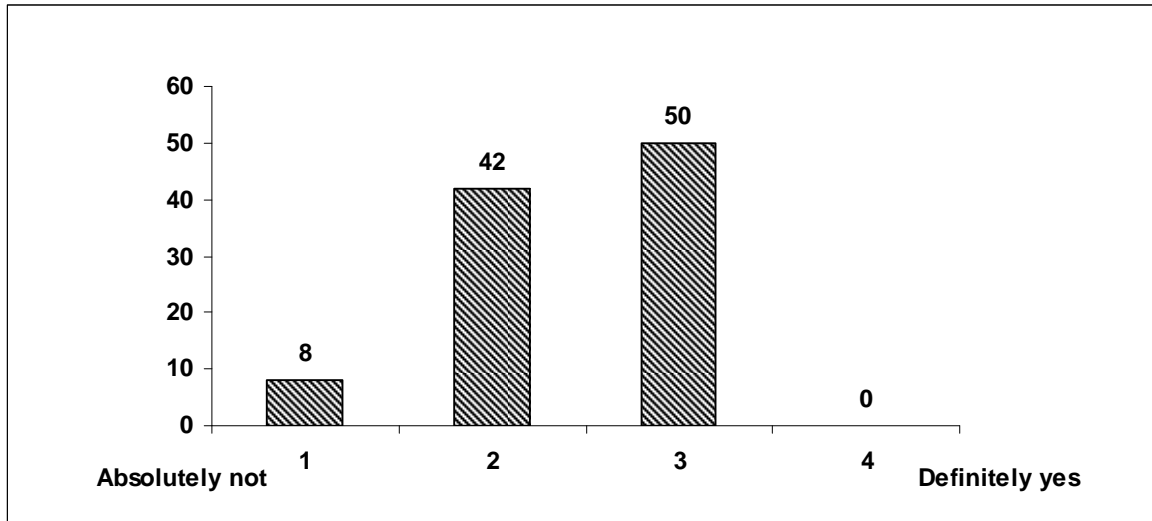


Figure 13. The frequency of responses (in %) regarding the question of whether a forest company has met all expectations after certifying

Figure 13 shows that no respondents could say that their forest company has definitely met all expectations after certifying. One respondent (8%) stated that expectations have not been met after certifying the company. The groups of respondents that are in between (5 respondents [42%] and 6 respondents [50%]) mainly considered that it was too early to define the extent in which the expectations of the company have been met after certifying. The representative of company E had noticed that the expectations about price premiums proved to be wrong, particularly for one of the main importers—Estonia has not expressed any interest in certified products.

Some of the respondents also noticed indirect benefits which can be classified as quantitative and non-quantitative. Improvement of work safety and reduction of ecological fines, confirmed by respondents in 100% of cases, are quantitative indirect benefits. The appearance of a so-called “round table,” which allowed a widening range of professional knowledge and effective contacts as well as encouraged better organisation of documentation due to Forest Certification, was stressed by the representative of company E. Representatives of forest industry companies tended to see the on-ground procedures required by standards

as having a positive ecological impact while the representative of company B (Ilespromhoz) was not in favour of any of the changes that have happened in forests due to Forest Certification.

The studies proved the hypothesis that forest companies tend to not see direct benefits from Forest Certification. The interview revealed that respondents' overall opinion regarding certification benefits for economic performance was rather sceptical. However it was found that some respondents saw indirect benefits. The positive answers in 100% of cases were formed under the influence of positive changes in forest management, which underscores the desire of respondents for managerial compliance with international standards and competitiveness. The negative side of respondents' opinion about Forest Certification is related to high certification costs, lack of direct benefits (as a price premium), high standard requirements and the weaknesses of Russian legislation at the moment, which is being worked on to solve the problems with Forest Certification.

8 Discussion

The data obtained during the interview with the representatives of the companies has provided interesting material for analysis of the costs and benefits from forest management certification on the business level. The interview method allowed for testing costs and benefits guided with data provided by respondents and their opinions. The research provides interesting quantitative data that can rarely be seen in literature. The problem is familiar to everybody involved in the forestry sector and who knows that companies usually tend to talk about the huge costs induced by Forest Certification; however, these costs are not cited, nor are benefits, which are not mentioned at all. In this context the main challenge the author has set is developing as much of a comprehensive scheme of potential costs and benefits as possible regarding what Forest Certification provides. The scheme has preliminarily been developed focusing on literature reviews and inquiries of different groups of stakeholders. It is obvious that the more factors (measures) resulting in costs and benefits that are taken into account, the more objective the evaluation of the economic effect of Forest Certification can be.

8.1 Companies' participation in the interview

The research indicated that companies had little interest in participating in the interview. This can be explained by other problems in the Russian forest industry sector now taking place, and the future of the sector rides on solving them. For the industry these problems are mostly associated with what position the leased forest companies will be in when the new forest acts are enacted. The actions of some authorities, such as raising export duties, also bring about uncertainties for companies exporting round timber and they are now compelled to change their policies. The second problem was the unwillingness of companies to provide financial data associated with Forest Certification. Some reasons are that direct costs are confidential information and clarifying forest management improvement costs demands lots of work and time in order to filter it from the company's usual investments. Thus the data about costs has been provided by 5 of 12 companies.

8.2 General opinion about Forest Certification

All interviewed companies are export-oriented, which proves the hypothesis that those forest companies supporting Forest Certification are export-oriented companies. This suggests that the FC initiative originates from foreign buyers. Under the influence of environmental NGOs, which protest and thus form social (ecological) ideas of bulk buyers of timber products, ecologically sensitive markets have been created (Castoriadis 1987 in Kulyasova and Kulyasov 2004). In Russia NGOs use international markets for pressuring timber exporters selling timber and timber products (Kulyasova and Kulyasov 2004). The results of the interview showed that 8 of 12 respondents tended to agree with the statement that demands for Forest Certification are created by environmental NGOs, and 50% fully agreed with the statement. This group of respondents stressed that ecological NGOs actively spread information about FSC Forest Certification in Russia. At the same time 2 of 12 respondents fully disagreed with the statement about demand coming from the buyers. The FSC emerged in Russia, from the one hand, because certain buyers in Europe requested certification from Russian suppliers, and on the other hand, the FSC emerged because environmental organisations promoted it (Tysiachniouk 2006). It is likely that those timber merchants who were involved in cooperation with environmental NGOs on the FSC certification process agreed that demands for Forest Certification are created by environmental NGOs while other timber merchants have made the decision to undergo certification under the influence of their customers. The research showed that the demands for Forest Certification are created by environmental NGOs and bulk buyers at the same time.

One particularly strong result is that no respondents fully agreed with the statement that industry uses certified timber only if the consumer pays a higher price for the product. On the contrary 11 of 12 respondents disagreed with this statement. Such result might partly be due to the statement that environmental NGOs are major drivers of Forest Certification in Russia. A price premium was supposed to be one of the market incentives; however, under the pressure of NGOs bulk buyers would promote price premiums for certified timber.

10 versus 2 respondents tended to agree with the statement that the Forest Certification procedure improves the quality of forest management. This result complies with the comments of respondents that nature has definitely benefited thanks to Forest Certification procedures. Forest Certification facilitates a significant reduction of the impact of logging operations on the environment (Artem'ev et al. 2006). It is very likely that improvement of

forest management is one of the most perceptible effects of Forest Certification in Russia. The practice of forest management has been very far from the forest management of international standards. Thanks to Forest Certification many Russian companies intend to raise the quality of forest management to international standards, which will allow them to compete in the global market. The most basic of these are introduction of forest management planning on an ecosystem basis, modernisation of logging technology, detailed approach to key biotopes and to monitoring the environmental impact of operation activity. 2 of 12 respondents defined their wish for compliance with international standards of forest management as a major reason for undergoing forest management certification.

The same number of respondents has pointed to market access as the main reason for company certification. The most frequent reasons companies made the decision to get certified were found to be improving their image and securing contracts. The interview revealed that image improvement has been defined as a main reason for undergoing certification by respondents of large and small companies alike. It is going to be quite debatable if small companies make investments in Forest Certification particularly to improve their image. It is more likely that image improvement was also interpreted by the respondents as securing business dealings in the future as well. All respondents explained that holding their trade position was most important. A comment from one respondent of the interview that “There is too big struggle for marketing among sellers...” points to supplies of certified timber increasing what had already led to a Forest Certification risk when, considering the market saturation, certified production demand and price had come down accordingly. At the same time the presence of a forest certificate may very soon become compulsory for operating on the international market.

8.3 Cost clarification problems

The results of the interview have provided interesting quantitative data about the costs of forest management certification, but not in all cases. In general the research has showed low transparency of policy and companies’ unwillingness to provide information regarding the financial questions, which has negatively affected the opportunity for researchers to explore economic issues in any sector. This of course might lead to an inaccuracy of the economic analysis. One of the possibilities to obtain quantitative data was opened for the author by the Union of Timber Merchants of the Leningrad Region by its chairman, who has helped to organise interviews. Despite six companies having been visited by the re-

researcher only five companies made data on Forest Certification costs available. Since previous studies indicated that evaluation of Forest Certification costs was a complicated task due to the difficulty of filtering the costs from the usual company investments the interview itself set the challenge of finding out which measures resulting from Forest Certification cause additional costs for companies. The other challenge is selecting the arrangements that have been implemented in companies only due to Forest Certification since some arrangements can be realised earlier due to many other factors (for example, due to national legislation). The interviews have also provided useful comments from the respondents, which allowed a description of the requirements of FSC Principles to be made.

The results showed that indirect costs connected with bringing the current level of forest management to FSC standards are formed in different ways. From the one hand analysis has revealed that here and there national legislation is stricter than FSC standards, yet from the other hand some of the principles require significant investments in the development of sustainable forest management practice which often can be available only for large forest-timber companies, while small companies do not incur such costs at all. Some procedures required by Forest Certification, as for example expertise of the ecological and social impacts of logging activity, have incurred potentially the most costly arrangements today for Russian forest companies since it is supposed to pay for expert services. However, at this stage these procedures are just coming into forestry practice and the procedural costs are not demonstrable.

8.4 Reliability of data on costs provided by respondents

The quantitative data obtained during the interview allowed for evaluating forest companies' costs incurred due to Forest Certification. The results have presented three kinds of costs according to classification (Figure 2): auditing costs (direct costs), forest management improvement and quantified overtime costs (indirect costs). While auditing and forest management improvement costs have been provided by respondents the quantified social costs were calculated by the author based on the time workers spent due to Forest Certification. All costs have been calculated per ha for presentation. It is appropriate to note that forest management improvement costs and especially social costs are approximate while auditing costs were provided by documentation. In case of forest management improvement costs it is likely that the respondents have only partly provided documentation. The social costs were given roughly based on respondents' observations and their expression.

This may give rise to the question of whether or not forest management improvement and social costs have been overstated by the respondents. From the researcher's point of view forest management improvement costs were rather diminished. On the one hand they provided quite realistic data about what has been proved by comparison with the data provided by others companies, yet on the other hand they provided only apparent and visible costs due to the profound difficulty of filtering all costs connected with the FSC from total investment costs. Social cost calculation comprised overtime (the amount of hours) costs and number of workers provided by respondents and average salary calculated per hour. All respondents consider that FC activity requires 50% additional involved in FC activity staff work. The probability of diminishing the time required by Forest Certification is rather negligible—otherwise the companies would need special workers for implementing the activities required by Forest Certification.

8.5 Forest Certification costs

The results of the presentation of costs showed that in general costs per ha increase with a decrease of forest area; however, the results revealed some deviations in case of forest management improvement and auditing costs. The results show that deviations are possible to see compared with the costs per ha between companies of same group size certified by different bodies. Since the price policy of auditing bodies varies more accurate results might be obtained by comparing the auditing costs among companies certified by the same auditing body. The most interesting trend has been noticed for forest management improvement costs that despite the presence of the tendency to increase with a decrease in area these costs per ha appeared higher for company A (3,000,100 ha) compared to companies C2 (392,000 ha), B (184,000 ha) and C1 (161,000 ha). The explanation can be that large companies are economically more viable to make considerable investments including investments in improvements stipulated by Forest Certification. The respondent from company A stressed that the main reason for undergoing certification for their company was enhancing their image. This could partly explain why company A made such big forest management investments. According to the results forest management improvement costs per ha are higher for company B (184,000 ha) compared to company C1 (161,000 ha), which is also an example of an addition to general increasing costs per ha with decreasing area the forest management improvement costs are dependent on the company's policy. The results revealed that lump-sum annual costs are less for medium-sized companies (B, C1, C2 companies). For annual costs company A incurred lower costs per ha compared to

small and medium-sized companies. Thus for the whole 5-year period the costs of Forest Certification per ha are higher for small and medium-sized companies. The same conclusion that the costs of FC are particularly high for small and medium-sized companies has been made during the research conducted by Ptichnikov and Park (Artem'ev et al. 2006).

Calculated data on costs per ha allowed the diagrams of cost ratio for each company to be made. The most interesting thing from the practical point of view was the correlations between assessment/auditing and forest management improvement costs. The results show that the ratio of forest management improvement costs for annual lump-sum costs (2005–2006) for company A (3,000,880 ha area) is 70% of total costs while for E (13,000 ha)—30% of total costs. However previous studies reported that 75% of total costs are costs for forest management improvement (Artem'ev et al. 2006). The results also substantially show that forest management improvement costs come down after annual lump-sum costs and auditing costs comprise a major share of total costs for companies. The assumption at the beginning of the thesis that forest management improvement costs of Forest Certification in large forest companies are dominant over the certification process costs while in small forest companies the forest management improvement costs comprise a minor share of the total costs of certification has been proved by the results. In case of company A (3,000,880 ha) forest management improvement costs will remain great for the period of annual costs as well although it came down to 60%. For company E the ratio of forest management improvement costs reaches 39%—a minor share of costs. This is in compliance with the comment of the respondent from company E who stressed that direct (auditing) costs are most significant in the total sum of costs due to Forest Certification for their company. In this case very modest investments in forest management improvement of small companies are stipulated by an unwillingness to run a risk under the uncertainty of the company's future in the Russian forestry sector conditions. They usually avoid purchasing new modern logging techniques and try to reduce costs and have their staff take as many measures as possible itself instead outsourcing experts. The results showing the cost ratio are the material which can be useful for timber merchants who are just beginning to get involved in the Forest Certification process. By the instrumentality of the material it will possible for them to predict the correlation of costs during this time. A pertinent question is whether the results of the FC costs of the research are patterns which can be used further or if they are just particular cases. On the one hand there is a scarcity of interviews and corresponding scarcity of data to consider the results as models, while on the other hand the availability of data from rather diverse companies allowed some trends mentioned

above to be detected. It is likely that under the availability of a greater amount of data the results will be more qualified.

8.6 Forest Certification benefits

It was assumed at the beginning of the thesis that the overall opinion about the performance of economic benefits is low. The hypothesis has been proved by the studies. The research has shown that the overall opinion of respondents about benefits from Forest Certification is rather sceptical; however, some respondents tend to see some FC benefits. Mainly indirect benefits were considered by respondents while direct ones were mostly not justified. The majority of the respondents fully agreed with the statement that the main outcomes obtained after certification are ensuring the legality of timber, improved image towards external stakeholders and securing demand for timber. No respondents fully agreed with the statement that the main outcome obtained after certification is positive price premiums. The aim to secure and rehabilitate former profitable markets has been the main driving force of Russian forestry sector certification and not expectations of higher prices for certified production (Ptichnikov and Park2005).

The results show that the companies do not obtain price premiums for certified timber. The struggle for sales between exporters partly explains it. The companies that participated in interviews are exporters mainly oriented towards Finland, which is the leading importer of Russian timber from the north-west region of Russia. Finnish companies do not require certified timber actively (Ptichnikov and Park2005). Only one respondent reported on the possibility for their company to get a price premium for certified timber for 50% of delivery in case negotiations with a Japanese buyer are successful. The research also indicates that some companies report improvement in prices; however, only for timber production, particularly in pulp and paper, sawing and furniture sectors and it oscillates from 1% to 25% of the usual price. At the same time other research points out that price premiums change from 3% to 11% (Ptichnikov and Park2005).

Also no respondents fully agreed that forest certificate was a pre-condition to getting a long-term loan. The most interesting result is that 7 of 12 respondents tended to agree with the statement that the main outcome of Forest Certification is improved operational efficiency, and 4 respondents fully agreed with that. The most iterative explanation the respondents provided was improvements in documentation order and subsequently increased efficiency of work.

The research also reveals that benefits could have been examined significantly more broadly especially in the movement to Forest Certification in Russia since this process encourages meaningful development of the whole forestry sector. The appearance of the “round table”—which allows for broadening professional knowledge—and improvement of corporate image are partly considered by representatives of companies as essential benefits. Such benefits can hardly be quantified; however, they must be considered for cost-benefit analysis.

The research based on the interview’s data has resulted in material which might be developed in what follows. The interview method used in the research contained opinions and quantitative data alike, which has provided more comprehensive results. The variety of the companies participating in the project has been advantageous to the research while the scarcity of the number is the main weakness. From the author’s point of view through a short analysis of costs based partly on the opinions of the respondents, the findings allow the conclusion to be made that, at the time of the research, the structure of cost formation in companies of the same size (large/medium-sized/small) is similar.

8.7 Practical application of the results

Clarifying costs and benefits is one of the stages examining the economic impact which in its turn is one of the most relevant and interesting problems in the light of becoming an “ecological” economy. From the other hand the present study has a practical application, this being useful material for those companies that are going to undergo Forest Certification. Firstly, a short analysis of forest management improvement costs may direct timber merchants to what measures required by Forest Certification are expected to be costliest. Secondly, the results on costs presented in the study may divulge the structure of forthcoming costs due to Forest Certification and changing the correlation of costs along time. The results of benefits from Forest Certification may guide internal stakeholders in predicting the outcomes that can be obtained after certifying the company.

9 Conclusions

The variety of opinions has shown that Forest Certification still remains a debatable subject in terms of its economic impact.

It is clear that Forest Certification has introduced many changes to forest management practices in Russia. High requirements for Forest Certification account for complex measures and high costs. It is, however, too early to see the entire spectrum of costs because some measures have not been fulfilled yet.

Investigation of the economic impact Forest Certification has had on the corporate level is an extremely complex task. The lack of transparency of business in Russia makes economic research very limited.

Creating as comprehensive a scheme as possible for classification of costs and benefits is crucial for objective cost-benefit analysis. Interviewing as many different workers in a company as possible is also helpful.

Knowledge of national forest legislation is required to distinguish requirements for Forest Certification.

The studies found that the ratio of direct and indirect costs in companies has changed over time and it is different in small, medium-sized and large companies. Certification process costs per ha increase with a decrease of forest area. Thus Forest Certification still remains very costly for small companies. The examination of indirect costs discovered general features of the formation of costs in Russian forest companies. Forest management improvement costs are often not filtered out from companies' usual investments in work processes.

It was found that forest companies in the north-west region do not obtain price premiums for certified timber, which is connected with disinterest in certification buyers (for example, Finland). However, it was indicated that it is possible for processors to obtain price premiums for final timber products (pulp, paper and furniture), usually for some share of delivery which meets high requirements and greatly depends on the country-importer. Further studies should be done on price premiums. Considering this, the studies revealed that Forest Certification for companies is more of a result of struggling for buyers, and for

competitiveness in the future. The representatives of the companies studied tend to see the improvement of forest management as allowing their companies to come nearer to world forest management standards.

The research has proved all three hypothesis stated at the beginning.

Firstly, it confirms that companies supporting Forest Certification in Russia are export-oriented companies, which indicates that FC initiative partly originates from foreign buyers.

Secondly, relying on respondents opinion and data obtained the thesis shows that indirect costs of FC in large companies are dominant over direct costs while in small forest companies the indirect cost make a minor share of the total FC costs.

Thirdly, it proves the overall opinion of respondents that FC benefits are low and direct benefits were mostly not justified. However, some indirect benefits were considered by some respondents.

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ABBREVIATIONS

AA	Annual Audit
AAF	Accreditation Administration Fee
AF&PA	American Forest and Paper Association
ATFS	American Tree Farm System
BCC	Biodiversity Conservation Centre
CAR	Corrective Action Requests
CoC	Chain-of-Custody Certification
CSI	Canadian Certification Initiative
FC	Forest Certification
FMA	Federal Ministry of Agriculture
FMO	Forest Management Organisation
FMU	Forest Management Unit
FSC	Forest Stewardship Council
HCVF	High Conservation Value Forests
MA (incl. PA)	Main Assessment including Pre-assessment
NGOs	Non-Governmental Organisations
NSMD	Non-State Market Driven
PEFC	Programme for Endorsement of Forest Certification Schemes
RNCFC	Russian National Forest Certification System
SA	Soil Association
SEU	Social Ecological Union
SFI	Sustainable Forestry Initiative
SFM	Sustainable Forest Management
WARP	Woodworkers Alliance for Rainforest Protection
WTO	World Trade Organization
WWF	Worldwide Fund for Nature

Summary in Russian

Лесная сертификация как нерыночный инструмент основательно изучена, в то время как её эффекты недостаточно широко исследованы. Особенно мало исследований было проведено по её экономическому эффекту. Настоящая работа проясняет затраты и положительные результаты сертификации лесоуправления на уровне предприятий. Для этого были проведены интервью с представителями 12 лесопромышленных компаний, сертифицированных по системе ЛПС (Лесного Попечительского Совета) и оперирующих на Северо-Западе Российской Федерации. Ряд вопросов был составлен в соответствии с классификацией затрат и положительных результатов, построенной на основе литературного обзора и материала, полученного из дискуссий с заинтересованными сторонами. Опросный лист, используемый во время интервью, включил в себя структурированные и свободные вопросы. 5 компаний предоставили более подробную информацию о затратах на сертификацию.

Автором была разработана схема классификации затрат и положительных результатов на уровне предприятия, которая может применяться в последующих исследованиях. Работа содержит сравнительные таблицы и диаграммы по затратам на проведение лесной сертификации, повышение уровня лесоуправления, а также сверхурочного времени между компаниями для двух периодов (основной оценки, включая переоценку, и ежегодного аудита).

Было установлено, что затраты на проведение лесной сертификации на гектар леса увеличиваются с уменьшением площади. Повышение уровня лесоуправления, который совсем недавно был очень далёк от международных стандартов, оказалось одним из самых примечательных изменений на уровне предприятия благодаря лесной сертификации.

Стремление улучшить лесоуправление в соответствии с требованиями сертификации увеличивает количество сложных задач (мероприятий) и, связанные с ними, затраты. Мероприятия, проводимые компанией для соответствия требованиям ЛПС, были описаны в тезисе. Было выявлено, что наиболее важными мероприятиями, абсолютно новыми для российского лесного бизнеса, являются: обеспечение средствами безопасности лесорубов, инвентаризация редких и исчезающих видов флоры и фауны, регистрация ООПТ (Особо Охраняемых Природных Территорий),

планирование на экосистемном уровне, а также минимизация эффекта лесозаготовительных операций на окружающую среду.

Исследования показали, что структура затрат по улучшению лесопромышленного управления сходна у компаний, арендующих площади леса близкого размера. Множество мероприятий, требуемых ЛПС, находятся в стадии развития, что допускает возможность увеличения затрат предприятия на сертификацию со временем.

В результате интервью было выявлено, что главной мотивацией компаний пройти лесную сертификацию является борьба за покупателей.

Полученные данные в настоящей работе расширяют знания по экономическому эффекту лесной сертификации и дают общее представление о формировании затрат и положительных результатов сертификации лесопромышленного управления для бизнеса Северо-западного региона России.

APPENDIX 1 Comparisons of the study results of Russia and Poland

Respondents' structures

Poland:

In the case of Poland inside stakeholders of forest management certification are private forest owners and the State Forest Directorates. Studies the same as the present studies have been conducted in the Polish State Forest Directorates. The state forests of the Polish State Treasury are managed by Regional Directorates subdivided into Districts and subordinate to General Directorates. The following officers were respondents from each District: a specialist in nature protection and FC, main accountant, forest managers and a marketing department worker.

Russia:

The Russian government does not assist the development of FSC certification while it is going on progressively and based on the initiative of business forest industry companies operating in leased forest areas owned by the State (in lespromhoz leadership). As it happens with the introduction of capitalisation, forest industry companies logging timber have become involved in forestry proceedings. Thereby those timber merchants who have recently been very far from forestry management over a long period of time become concerned particularly about Forest Certification. An exception is when shares of lespromhoz with its techniques and other properties are bought by a forest industry company. In this case being a part of lespromhoz staff continues and its forestry management, including logging, is certified. Such pattern predetermined the composition of respondents. At companies' own initiatives only one person from each company participated in the interview. Usually they were representative timber merchants implementing economic and leadership activities and a forest manager (one case occurred) when a lespromhoz was certified.

General opinion about Forest Certification

Poland:

The order to undergo Forest Certification came from the regional level. Forest Districts should have fulfilled the certification requirements. The studies disclosed that in contrast to regional directorates' officers, district-level officers did not always know what to answer. Specifically, comments to questions weren't provided by district officers. According to one respondent's opinion, *"Officially nobody talks negatively about certification in Poland, and the real attitude is hidden."*

FSC principles and indicators according to which the management assessment is made are perceived as too international and not really appropriate for Poland. It was found that respondents indicate certification as a way of gaining large amounts of money for certifying companies. In the respondents' point of view the direct costs of certification are vast.

The highest percentage of agreement was for the statement that certification is mainly created by environmental groups. It is used by the forest industry mostly as a tool to disprove some attacks and criticism from environmental organisations but it is not treated as an economic tool either—certificate doesn't contribute to higher prices for products or as a way to add extra value to products (to improve its competitiveness).

Russia:

The initial comments of respondents before they went through the survey were as following: *“There is no economic efficiency in Forest Certification. We do not have any benefits.”*

The survey revealed that the majority of respondents tended to agree that it is mainly created by environmental groups; however, the role of NGOs is perceived mostly as promoters of FSC certification. At the same time certain buyers' demands for certification from their suppliers was found by respondents as more reasonable. As opposed to Poland the highest percentage of agreement was for the statement that Forest Certification improves the quality of forest management. The respondents link this improvement in forest management to increasing ecological responsibilities, which has an effect on the environment and sets documentation in order. One of the comments was, *“At least, nature has benefited from certification.”*

Reasons for certification of companies

The studies disclosed that in both countries the decision to undergo Forest Certification was accompanied by several reasons. Some of them were more crucial.

Poland:

The European certification trend had influenced the decision taken by the General Directorate with the result that 100% of state forests in Poland have been certified. On the other hand the timber industry's buyers of state forest timber requested certificates and even granted payments for certification costs. “Desires for public acceptance and market strength were the primary factors facilitating the introduction of certification to Polish forestry” (Paschalis-Jakubowicz, P. 2006).

Russia:

All the interviewed companies were exporters of timber and/or timber products (no less than 80% of total sales—export trade). The motive behind Forest Certification in Russia at the moment is foreign partners buying timber from Russian suppliers. Mostly it was mentioned during the interview that the main reason for a company's certification is securing contracts and the image of an eco-responsible company, which is an advantage for securing a steady trade position. A representative of a large company stressed that *“There is a big struggle for buyers among companies.”*

Compliance with international standards of forest management and market access were also mentioned frequently.

Formation of Forest Certification costs**Poland:**

The first forest management certificate of state forests was obtained by the Gdańsk Regional Directorate in 1996. At the beginning auditing costs were covered by the timber industry and timber buyers (e.g. Seeger Dach, Poltarex). At that time the costs incurred by the Directorate for the main assessment were less compared to the subsequent annual costs. All of the certification costs which the Regional Directorates had to discharge were always divided equally among forest districts. The results did not show any trend in certification process costs calculated per ha between Directorates; however, it was certified by the same certifying body. Considerable costs are usually recorded in main assessment years for five-year periods.

While direct costs are relatively available and recorded, indirect costs are not available by any recorded data. Companies haven't implemented any important changes in forest management due to certification which could generate additional costs. In the Białystok Regional Directorate according to my respondents no areas were excluded from commercial harvesting due to FC requirements. Białowieża National Park and many reserves in Białowieża Forest exist in the Directorate area. Because of this fact the amount of areas set aside was always high. The Poznań Regional Directorate could only give rough estimations about the loss dimension caused by areas set aside. The Poznań Directorate was used as an example for making rough estimations of monetary losses due to areas set aside, which rose from the level of 2% to 5%. Income from timber selling was measured for the Directorate forest area, which, after excluding areas set aside, changed from 2% to 5.01%. The difference in income was equal to almost 5 mln EUR.

Russia:

The studies showed a lack of willingness on the part of forest industry companies to provide financial information, particularly in discovering Forest Certification costs. 6 of 12 companies agreed to give some financial data and discussed precisely how costs are formed. It was ascertained that the most considerable costs are connected with lump-sum costs in the first year or two of 5-year periods. It includes both certification process costs (main assessment sometimes with pre-assessment before) and investments into forest management improvement required by standards. Next, annual costs are gradually reduced. Increases of costs with decreases of certified area are visible although they are in the same groups of companies (certified by the same body).

The formation of forest management improvement costs proceeds similarly in companies of the same size. The interview showed that Forest Certification has brought many changes in the forest management practices of Russian forest industry companies. It requires complex measures, some of which are still underway in practice and additional costs might also arise. While large forest industry companies are somewhat prepared for considerable investments in management, small logging businesses tend to not want to risk investing money. This position is mainly stipulated by the uncertainty in the future of Russia's forest industry, which usually reduces the ability of small-scale companies. The interview showed that a representative of a large forest industry company stressed that tangible costs are particularly connected with investments in forest management required by standards, while a respondent from a small logging business pointed out forest operation costs which are unjustified for the company. It was found that the most considerable costs are connected with providing loggers with safety equipment, orders for new management plans including FSC requirements, and the involvement of experts in conducting expertises of the social and environmental impacts of a business's activity. A respondent of a large company mentioned that all the forest management improvement costs for the first two-year period amounted to 446,038 euros and included the full analysis of forest management practice.

In a contrast to the Polish Regional Directorates none of the interviewed respondents saw any costs connected with setting aside areas for protection. The question of retaining standing timber for biodiversity remains painful under the non-compliance with the requirements of previous forest legislation. Retained ecologically valuable trees very often have little value commercially (these are overripe, decomposed, damaged trees). Retention of these trees saves costs on their logging. Also in many cases companies are not able to mas-

ter a volume due to inaccessibility under the bad weather conditions of the felling areas, which leads to unavoidable loss. And required areas for protection are often composed of such inaccessible estates.

Forest Certification benefits

Poland:

The statement with the highest level of agreement was possible access to Western markets due to Forest Certification. And this benefit is not applicable directly for state forests, but for its customers—timber processors and (at the same) exporters. Lack of agreement was found in case of statements about improved operational efficiency or price premiums.

Forest district representatives were less enthusiastic. It seems obvious that certification would only bring about positive changes or management would be improved—suggesting that management was previously carried out improperly—yet foresters could not agree with such statement.

In response to the question of whether buyers show any interest in certified timber, most respondents stated that there was no interest (75%) or very low interest (25%) in labelled timber visible among contractors. No additional sale caused by certification was observed in most of studied cases. “‘Joining’ an internationally recognised organisation—FSC,” and “the process let us see our weak points” are two expressions of the respondents concerning the benefits they see.

Russia:

There was a high percentage of respondents’ agreement with statements about the main outcome of Forest Certification being improved operational efficiency, securing the demand for timber. A majority of respondents agreed with improved corporate image towards external stakeholders and ensuring the legality of harvested timber. The majority of respondents disagreed that certification results in positive price premiums for certified timber. All respondents confirmed that they did not obtain any price premiums for certified timber. It can be explained by the huge delivery to Finland, whose interest in Forest Certification is considered to be relatively low. The possibility to get price premiums for timber from Japanese buyers was only mentioned by the representative of one company. More studies are needed to reach a conclusion about positive price premiums.

75% of respondents (9 respondents of 12) evaluated their interest in certified production as rather high. Only one respondent had noticed that buyers had no interest.

Improvement of work safety, reduction the ecological fines, the appearance of the so-called “round table” which allows for widening the range of professional knowledge and effective

contacts, and order in documentation due to Forest Certification are the benefits the respondents presented.

APPENDIX 2 The interview form

Survey on economical effect of Forest Management Certification

Dear representatives of forestry enterprises

This survey is intended for forestry enterprises passed Forest Management Certification on FSC system. The survey aims to clarify costs and benefits that enterprises incur in connection to forest certification. The survey is a part of an international research project conducted between universities in Poland, Russia and Sweden.

The questionnaire consists of four parts. The first part concerns objectives and expectations of enterprise regarding forest certification. The second part regards direct auditing costs and indirect costs that enterprise incur to bring up the existing level of forest management to FSC standards. The third part examines if the expectations towards forest certification became fulfilled and what are the outcomes if its implementation. Finally, in the fourth part there are questions which refer to some specific information about your company.

Please, note that the information you provide are confidential and personal information will not be exposed in survey results.

If you have any questions about survey, please, consult:

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BASIC ATTITUDES REGARDING FOREST CERTIFICATION – part 1

1. What is your opinion about the following statements? (Mark appropriate cells with an “x” in the table below):

Completely disagree 0 1 2 3 4 completely agree

	1	2	3	4
Demands for certification are mainly created by environmental groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The majority of consumers pay attention to the origin of timber	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry use certified wood only if the consumer pays a higher price for the product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Timber certification enhance the competitiveness of wood products over other materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forest certification is needed to respond to the criticism of the forest industry by environmental groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forest certification is relevant only for eco- market niches, not for forest products in general	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forest certification procedure improves the quality of forest management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forest certification is the only way to ensure supply of public, non-wood utilities of the forests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. What have been the main reasons for why did your company choose to be certified?

3. Do you advertise to your customers that you are certified? (Mark appropriate cells with an “x” below):

- Да*
 Нем

COSTS OF CERTIFICATION – part 2

4. What is direct auditing cost? (Write the costs [EUR/ha] in an appropriate fields in the table below)

<i>year 0</i>	<i>year 1</i>	<i>year 2</i>	<i>year 3</i>	<i>year 4</i>	<i>year 5</i>	<i>year 6</i>
pre-assessment	main assessment	annual assessment	annual assessment	annual assessment	annual assessment	re-assessment

Comments:

Besides direct costs connecting with audit FC requires indirect costs needed for transformation active forest management system to level of FSC standards. It is important to distinguish usual enterprise investments from costs arising during certification process. Understanding the FC as an independent process on enterprise with own costs and benefits allows assessing its effect objectively.

To evaluate FC indirect expenditures is necessary to look at FSC principles and indicators which mainly generate those costs.

Further you will find questions-tables of feasible additional FC costs caused by arrangements on forest management improvement. These costs are classified relative to ten principles of FSC. You are asked to mark only those that take place on your enterprise and undoubtedly related to FC.

In the questions 5-14, please, choose the arrangements and distinguish costs which your company has to spend only because of certification from these which are the part of usual forest management costs.

[Please, to fill the tables below pay attention to the costs complexity for the arrangements. We ask you to define at the beginning what kind of cost: monetary or social (extra working time) or both of them does the arrangement require. The monetary cost contains costs which are connected with monetary loss due to FC requirements such as environment restrictions (set a siding the area for protection, retaining living trees,...) and direct monetary costs due to FC requirements like purchase new techniques, save equipment and operations excluding salary and social cost like business trips, preparing special meetings.]

5. COMPLIANCE WITH LAWS AND FSC PRINCIPLES

Arrangement	No	Is there any special unit who conducts the operation? If YES, please specify If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?	Extra time needed for operation if it's internal managed [hours/year] Average salary of worker take care of the arrangements [Euro]	Monetary loss due to FC requirements [Euro]	Monetary costs due to FC requirements and operations excluding salary and social cost [Euro]
1. Gaining of information about active international conventions, organization the seminars with staff.	<input type="checkbox"/>				
2. Elaborating the list of non-compliance active legislation with FSC principles (consultation between FS certifier,	<input type="checkbox"/>				

and FMO)					
3. Making a public written statement of commitment to adhere to the FSC Principles and Criteria	<input type="checkbox"/>				

6. TENURE AND USE RIGHTS AND RESPONSIBILITIES

Arrangement	No	Is there any special unit who conducts the operation? If YES, please specify If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?	Extra time needed for operation if it's internal managed [hours/year] Average salary of worker take care of the arrangements [Euro]	Monetary loss due to FC requirements [Euro]	Monetary costs due to FC requirements and operations excluding salary and social cost [Euro]
1. Identification a local communities' legal or customary use rights (both timber and non-timber), meeting with communities	<input type="checkbox"/>				
2. Preparation and implementation a documented procedure for resolution of disputes regarding land use rights	<input type="checkbox"/>				

Are there any indigenous people living on or close by forest area?

IF YES go to the next question

IF NO go to question 12

7. INDIGENOUS PEOPLES' RIGHTS

In Poland it is not applicable since Poles are native people on homeland

Arrangement	No	Is there any special unit who conducts the operation? If YES, please specify	Extra time needed for operation if it's internal managed [hours/year]	Monetary loss due to FC requirements	Monetary costs due to FC requirements and
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		If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?	Average salary of worker take care of the arrangements [Euro]	[Euro]	operations excluding salary and social cost [Euro]
1. Identification indigenous communities (IC) within the forest area (making a list)	<input type="checkbox"/>				

Arrangement	No	Is there any special unit who conducts the operation? If YES, please specify If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?	Extra time needed for operation if it's internal managed [hours/year] Average salary of worker take care of the arrangements [Euro]	Monetary loss due to FC requirements [Euro]	Monetary costs due to FC requirements and operations excluding salary and social cost [Euro]
2. Meeting with IC for elucidation their use rights	<input type="checkbox"/>				
3. Preparation written procedures for provision of fair compensation in case forest management has damaged the property or resources of indigenous people	<input type="checkbox"/>				
4. Identification the sites of special cultural, ecological, economical and religious significance and accompanying	<input type="checkbox"/>				

costs (marking the sites in the field, including in the maps)					
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8. COMMUNITY RELATIONS AND WORKER'S RIGHTS

Arrangement	No	Is there any special unit who conducts the operation? If YES, please specify If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?	Extra time needed for operation if it's internal managed [hours/year] Average salary of worker take care of the arrangements [Euro]	Monetary loss due to FC requirements [Euro]	Monetary costs due to FC requirements and operations excluding salary and social cost [Euro]
1. Providing chain saw operator with use and safety equipment: a) helmet with eye and ear protection b) high visibility vest/jacket c) safety boots d) cut-proof trousers and first	<input type="checkbox"/>				
2. Posting - the warning signs - fire extinguishers - medicine chests at access roads to sites with ongoing logging	<input type="checkbox"/>				
3. Purchase and setting on sites radio and movable communication	<input type="checkbox"/>				

4. Expertise of environment impact of forest management on residential population	<input type="checkbox"/>				
5. Development the order of loss compensation damaged to residential population in compliance with low	<input type="checkbox"/>				
6. Organization the seminars with participations with stakeholders	<input type="checkbox"/>				

9. BENEFITS FROM THE FOREST

Arrangement	No	Is there any special unit who conducts the operation? If YES, please specify If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?	Extra time needed for operation if it's internal managed [hours/year] Average salary of worker take care of the arrangements [Euro]	Monetary loss due to FC requirements [Euro]	Monetary costs due to FC requirements and operations excluding salary and social cost [Euro]
1.Improvement the harvesting techniques to avoid log damage and damage to remaining trees	<input type="checkbox"/>				
2. Minimization of waste generated through harvesting operations, on-site processing and extraction	<input type="checkbox"/>				

10. ENVIRONMENTAL IMPACT

Arrangement	No	Is there any special unit who conducts the operation? If YES, please specify If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?	Extra time needed for operation if it's internal managed [hours/year] Average salary of worker take care of the arrangements [Euro]	Monetary loss due to FC requirements [Euro]	Monetary costs due to FC requirements and operations excluding salary and social cost [Euro]
1. Preparation the documentation on evaluating monitor system to minimize the impact of site disturbing operations	<input type="checkbox"/>				
2. Training workers the methods of logging according to sustainable forest management	<input type="checkbox"/>				

Arrangement	No	Is there any special unit who conducts the operation? If YES, please specify If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?	Extra time needed for operation if it's internal managed [hours/year] Average salary of worker take care of the arrangements [Euro]	Monetary loss due to FC requirements [Euro]	Monetary costs due to FC requirements and operations excluding salary and social cost [Euro]
3. Identification, record of rare and endangered species of flora and fauna present within the forest area and, mapping their habitats, consultations with NGOs	<input type="checkbox"/>				

4. Training of workers the handling with habitats of rare and endangered species	<input type="checkbox"/>				
5. Identification representative samples of existing ecosystems, marking in maps and on site; consultations with authorities, NGOs and other stakeholders.	<input type="checkbox"/>				
6. Retaining the following elements of forest ecosystem: -old and hollow trees, - standing deadwood and snags -seed trees of commercial valuable species	<input type="checkbox"/>				
7. Protection identified representative samples of existing ecosystems on a (minimum of 5%)	<input type="checkbox"/>				

11. MANAGEMENT PLAN

Arrangement	No	Is there any special unit who conducts the operation? If YES, please specify	Extra time needed for operation if it's internal managed [hours/year]	Monetary loss due to FC requirements [Euro]	Monetary costs due to FC requirements and operations excluding
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		If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?	Average salary of worker take care of the arrangements [Euro]		salary and social cost [Euro]
1. Gaining and analysis of non-timber production, mapping a location of the products	<input type="checkbox"/>				
2. Developing special documentation describing plans for identification and protection of rare, threatened and endangered species.	<input type="checkbox"/>				
3. Making a public summary of the primary elements of management plan (publishing in internet and posting in local communities centres)	<input type="checkbox"/>				

12. MONITORING AND ASSESSMENT

Arrangement	No	Is there any special unit who conducts the operation? If YES, please specify If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?	Extra time needed for operation if it's internal managed [hours/year] Average salary of worker take care of the arrangements [Euro]	Monetary loss due to FC requirements [Euro]	Monetary costs due to FC requirements and operations excluding salary and social cost [Euro]
1. Developing special separation and registration	<input type="checkbox"/>				

systems including storing places for certified and non-certified timber					
Arrangement	No	<p>Is there any special unit who conducts the operation? If YES, please specify</p> <p>If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?</p>	<p>Extra time needed for operation if it's internal managed [hours/year]</p> <p>Average salary of worker take care of the arrangements [Euro]</p>	<p>Monetary loss due to FC requirements [Euro]</p>	<p>Monetary costs due to FC requirements and operations excluding salary and social cost [Euro]</p>
2. Marking certified and non-certified timber	<input type="checkbox"/>				
3. Training staff responsible for registration system of certified and non-certified timber	<input type="checkbox"/>				

Do you have a High Conservation Value Forests on leased forest area?

IF YES go to the next question

IF NO go to the question 17

13. MAINTENANCE OF HIGH CONSERVATION VALUE FORESTS (HCVF)

Arrangement	No	<p>Is there any special unit who conducts the operation? If YES, please specify</p> <p>If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?</p>	<p>Extra time needed for operation if it's internal managed [hours/year]</p> <p>Average salary of worker take care of the arrangements [Euro]</p>	<p>Monetary loss due to FC requirements [Euro]</p>	<p>Monetary costs due to FC requirements and operations excluding salary and social cost [Euro]</p>
1. Consultation with NGOs to identify high conservation value forests	<input type="checkbox"/>				
	<input type="checkbox"/>				

2. Developing the way of protection the HCVF					
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Do you have a plantations of fast growing species on leased forest area?

IF YES go the next question

IF NO go to the question 18

14. PLANTATIONS

It is not applicable in Poland

Arrangement	No	Is there any special unit who conducts the operation? If YES, please specify If the outsourcing company takes care about the arrangements could you specify the extra cost due to stricter FC requirements?	Extra time needed for operation if it's internal managed [hours/year] Average salary of worker take care of the arrangements [Euro]	Monetary loss due to FC requirements [Euro]	Monetary costs due to FC requirements and operations excluding salary and social cost [Euro]
1. Conducting ecological expertise and monitoring assessment the impact of plantations on ecosystems and biotopes	<input type="checkbox"/>				

CERTIFICATION BENEFITS – part 3

15. What are the main outcomes after certifying your company? (Mark appropriate cells with an “x” in the table below):

no outcome 0 1 2 3 4 very significant outcome

	1	2	3	4
precondition to get long-term loan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
advantage to get long-term loan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
desirable rate of loan from famous investment banks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
better access to markets (traders trade only certified wood)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
positive price premiums: higher prices for certified timber	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
improved enterprise image towards external stakeholders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
better services of sale due to certification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
securing a demand for timber	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
improved operational efficiency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ensure the legality of harvested wood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Has FC implementation met all your expectations? (Mark appropriate cell with an “x” in the table below):

	1	2	3	4	
Absolutely not	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Definitely yes

If no, than, state please which are missed?

17. To which countries and companies did you start to export timber due to certification?

18. How big % of the total export/ sales has been secured due to FC? (%/m3)

19. Have you noticed that FC helps to increase the amount of buyers from existing markets?

- Да*
 Нем

If yes, how much in % the surplus of buyers have you acquired?

20. Have your buyers shown higher interest in certified products as compared to not certified products? (Mark appropriate cells with an “x” in the table below):

	1	2	3	4	
No interest at all	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strong interest

21. Could you specify what kind of buyers is mostly interested in certified products:

- foreign companies
- domestic companies
- producers of certain items
- final consumers

22. Have you got any additional sales of timber because of FC?

- Yes
- No

23. How much in % the sale surplus amount to due to certification? (% , m3)

24. Could you provide some information about the price premium for certified products

in _____ year?

Please, fill the table below.

Buyer (Country)	Volume of certified timber (m ³) delivery	Share of the contracts specified price premium for certified timber (%)	Rate of price premium for the m ³ of certified timber (€)
<i>Comments:</i>			

SPECIFICATION QUESTIONS – part 4

1. What kind of forest owner are you?

- forest holder
 forest leaseholder

26. What forest area has been certified till now?

ha % of total area

27. Please give the following information about your company.

- Localization in a country the company's main headquarter
- sales: m³/tones
- total export share: %
- main directions of export:
 - ✓ Nordic Countries (Finland, Norway, Sweden) %
 - ✓ other EU countries %
 - ✓ Eastern Europe ... %
 - ✓ American boreal/temperate %
 - ✓ tropical %

Thank you very much for your willingness to participate in the survey!