



universität
wien

MAGISTERARBEIT

Titel der Magisterarbeit

„Comparison of grace periods provided in the patent laws of selected countries from an economic point of view”

verfasst von

Stephan Haas, Bakk. rer. soc. oec.

angestrebter akademischer Grad

Magister der Sozial- und Wirtschaftswissenschaften
(Mag. rer. soc. oec.)

Wien, 2014

Studienkennzahl lt. Studienblatt:
Studienrichtung lt. Studienblatt:
Betreut von:

A 066 913
Magisterstudium Volkswirtschaftslehre
ao. Univ.-Prof. Mag. Dr. Wolfgang Weigel

CONTENTS

CONTENTS	II
FIGURES	IV
TABLES	V
LIST OF ABBREVIATIONS.....	VII
1. Introduction.....	1
2. Background.....	3
3. Presentation of the problem	8
4. Methodology	10
5. The grace period in selected legislations	11
5.1. Europe	12
5.1.1. General overview	12
5.1.2. Grace period in the EPC	13
5.1.3. Development of the grace period in Europe	14
5.2. USA	14
5.2.1. General overview	14
5.2.2. Grace period in the USA	14
5.2.3. Development of the grace period in the USA.....	16
5.3. Japan	17
5.3.1. General overview	17
5.3.2. Grace period in Japan	17
5.3.3. Development of the grace period in Japan.....	19
5.4. Grace periods in other countries	19
5.4.1. Austria	20
5.4.2. Germany.....	20
5.4.3. China.....	21
5.4.4. South Korea	21
5.5. Overview & international relations	22
6. Effects of the grace period.....	23
6.1. General effects in theory	24
6.1.1. No general grace period	24
6.1.2. 6-month/12-month general grace period.....	26
6.1.3. Comparison.....	28

6.2. Europe	31
6.2.1. Consultation of European users.....	31
6.2.2. Survey in Germany.....	40
6.2.3. Further opinions	42
6.2.4. Summary of the situation in Europe.....	43
6.3. USA	44
6.3.1. Consultation with users in the USA.....	44
6.3.2. Further opinions	56
6.3.3. Summary of the situation in the USA.....	57
6.4. Japan	59
6.4.1. Study on grace period by the JPO	59
6.4.2. Consultation with users in Japan.....	65
6.4.3. Summary of the situation in Japan.....	71
7. Analysis.....	72
8. Conclusion & suggestions.....	75
9. Outlook.....	79
10. Bibliography.....	80
11. Annex.....	82
11.1. Abstract.....	82
11.2. German abstract (Deutsche Zusammenfassung)	84
11.3. Lebenslauf Stephan Haas	87

FIGURES

Figure 1: Schema No Grace Period (Own representation)	25
Figure 2: Schema Grace Period (Own representation)	27
Figure 3: Development of applications requesting grace period – Japan (JPO 2012)	60

TABLES

Table 1: Overview grace periods (Own representation)	22
Table 2: Reasons for early publications – Europe (based on EPO 2013)	33
Table 3: Strategies after unintentional early publications – Europe (based on EPO 2013)....	33
Table 4: Level of understanding – Europe (based on EPO 2013)	34
Table 5: Support of grace period per affiliation – Europe (based on EPO 2013)	36
Table 6: Goals of a grace period – Europe (based on EPO 2013)	37
Table 7: Impacts of a grace period – Europe (based on EPO 2013)	37
Table 8: Elements to be harmonized – Europe (based on EPO 2013).....	39
Table 9: Level of understanding – USA (based on USPTO 2013)	45
Table 10: Need to file after disclosure – region – USA (based on USPTO 2013).....	45
Table 11: Need to file after disclosure – technological area – USA (based on USPTO 2013)	46
Table 12: Strategies for early disclosure – USA (based on USPTO 2013).....	46
Table 13: Past reliance on grace period – USA (based on USPTO 2013)	47
Table 14: Unavailability of grace period as factor in business/research decisions – USA (based on USPTO 2013)	48
Table 15: Patent filed in one country but not in another, due to different grace periods – USA (based on USPTO 2013)	48
Table 16: Reliance on grace period has been important factor for success of business/research – USA (based on USPTO 2013)	49
Table 17: Reliance on the grace period by another had negative impacts – region – USA (based on USPTO 2013)	49
Table 18: Reliance on the grace period by another had negative impacts – affiliation – USA (based on USPTO 2013)	50
Table 19: Is grace period an important feature of patent law – region – USA (based on USPTO 2013).....	50
Table 20: Is grace period an important feature of patent law – affiliation – USA (based on USPTO 2013).....	51
Table 21: Are you in favour of a grace period? – region – USA (based on USPTO 2013)	51
Table 22: Are you in favour of a grace period? – affiliation – USA (based on USPTO 2013)	52
Table 23: Should the grace period be internationally harmonized? – region – USA (based on USPTO 2013).....	52
Table 24: Mandatory declarations for a grace period – region – USA (based on USPTO 2013).....	53
Table 25: Preferred length of a grace period – region – USA (based on USPTO 2013).....	53
Table 26: Preferred length of a grace period – affiliation – USA (based on USPTO 2013)....	54
Table 27: Preferred date from which the grace period should be computed – region – USA (based on USPTO 2013)	55
Table 28: Preferred date from which the grace period should be computed – affiliation – USA (based on USPTO 2013)	55
Table 29: Harmonization of rules on scope and availability of prior user rights – region – USA (based on USPTO 2013)	56
Table 30: Applications requesting grace period per type of applicant – Japan (based on JPO 2012).....	61
Table 31: Type of disclosure per type of applicant – Japan (based on JPO 2012).....	62

Table 32: Opinion about revision – Japan (based on JPO 2012)	63
Table 33: In favor of grace period – Japan (based on JPO 2013)	66
Table 34: Perceptions of grace period – Japan (based on JPO 2013)	66
Table 35: Frequency grace period – Japan (based on JPO 2013)	67

LIST OF ABBREVIATIONS

EPC	European Patent Convention
EPO	European Patent Office
EPOrg	European Patent Organisation
EU	European Union
JPA	Japanese Patent Act
JPO	Japan Patent Office
USPTO	United States Patent and Trademark Office

1. Introduction

Since the early days of the humankind, technological development has been an outstanding important topic. Inventions, especially now considered basic ones like the wheel or the way to create fire, have enabled the humans to make their life easier and more enjoyable. The level of technology developed very fast, particularly in the last years. Even some inventions are not directly made to make the life better, technological development can be considered to be a topic, which is broadly recognized as something valuable.

In economics, technological progress is an important issue, which has e.g. been analysed by Schumpeter (Schumpeter 1939), who divided the technological progress in three different, consecutive stages: invention, innovation and diffusion. The first stage, invention, describes the process of creating a new product or a new process. Subsequently, an innovation can be made based on an invention, wherein the invention is applied, e.g. by introducing a new product in a new market or by using a new production process. The last stage, diffusion, shows the spreading of innovations in the markets, e.g. by reproducing. This model shows that inventions are the basis for technological progress. Therefore, the creation of inventions should be stimulated by governments and can be patented, in contrast to innovations.

As a consequence, most countries have developed systems to support the creation of inventions, which are established in the form of patent systems. Such systems should, on the one hand, allow an inventor to obtain a monopoly position, which is limited in terms of time. This monopoly position should be a reward for the inventor, as he has contributed to the technological development of the humankind. Additionally, it should provide an incentive to potential inventors to use resources for research and development.

On the other hand, patent systems should be a tool to provide information about the latest technological developments to the public. It can be considered as a compensation for the given monopoly position, that the protected invention has to be published in such a way that a person skilled in the art is able to reproduce the invention, with the help of the description provided together with the published patent.

Such an information duty helps to avoid wasting resources to search for solutions, which have already been invented.

Almost every country all over the world provides a patent law system. Even some rules are harmonized between the various countries; there exist many fields, which are different between the countries. One of these is the possibility of providing a grace period. Such a grace period allows a patent applicant to publish an invention before he files a patent application for this invention and to file a patent application afterwards, without negative legal effects for the applicant. If there is no grace period available, such a procedure has the effect that there cannot be a patent obtained for the invention, because one of the criteria for getting a granted patent is that the invention has not been published before the application date of the patent application.

In many areas, especially in academic research, it is very important to publish new research results as early as possible due to several reasons, e.g. to avoid that other researchers in the same field publish similar results earlier or because the sponsors of the research expect results. For these cases, problems occur when they have to wait with publishing their results because the respective patent application cannot be filed immediately. This can have several reasons, e.g. the invention needs further tests and research before filing a patent application. Further, a well-considered and comprehensive patent application needs some time to be prepared. As the invention cannot be published before the patent application is filed, a delay between the date of the invention and the publication of the invention arises, which might be critical in some cases.

Additionally, considering the above mentioned task of a patent system to inform the public about new inventions, it might be advantageous to allow early publications in the framework of the possibility of a grace period. Such publications would be available to the public even before the respective patent application is filed and the thereby disclosed information becomes a collective good. In most cases, such inventions are disclosed months after the respective application dates. As a result, in order to minimize the time between the date of the invention and the publication date of this invention, a grace period might be beneficial.

This paper aims at providing a comprehensive discussion about the economic effects of grace periods compared to the economic effects of not providing the possibility of a grace period. As an outcome, a proposal for an internationally uniform regulation of grace periods, based on economic effects, is presented.

In order to reach the above mentioned goals, the legal situation regarding the provision of grace periods in selected countries is presented and analysed. Especially the different effects of different legal systems are pointed out and discussed from an economic point of view, meaning that the efficiency due to several criteria of providing a grace period vs. providing no grace period is looked at.

2. Background

Patents are available for technical inventions. The inventor files a patent application, which includes a description of the invention, at a patent office. This patent office assesses the application according to several substantive and formal criteria and based on that, the patent office decides if the patent fulfills these requirements and can therefore be granted. A granted patent gives the owner of the patent the right to exclude others from using his invention, such that he has a monopoly on this invention. This monopoly is temporary and usually lasts for a maximum of 20 years. If the patent application does not fulfill all of the requirements, then it is rejected.

Utility models are similar to patents and have the same scope of protecting technical inventions. In contrast to patents, the maximum duration of registered utility models is shorter, usually 10 years. Advantages of utility models are that they are registered comparably fast, because no examination and in some legislations no prior art search are conducted, and the official fees are lower. Additionally, some patent laws provide a grace period for utility models, but not for patents. Disadvantages of utility models compared to patents are the shorter maximum duration and the higher risk of being declared as void during a nullity procedure due to the missing legitimization of an examination procedure.

In order to obtain a patent for an invention, three main substantive criteria, next to many formal criteria, have to be fulfilled. These substantive criteria are novelty,

inventiveness and industrial application. Almost all patent systems all over the world, in particular all patent systems installed in economical important countries require the fulfillment of these criteria. For assessing these requirements, it is important to define the relevant state of the art.

The state of the art is everything that has been published before the date of filing a patent application. Publications considered as state of the art include written publications, e.g. patent documents or academic article, oral publications, e.g. presentations or discussions, and any other form of disclosures, e.g. by use.

The requirement of novelty requires that the invention is new compared to the state of the art. This means that it is necessary that the invention has not been made (and published) before by someone else. It should be avoided that patents are granted for already known devices and methods, which are maybe already used by other parties.

Further, it is required that the invention is inventive over the state of the art. Therefore, it is necessary that it should not be obvious for an ordinary person skilled in the art to make this invention, but a so called inventive step compared to the state of the art is necessary to obtain a granted patent. This rule should avoid that patents are granted which are just claiming normal developments in the respective technical fields and as a result, such patents would prevent these developments.

The last substantive requirement is the industrial application. It is necessary that an invention can be made or used in any kind of industry. This requirement should avoid patents on basic inventions, which cannot directly be used for industrial applications, but are suitable to block other parties from developments in this field.

As mentioned above, the state of the art is formed by everything that has been published before the filing date of a patent application. Therefore, this also includes publications made by the inventor or the applicant. As a result, if someone invents something and he publishes the invention before the respective patent application is filed, the publication is considered as state of the art. During the examination of the patent application, it can happen that the invention that should be patented does not

have any additional features compared to the publication of the applicant. As a result, the patent application has to be rejected by the patent office due to a lack of novelty.

There are several reasons for inventors to publish an invention before a respective patent application is filed, wherein a few of these reasons are shortly presented here. First, it needs some time to create a comprehensive and suitable patent application. Sometimes, inventors have to publish their invention before that has been done, e.g. researchers that want to be faster than other researchers in the same field. Second, patent applications require investments, including costs for the fees of the patent office, costs for a patent attorney who writes the patent application and time of the inventor for creating such an application. If an inventor is not sure if the invention is worth such costs and efforts, he might start to sell it first, which usually includes publishing the invention. Later he decides for or against filing a patent application, based on the feedback of the customers. Third, it happens that an inventor publishes an invention unintentionally, because he does not know about the rules in patent law or because of other reasons.

As a result, it can happen that useful and patentable inventions are not patented because of an early publication, such that the economic goal of a patent system, to reward an inventor for an invention, is not reached. In order to avoid such incidents, some countries, like the USA or Japan, provide so-called grace periods, which pardon such early publications by the inventor or the applicant in a way that these disclosures are not considered as state of the art during the examination of the novelty of the patent application. Such a grace period is considered to be a general grace period, as it is available to everyone, if he follows the specific formal rules of the patent law. Nonetheless, the early publication can be considered during the examination of the inventiveness.

In contrast to such a general grace period, many countries just provide very narrow grace periods, which are usually limited to cases where someone else than the inventor abusively publishes the invention. Due to historic reasons, many patent systems additionally provide grace periods for publications at specific international fairs.

The main reason for providing a general grace period is that especially individual inventors and small companies, which are not experienced with patent law, and researchers, which need to publish very quickly, should be protected from losing the right for a patent due to their own early publications. On the one hand, such a rule implies a way to be “fair” to inexperienced users of patent systems, on the other hand it should bring economic benefit to enable more patents to be granted.

In contrast to that, there are also several reasons, which speak against general grace periods. The main one is the protection of third parties. If a general grace period is allowed, other parties cannot be sure if a patent application for a published invention will be filed in the future. In a country where just a very narrow grace period is allowed, it is clear that the patent application has to be filed before the invention is published.

Within the countries providing general grace periods, many different forms are known and possible. The main topics regarding the detailed design of a general grace period are provided briefly.

Duration

One important factor is the duration of the grace period. This describes the longest possible time between the first publication and the filing of the respective patent application. This duration is calculated backwards, starting from the filing date of the patent application. In most countries this duration is six months (e.g. Japan) or 12 months (e.g. USA). If the patent application is filed such that the earliest publication is older than the available duration, then it is not covered by the grace period exception and therefore considered as state of the art.

Date

Another important topic is the date from which the grace period is calculated. Basically there are two different possibilities, which provide similar results for the first application, but different results for the subsequent applications. In the first case, the grace period is always calculated from the filing date of the patent application. This

means that all patent applications have to be done within the duration of the grace period. In the second case, the grace period is calculated from the application date or the priority date. This means that the patent application has to be filed within the grace period, but all other subsequent patent applications are not limited by the grace period, but just to deadlines concerning the priority right of the first application. As can be seen, the scope of the first case is narrower than the scope of the second case.

Mode of disclosure

Another important issue is the definition of the allowed mode of disclosure, which is pardoned when using a grace period. In the broadest possible cases, each type of disclosure is covered, including written publications, presentations, uses and any other way of publishing an invention to the public. In narrower systems, these disclosures are limited to specific ways, e.g. disclosures at special fairs or in academic journals.

Scope

The scope of a grace period determines which roots of a publication should be considered. Typical rules include publications by the applicant or the inventor or publications that are made by others, but are based on the applicant or the inventor. Broader regulations may also include other publications, e.g. from third parties which are based on independent research. Narrower regulations might e.g. just aim at publications that can be rooted back to the applicant or inventor and which are made based on an abuse, e.g. when the information is published by someone even he was not allowed to do that.

Formal requirements

Such formal requirements for invoking a grace period typically include a declaration of the early publications, which are intended to fall under the pardon of the grace period. Some legislations do not provide for such mandatory declarations, while

others are strict on that and if a publication is not named during the filing of the respective patent application, then a grace period cannot be used for that publication.

Prior user rights

This topic regards the rights of parties, which used the invention before a patent application has been filed. Herein it is in particular important because in case of a grace period it might happen that an invention is already published before the respective patent application has been filed and a third party starts to use the invention at this time. Such prior user rights might include the right to use the invention in exchange for a fee that has to be paid to the owner of the patent application.

3. Presentation of the problem

Patent systems and economics are strongly connected, because inventions are protected and supported by such legislations and inventions are a crucial element of economics and especially the growth and development of economics. Therefore, since the first modern patent systems came into force in the 19th century, economists have thought and researched about the economic and political effects of patent systems in general and their optimal design in particular. In one recent example of such a work, the strength of patent protection in 60 countries over 150 years is examined and possible explanations for the differences observed in these data are presented (Lerner 2002).

In another interesting paper in this regard the connections between law and economics are discussed. Therein, also other intellectual property rights than patents, e.g. copyright law, are considered. Additionally, alternative methods for providing incentives for the creation of intellectual property in general are presented (Posner 2005).

The patent systems all over the world are harmonized in many aspects, especially due to international contracts, as e.g. the Paris Convention (Paris Convention 1883), the Patent Cooperation Treaty (Patent Cooperation Treaty 1970) or the TRIPS

agreement (TRIPS 1994). Nonetheless, there are several areas where no harmonization could be achieved yet. One important field is the provision of a grace period. A grace period allows the exclusion of specific relevant disclosures of an invention, which has been published before the application date of this invention from the state of the art regarding the examination of novelty.

It is common practice all over the world to exclude disclosures, which have been made against the will of the inventor and are based on the work made by the inventor. Such exclusion can e.g. be based on the theft of confidential documents of the inventor, which are followed by a publication of these documents by the theft. Another wide spread reason for allowing the exclusion of content published before the application date is the presentation of an invention at an international exhibition. Such grace periods are limited, meaning that the respective patent application has to be filed within a predetermined period of time (e.g. 12 months in the USA or 6 months in Japan) after the unwanted disclosure or the date of the respective exhibition.

In addition to these specific cases, which allow the use of a grace period, some patent offices provide a so called general grace period, which allows an inventor to publish his invention before he files a patent application for this invention. This general grace period is therefore not limited to the abuse of the invention, or the disclosure at a specific exhibition, but is valid for all possible ways of disclosure, made by or rooted to the inventor. Nonetheless, also such a general grace period requires that the patent application is filed within a predefined period of time after the first disclosure of the respective invention.

Other countries do not allow such a general grace period. If an inventor publishes his invention before he applies for a patent, then this disclosure is considered as state of the art, which will be used during examining the novelty of the patent application. As a result, it can happen that a patent application for an invention is rejected by a patent office because it is technically not novel compared to the disclosure made by the applicant earlier.

Therefore, this paper provides a comparison between the cases where a general grace period according to the above definition is allowed and the cases where such a

general grace period is not provided. During this analysis, the economic effects of providing or not providing respectively a grace period are considered. Therefore, the effects for the whole economy covered by a legislation are discussed, which are consisting of the actions of the single players within an economy. Other effects, like legal reasons or “fairness” considerations are left out. The driving research question can be formulated as:

What are the effects of grace periods provided in the patent law from an economic point of view?

This paper should therefore help to understand the economic effects of such legislations and help to decide where the international development of the provision of grace periods should be going.

4. Methodology

For the analysis of grace periods, one fact is important and helpful. As such grace periods are provided in very different ways in different legislations, especially regarding general grace periods, these legislations and the respective different effects can be studied and compared to each other. Therefore, three of the largest patent offices worldwide have been chosen:

- European Patent Office, providing no general grace period
- Japan Patent Office, providing a 6-month grace period
- US Patent and Trademarks Office, providing a 12-month grace period

The different designs of provided grace periods allow a useful comparison between these three legislations. Furthermore, in order to provide a fuller picture, the legislations of several other countries are presented briefly.

To be able to provide an answer to the research question presented in chapter 3, the following steps have been done.

In chapter 5, the current legal situation regarding grace periods in patent systems in the selected countries are discussed in detail. Additionally, the corresponding legal

situations in other countries, which are of special interest for various reasons, are presented briefly. Afterwards, the consequences of these different laws for international applicants are discussed.

Chapter 6 deals with the effects of providing a general grace period compared with not providing a general grace period. In the first part of this chapter, a theoretical analysis of the effects of providing a general grace period compared with not providing a general grace period is presented. In the second part, two surveys regarding grace periods are provided, wherein one of the surveys covers users of the European patent system and the other survey was done with German researchers. The third part includes the results of a survey that has been done in the USA and a public hearing relating to grace periods. In the fourth part of this chapter, statistical data and the results of a survey from Japan are presented.

In chapter 7, the results obtained in chapter 6 are analysed, with special regard to differences and similarities between the selected countries.

Chapter 8 provides a conclusion, based on the analysis of chapter 7. Further, a schematic design of a the most important issues of a grace period, that might be optimal considering the results of this work, is discussed.

In chapter 9, an outlook is provided. Several directions of further research are briefly described.

5. The grace period in selected legislations

In this chapter, the grace periods existing in the patent legislations in Europe, in the USA and in Japan are presented. Additionally, the various relations between these legislations are described, especially the problems that might occur due to the missing of a worldwide standardized rule.

A detailed analysis of the legal situation regarding grace periods in various countries all over the world is e.g. presented by the Tegernsee Experts Group (Tegernsee Experts Group 2012).

Further information, in particular statistical data, about the patent systems in the selected legislations and, additionally, about the legislations in China and South-Korea can be taken from the IP5 Statistical Report (FiveIPOffices 2013). The latest version from 2013 covers the data from the year 2012.

5.1. Europe

5.1.1. General overview

The European Patent Organisation (EPOrg) has two organs. The European Patent Office (EPO) is the executive organ of the EPOrg and responsible for the examination and granting of European patent applications. The other organ of the EPOrg, the Administrative Council, is responsible for supervision and has some legislative tasks. The EPOrg is an independent international organisation, based on the European Patent Convention of 1973 (EPC 1973), which entered into force in 1978. The EPC 1973 has been revised in the year 2000, leading to the European Patent Convention of 2000 (EPC 2000), which entered into force in 2007 and is the current version. The EPOrg is independent of the European Union and has, at the moment, 38 member states, which are not all members of the European Union. Additionally, there are two extension states (Bosnia and Herzegovina and Montenegro), which have not signed the EPC, but extension agreements, which allow the extension of European patents to these countries.

The EPO has its headquarter in Munich and a branch in The Hague (Netherlands), sub-offices in Berlin (Germany) and Vienna (Austria) and a liaison office to the European Union in Brussels (EPO 2014).

Unlike the other legislations discussed here, the EPO is examining and granting patents, but is not responsible for the maintenance and any other processes that arise after the granting procedure. For these steps, the various member countries are responsible.

5.1.2. Grace period in the EPC

In contrast to the legislations in the USA and Japan, the EPC does not provide a general grace period, which is available for (almost) everyone, wherein the applicant can first publish an invention and file an application later, but it just provides a limited “emergency” grace period. The limitations on the grace period provided in the EPC 2000 are rather strict and have not changed since the EPC 1973. The respective article 55 of the EPC 2000 reads as follows:

Article 55 (Non-prejudicial disclosures)

(1)

For the application of Article 54, a disclosure of the invention shall not be taken into consideration if it occurred no earlier than six months preceding the filing of the European patent application and if it was due to, or in consequence of:

(a)

an evident abuse in relation to the applicant or his legal predecessor, or

(b)

the fact that the applicant or his legal predecessor has displayed the invention at an official, or officially recognised, international exhibition falling within the terms of the Convention on international exhibitions signed at Paris on 22 November 1928 and last revised on 30 November 1972.

(2)

In the case of paragraph 1(b), paragraph 1 shall apply only if the applicant states, when filing the European patent application, that the invention has been so displayed and files a supporting certificate within the time limit and under the conditions laid down in the Implementing Regulations.

This article allows a grace period of six months under strict conditions. A disclosure of the invention is not considered as state of the art for the requirement of novelty, which is described in article 54 EPC 2000, if

- the disclosure is based on an evident abuse related to the applicant, or
- the invention has been displayed at an international exhibition according to the Convention of international exhibitions.

International exhibitions according to Article 55 EPC 2000 are published in the Official Journal of the EPO, but they are very rare. For example, only one exhibition according to this definition has taken place in 2010, while there has not been any exhibition in 2009 (EPO 2010).

5.1.3. Development of the grace period in Europe

The regulations of Article 55 EPC 2000 have not been amended compared to the first version of the EPC (1973). During the preparation phase of the new EPC 2000, no discussion about a grace period came up, indicating that most of the involved parties were satisfied with the old (and still upright) regulation of the grace period.

5.2. USA

5.2.1. General overview

The US-American Patent law reaches back to the first US-Patent Act of 1790 and has been amended several times. The last major amendment, the Leahy-Smith America Invents Act (AIA) went into effect in 2013. During this amendment, e.g. the first-to-invent principle was abolished and a first-inventor-to-file system, similar to the first-to-file systems in many other countries, was installed. The United States Patent and Trademark Office (USPTO) fulfills the administration of patent applications and related topics and works under the responsibility of the United States Department of Commerce.

The headquarter of the USPTO is in Alexandria, Virginia. Additionally, four satellite offices are located in Detroit, Dallas, Denver and Silicon Valley.

5.2.2. Grace period in the USA

The grace period allowed in the USA is one of the broadest worldwide. It is provided in § 102(b) of the 35 USC, which reads as follows:

(b) Exceptions.—

(1) Disclosures made 1 year or less before the effective filing date of the claimed invention.— A disclosure made 1 year or less before the effective filing date of a claimed invention shall not be prior art to the claimed invention under subsection (a)(1) if—

(A) the disclosure was made by the inventor or joint inventor or by another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor; or

(B) the subject matter disclosed had, before such disclosure, been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor.

(2) Disclosures appearing in applications and patents.— A disclosure shall not be prior art to a claimed invention under subsection (a)(2) if—

(A) the subject matter disclosed was obtained directly or indirectly from the inventor or a joint inventor;

(B) the subject matter disclosed had, before such subject matter was effectively filed under subsection (a)(2), been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor; or

(C) the subject matter disclosed and the claimed invention, not later than the effective filing date of the claimed invention, were owned by the same person or subject to an obligation of assignment to the same person.

In 35 USC § 102(b) two main incidents are described, due to the fact that 35 USC § 102(a) provides two different types of potential novelty destroying disclosures. In 35 USC § 102(a)(1), disclosures, which have been published before the effective filing date of the application, are mentioned. In 35 USC § 102(a)(2), disclosures appearing in applications and patents are covered.

In part (1) of § 102(b) 35 USC, the duration of the grace period is limited to 1 year. Further, it states that such disclosures should not be novelty-destroying (according to the novelty requirement provided in § 102(a) 35 USC). There are two cases

described, when a disclosure should not be considered as prior art during the analysis of the novelty. These are:

- When the disclosure was made by the/an inventor or is based on ideas of the/an inventor.
- When the disclosed subject matter has been publicly disclosed before by the/an inventor or someone who based the disclosure on the ideas of the/an inventor.

Therefore, the first part of 35 USC § 102(b) aims at publications that can be traced back, directly or indirectly, to at least one inventor.

In 35 USC § 102(b)(2), three cases of patents or applications are provided which should not be considered as state of the art according to 35 USC § 102(a)(2). These cases are:

- When the disclosed subject matter has its roots at the/an inventor.
- When the subject matter disclosed in the document has been publicly disclosed by the/an inventor or someone who based the disclosure on the ideas of the/an inventor before the effective filing date of the application or the patent.
- When the subject matter disclosed in the patent or application and the new application were, not later than the effective filing date of the new application, belonging to the same person.

5.2.3. Development of the grace period in the USA

The patent law of the USA has been object of many fundamental changes during the last amendment in 2013. Nonetheless, the rules for the grace period are still the same, such that it can be concluded that there are few considerations regarding the change of the existing grace period.

5.3. Japan

5.3.1. General overview

The first patent law in Japan dates back to 1885 and has been revised several times, including major amendments in 1905, 1921, 1959, 1995 and 1999. The Japan Patent Office (JPO) is situated in Tokyo. It is responsible for the patent law system in Japan, including the granting, maintaining and appealing processes. Additionally, it is responsible for the trademark law system and the design law system in Japan.

5.3.2. Grace period in Japan

The Japanese Patent Law allows a general grace period, which can be used in several cases. In general, the grace period is broader than the one allowed in Europe, but more limited than the one allowed in the USA. As the Japan Patent Act is officially only available in Japanese, the following is an unofficial translation provided by the Japanese Law Translation Database System (Japanese Law Translation Database System 2014), which is operated by the Japanese Ministry of Justice. The grace period is written in Article 30 of the Japan Patent Act and reads as follows.

Article 30

(1)

In the case of an invention which has fallen under any of the items of Article 29(1) by reason of the fact that the person having the right to obtain a patent has conducted a test, has made a presentation in a printed publication, has made a presentation through electric telecommunication lines, or has made a presentation in writing at a study meeting held by an academic group designated by the Commissioner of the Patent Office, such invention shall be deemed not have fallen under any of the items of Article 29(1) for the purposes of Article 29(1) and (2) for the invention claimed in a patent application which has been filed by the said person within six months from the date on which the invention first fell under any of those items.

(2)

In the case of an invention which has fallen under any of the items of Article

29(1) against the will of the person having the right to obtain a patent, the preceding paragraph shall also apply for the purposes of Article 29(1) and (2) to the invention claimed in the patent application which has been filed by the said person within six months from the date on which the invention first fell under any of those paragraphs.

(3)

In the case of an invention which has fallen under any of the items of Article 29(1) by reason of the fact that the person having the right to obtain a patent has exhibited the invention at an exhibition held by the Government or a local public entity (hereinafter referred to as the "Government, etc."), an exhibition held by those who are not the Government, etc. where such exhibition has been designated by the Commissioner of the Patent Office, an international exhibition held in the territory of a country of the Union of the Paris Convention or a member of the World Trade Organization by its Government, etc. or those who are authorized thereby to hold such an exhibition, or an international exhibition held in the territory of a state which is neither of a country of the Union of the Paris Convention nor a member of the World Trade Organization by its Government, etc. or those who are authorized thereby where such exhibition has been designated by the Commissioner of the Patent Office, paragraph (1) shall also apply for the purposes of Article 29(1) and (2) to the invention claimed in the patent application which has been filed by the said person within six months from the date on which the invention first fell under any of those items.

(4)

Any person seeking the application of paragraph (1) or (3) shall submit to the Commissioner of the Patent Office, at the time of filing of the patent application, a document stating thereof and, within thirty days from the date of filing of the patent application, a document proving the fact that the invention which has otherwise fallen under any of the items of Article 29(1) is an invention to which paragraph (1) or (3) of this Article may be applicable.

This article presents three different cases, where a disclosure before the application date of an invention is not considered for the purposes of Article 29 (1) and Article 29 (2) of the Japanese Patent Act (JPA). Article 29 (1) JPA requires novelty of the

invention and Article 29 (2) JPA requires an inventive step. Therefore, the grace period in Japan is not just excluding the disclosure before the application date from the analysis for novelty, but also from the analysis for an inventive step.

The three cases, which allow the use of a grace period, are:

- Presentation of the invention by the applicant.
- Presentation of the invention by a third party against the will of the applicant.
- Presentation of the invention during an exhibition by the applicant.

Further, Article 29 (4) JPA requires that the applicant submits documents to prove that his application falls under the regulations of Article 29 (1) or (3) JPA.

In all these cases, the grace period is limited to six months before the application date. Disclosures according to any of these cases, which are not followed by an application within six months after the first disclosure, are not affected by this rule and therefore, are regarded as state of the art.

5.3.3. Development of the grace period in Japan

Japan has broadened the scope of their grace period during the introduction of the new patent law in 2012. Therefore, it can be seen that the development of the Japanese grace period is going to a more open grace period rather than to a more limited one.

5.4. Grace periods in other countries

In the following the regulations regarding grace periods in other legislations than the ones already provided are briefly presented, because they are particularly interesting with respect to the research question of this thesis. Austria has been chosen due to the place of the research. Germany is of particular importance as it has a long standing and interesting jurisdiction, which is influencing especially the legislation and jurisdiction in the EPO. China and South Korea were chosen as China is the country with the largest amount of applications worldwide, while South Korea is the country ranking 5th in the ranking of the largest Patent Offices worldwide according to

the received applications per year. Together with the EPO, the USPTO and the JPO the patent offices of China and South Korea form the IPfive offices, an association of the five largest patent offices worldwide.

5.4.1. Austria

The Austrian Patent Law does not provide a general grace period, but a regulation almost identical to the regulation of Article 55 EPC 2000. This regulation (Article 3 (4)) provides a grace period if the novelty destroying disclosure was based on an obvious abuse to the disadvantage of the applicant or if the invention has been disclosed during an international exhibition.

In contrast to the Austrian Patent Law, the Austria Utility Model Law provides a general grace period of 6 month, when the disclosure

- can be traced back to the applicant or his legal predecessor or
- is based on an abuse to the disadvantage of the applicant or his legal predecessor.

This regulation can be found in Article 3 (4) of the Austrian Utility Model Law.

5.4.2. Germany

The situation in Germany is similar to the one in Austria. In Article 3 (5) of the German Patent Law, the same grace period is allowed as in the EPC 2000 and in Austria.

Again similar to Austria, the German Utility Model Law provides a general grace period of six months, when the disclosure is based on works performed by the applicant or his legal predecessor (Article 3(1) of the German Utility Model Law).

5.4.3. China

In Article 24 of the Chinese Patent Law, a grace period is provided, which allows a disclosure of the subject matter of the later application not more than six months before the application date, when one of three specific cases is present (SIPO 2014):

- The invention was exhibited at an international exhibition sponsored or recognized by the Chinese Government;
- it was made public for the first time at a prescribed academic or technical conference; or
- it was disclosed by any third person without the consent of the applicant.

This rule according to the Chinese Patent Law is similar to the provisions provided in the EPC and further includes the possibility of presenting the invention at a prescribed academic or technical conference within the grace period. The availability of the grace period is limited to disclosures at specific exhibitions or conferences and to the case where a person is disclosing the subject matter without the permission of the applicant.

5.4.4. South Korea

The South Korean Patent Act provides in Article 30 a grace period, allowing the disclosure of the subject matter of the invention within 12 months before the actual filing date without being novelty destroying. One out of the two following cases has to be present (KIPO 2014):

- The invention has been disclosed by the person or company who has the right to file the invention.
- The invention has been disclosed by a third person and used the knowledge of the inventor against his intention.

The above stated grace period, which is in force at the moment, is close to the legislation of the USA. It allows a broad grace period, which is not limited to specific

disclosures, like e.g. in the EPC or China, but covers all disclosures of the invention which can be traced back to the inventor.

5.5. Overview & international relations

In Table 1, an overview of the different rules of grace periods presented above is shown.

	Europe	USA	Japan
Scope of the grace period	Consequence of evident abuse in relation to the applicant & publications at specific fairs.	Publications of inventor and everything traced back to the inventor.	Publications of inventor and publications against the will of the inventor.
Duration	6 months	12 months	6 months
Date	Filing date	Filing date or priority date	Filing date
Mode of disclosure	Everything, if based on evident abuse. If not, just at specific fairs.	Everything.	Everything.
Formal requirements	For disclosure at fairs: certification has to be filed. For evident abuse: no formal requirements.	No.	Yes, application for grace period is necessary.
Prior user rights	Not part of the EPC, but regulated by the member states.	Yes, limited to the use of the invention made one year before the filing or publication date.	Yes, working on the invention is allowed by prior users.

Table 1: Overview grace periods (Own representation)

As the economic system is rather globalised nowadays, the availability of goods and services is, in most cases, not limited to the borders of countries. As a result, many producers and inventors have an understandably interest to protect their inventions in many countries all over the world by a patent. Even there are developments in most legislations that bring the different rules closer together and allow a certain degree of harmonization, e.g. by several treaties as the Paris Convention for the Protection of Industrial Property of 1883 (Paris Convention 1883), there is still no “World-Patent” available. As a result, the laws and rules in various countries are still not the same in many ways.

The non-harmonized provision of grace periods is an important factor for some applicants. For example, an US-American inventor might file an application and even get a granted patent in the USA, using the grace period rule. If he decides to file the same application e.g. in Europe at the European Patent Office, the same invention might not be granted in light of the novelty-destroying disclosure of the invention by the inventor himself. Similar cases can occur between other legislations.

These differences might have serious impacts on the worth of an invention and of a patent. Therefore, it is necessary for an inventor, who wants to file a patent application, to inform himself and define a patent strategy before the first publication of an invention.

6. Effects of the grace period

In this section, the effects of the grace period are discussed. At first, general effects of grace periods are presented. At second, the effects in selected countries are shown, using surveys, statistics and other available sources.

Most of the provided data, in particular the presented surveys, are not statistically significant and are therefore not representative due to several reasons. Nonetheless, the discussed numbers can give important hints to answer the research question.

In (de Saint-Georges M., van Pottelsberghe de la Potterie B. 2012) a quality index for patent systems, considering several factors is discussed. One of the nine evaluation components is the provision of a grace period.

The effects of grace periods in the context of possible strategies in case that an invention is published too early are e.g. discussed by Banerjee K. and Harikishor P. (Banerjee K. and Harikishor P. 2013). This paper aims at the current legislations in Europe, Japan, the USA and India.

6.1. General effects in theory

In this chapter, the general effects in theory of

- a. providing no general grace period and
- b. providing a grace period (e.g. of 6 months or 12 months)

are discussed. As before, a general grace period should be understood to be a grace period available for an applicant with low or less hurdles for disclosures by himself or disclosures that can be traced back to the applicant. In contrast, grace periods, which are very limited, e.g. to the abuse of the invention by a third party or to very specific disclosures, are not considered as general grace periods.

A patent application, as described in the following context, is always understood as the first application for an invention, which is therefore not claiming the priority of another, earlier application, because due to its construction, the concept of a grace period is just interesting for the first application concerning a specific invention, and not for any patent application claiming the priority of an earlier patent application.

6.1.1. No general grace period

If there is no grace period available, the applicant is not allowed to disclose the invention to the public before he has not filed a patent application for this invention. Otherwise, the patent application will not be granted, because the earlier publication of the applicant is considered to be novelty destroying for this application.

In Fig. 1, a timeline illustrating the process of an invention to be patented in a system not providing a grace period is provided:

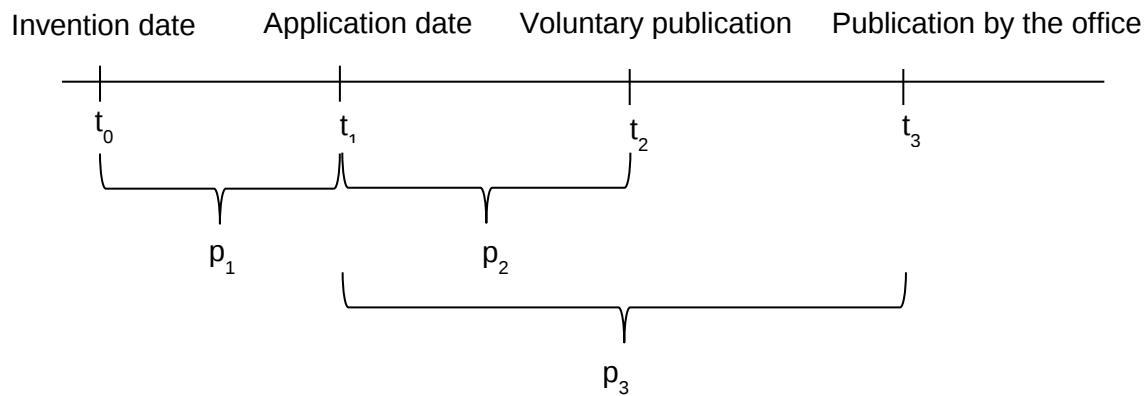


Figure 1: Schema no grace period (Own representation)

At time t_0 , the invention is made. From that time on, it takes some time to prepare a patent application, until this patent application, describing the invention, is filed at time t_1 .

After a certain period of time, usually 18 months, the application is published at time t_3 . Latest at this time, the invention is disclosed to the public, especially to competitors, for the first time, if the applicant has not published the invention before.

In the diagram, an optional voluntary publication at time t_2 , which is in between the application date t_1 and the publication date t_3 , is shown. From the time of the application date t_1 , the applicant can publish his invention, without losing any rights or suffering other drawbacks from such a disclosure to the public. Therefore, the time of the voluntary publication t_2 cannot be before the application date t_1 , but just on the same day, or after the application date t_1 . If the voluntary publication takes place after the publication date t_3 , it is not relevant anymore, because the invention is already known to the public due to the mandatory publication at time t_2 .

If the applicant has already published the invention before time t_0 , the invention cannot be patented anymore, as this publication is considered to be novelty destroying.

As a result, the applicant has a period p_1 to test his invention and develop further improvements and prepare a patent application for this invention. Afterwards, the invention can be published at t_2 after a period p_2 from the application date t_1 . If the applicant does not publish the invention voluntarily, it is latest published after a predetermined period of time p_3 after the application date at t_3 on a mandatory basis by the patent office in charge.

The resulting publication schema for the case, where no grace period is possible, can be summarized as follows:

- In the best case, the invention is published at time t_1 , if the applicant decides to publish it voluntarily at the application date. The period between the day that the invention was made and the day it got known to the public is consisting of just the period p_1 .
- In the worst case, the invention is not voluntarily published by the applicant and the invention is first published at the mandatory publication date by the patent office. The period between the day that the invention was made and the day it got known to the public is consisting of the period p_1 and the period p_3 .

The difference between the best case, wherein the invention is published as early as possible, and the worst case, wherein the invention is published as late as possible, is exactly the period p_3 . As already mentioned, the length of this period is usually 18 months.

6.1.2. 6-month/12-month general grace period

If a grace period is available and the applicant is not publishing the invention before the application date, which means that he is not using the possible grace period, then the situation is similar to a country with no grace period as described above.

If the applicant decides to publish the invention before the filing date, then he has to use the provided general grace period. The process in such a case is illustrated in Fig. 2.

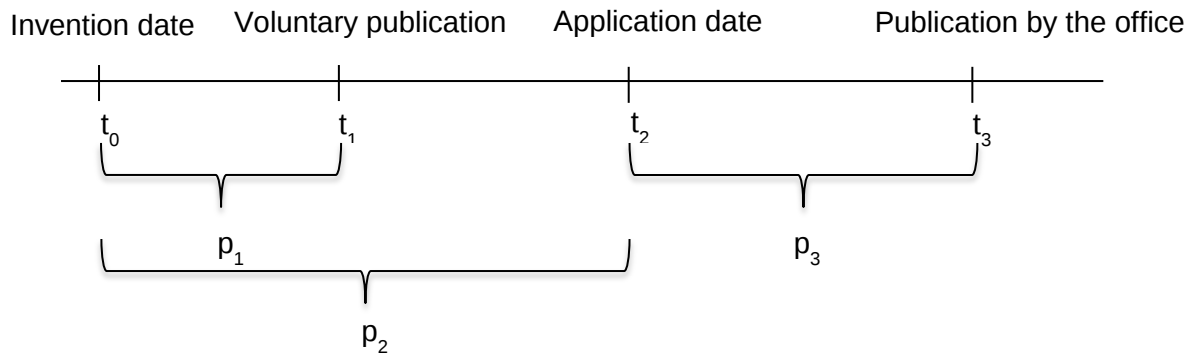


Figure 2: Schema grace period (Own representation)

Again, the invention is made at time t_0 . In contrast to the example above, the invention can be published at time t_1 , before the application date t_2 , without losing any rights due to this early publication of the invention, such that a patent can still be obtained. After that, a patent application is filed for this invention at time t_2 . This patent application is also mandatory published after a certain period of time at time t_3 .

So the publication can be done at time t_1 , after a period p_1 , which represents the time that is necessary to prepare a publication of the invention, e.g. to the relevant research community in the form of a research paper or a speech at an academic congress. At the same time, the preparations for a patent application at t_2 can already be done. In total, a period p_2 between the invention date and the application date is available for this preparation work. The length of the available grace period and the first publication date of the invention at time t_1 sets the restriction of the length of period p_2 . The period between the voluntary publication at t_1 and the application date at t_2 can only be as long as the available grace period, i.e. the difference between the period p_1 and the period p_2 can only be as long as the maximum grace period. If this period remains more than the maximum grace period allowed by the respective legislation, then the voluntary publication falls out of the scope of the grace period. This has the effect that this first publication at time t_1 is considered as prior art for the patent application at time t_2 and might be novelty destroying, such that the patent application will not lead to a granted patent.

If the applicant decides to voluntarily publish the invention not before, but after the application date t_2 and before the publication date t_3 , a situation similar to the one

described in the case, where no grace period is provided, occurs. Herein, the applicant had the opportunity to publish the invention even before the application date t_2 , but he decided not to use this right. If the applicant decides not to voluntarily publish the invention at all, it is published by the patent office at the publication date t_3 .

The resulting publication schema for the case, where the possibility of a grace period is provided, can be summarized as follows:

- In the best case, the invention is published at time t_1 , if the applicant decides to publish it voluntarily before the application date. The period between the day that the invention was made and the day it got known to the public is consisting of just the period p_1 .
- In the worst case, the invention is not voluntarily published by the applicant and the invention is first published at the publication date. The period between the day that the invention was made and the day it got known to the public is consisting of the period p_2 and the period p_3 .

The difference between the best case, wherein the invention is published as early as possible, and the worst case, wherein the invention is published as late as possible, is expressed by the period p_3 plus period p_2 minus period p_1 . As a result, this time span is between p_3 (usually 18 months), when the invention is published at the application date, and up to 30 months (12-months grace period) or 24 months (6-months grace period), when the period between the voluntary publication and the application date is extended to the maximum possible timespan.

6.1.3. Comparison

The above analysed differences between legislations providing a general grace period and legislation not providing a general grace period can be seen from two different points of view:

- From the viewpoint of an applicant
- From the viewpoint of a third party

For each application, there exists an applicant and third parties. Third parties are everyone else, except the applicant, including competitors, other inventors, researchers, users and so on. Of course, the applicant of one invention is a third party regarding other inventions, so that most people involved in inventions and patent systems are sometimes in the role of an applicant and sometimes in the role of a third party.

Applicant

If a general grace period is provided, the applicant can choose between publishing his invention before filing a patent application for this invention or not publishing the invention before. As both ways have advantages and disadvantages, the applicant has to weighting up if the advantages exceed the disadvantages or not. Based on this, he will decide about the timing of the publication of the invention.

Consequently, from the viewpoint of an applicant, the provision of a general grace period is always advantageous, as it hands the right to publish before the application date to the applicant, which is not compensated by any duties.

Third parties

In contrast to the viewpoint of an applicant, which can be analysed easily, the viewpoint of third parties is more complex. Basically, two different and often opposing thoughts have to be considered.

These viewpoints have in some aspects conflicting interests, which makes it difficult to balance between these interests in order to maximize the overall welfare of the various parties participating in a patent system.

On the one hand, it is preferable that an inventor publishes an invention as soon as possible, because other parties, in particular competitors, can use this knowledge, e.g. to develop further inventions based on the first invention. Additionally, the competitors can draw conclusions from the publication of the invention, e.g. in which field the competitor is doing research and development. Such information can provide

other companies with important insights in the strategies of their competitors. In order to summarize this argument, the competitors of an applicant can use an early publication of an invention for their own interest and also against the interest of the applicant.

Comparing the situation where a grace period is provided with the situation where no grace period is possible, it is obvious that inventions will be, *ceteris paribus*, earlier published when a grace period is available. In such a case, an inventor can publish his invention as soon as he invented it, while he has to wait until the patent application is filed when there is no grace period available. In both cases, these publications are voluntary, while in the worst case, when the inventor does not want to publish his invention earlier than necessary, the invention is published latest after 18 months.

Consequently, a system providing a grace period allows earlier publications and therefore, has to be seen as superior to a system providing no grace period, regarding only the time of (possible) publications.

On the other hand, a publication of an invention before a patent application is filed, together with the possibility of filing such an application at a later point in time, creates some kind of legal uncertainty for third parties. Without the possibility of a grace period, it is clear that a new, published invention is not protected by a patent, and will never be protected by a patent, if there is no respective patent application pending at the time of the publication. Therefore, everybody, especially competitors, can use the invention. As shown above, the maximum time between the first publication of an invention and the publication of the respective patent application is 18 months. Within these 18 months, the public, especially the competitors, cannot be sure if the published invention is the content of a patent application. This means, that a competitor has to face an uncertainty period of maximum 18 months.

If there exists the possibility that an application is filed after the first publication due to a provided general grace period, the situation changes. An invention voluntarily published by the inventor gives the inventor 6 months or 12 months time to file a patent application for this invention. Now the maximum timespan between the first

publication and the publication of the patent application is composed of the maximum grace period and the time a publication is published after the application date. In total, that can add up to 30 months, which means that the uncertainty period faced by the public, especially competitors rises by 12 months, or about 66%, compared to the situation in a legislation which is not providing a general grace period.

Summarized, it can be seen that from an applicant's point of view, a general grace period should be provided, while from a third parties point of view, such a general grace period has the advantage of early publication and the disadvantage of a longer uncertainty period.

Additionally, it can be followed that a 6-month grace period shows a reduced possible uncertainty period compared to a 12-month grace period, but the freedom of the applicant to file a patent application after the publication of the invention is more limited in case of a 6-month grace period.

6.2. Europe

For Europe, there is no statistics available showing the frequency that a grace period according to Article 55 EPC 2000 is required or allowed. Nonetheless, it can be safely assumed that these exemption clauses are used very rarely. The first condition (Article 55(1)a EPC 2000) requires that an abuse of the inventors ideas can be proofed. The second requirement (Article 55(1)b EPC 2000) is just relevant for a very small amount of exhibitions. Due to these strict borders of the grace period, the number of relevant cases is very low for sure.

In the following, two surveys conducted in Europe are provided and discussed to find out what the users in Europe think of providing a grace period and in particular a general grace period.

6.2.1. Consultation of European users

In 2013, a questionnaire about grace periods (and other topics, which are not presented here) was prepared and conducted by the EPO together with the

Tegernsee Experts Group (EPO 2013). 69 responses for the grace period survey were collected and evaluated. The answers were given by single users as well as by national and supra-national European user associations. Nonetheless, this sample of users is not representative for the users of the European patent system. Reasons for that are the small sample size and the fact that the respondents were not chosen by chance or based on a system, but had to choose themselves to participate in the survey. As a result, especially small and medium enterprises (SMEs) and universities were underrepresented.

Further, a hearing of European users was held, where grace periods were discussed. In addition, several written submissions have been received.

It is important to notice that not just Europeans responded to this survey, but also persons and companies from other countries, who are using the European patent law to obtain patent protection in European countries.

In the following, the main results of this survey are summarized.

Written questionnaire

This questionnaire was divided in four parts, wherein the first part covers empirical questions, the second part is dedicated to policy issues, the third part consists of substantive issues and the fourth part concerns the harmonization process.

Empirical questions

In one question, the respondents stated that 50 of them (about 72%) have already been in a situation to file a patent application after the respective invention has been published. In Table 2, the reasons for these early publications are presented. Multiple answers were possible.

Reason	Number of incidents
Error of inventor or employee	14 (28%)
Breach of confidence	6 (12%)
Disclosure at trade show	4 (8%)
Disclosure in business negotiations	10 (20%)
Disclosure during trials/experiments	10 (20%)
Disclosure in academic publication	28 (56%)
Other	2 (4%)
No answer	16 (32%)

Table 2: Reasons for early publications – Europe (based on EPO 2013)

It is noticeable that the most important reason for an early disclosure is an academic publication, which is (jointly) responsible for more than half of the incidents. Another reason that was stated often are errors of inventors or employees, which were (jointly) responsible for more than one quarter of the early disclosures.

In such a case, where an invention was published before the respective patent application was filed, the respondents followed different strategies, which are shown in Table 3. Multiple answers were possible.

Strategy	Number of incidents
Filed anyway	9 (18%)
Filed in a country providing a grace period	28 (56%)
Protected invention as trade secret only	6 (12%)
Other	9 (18%)
No answer	19 (38%)

Table 3: Strategies after unintentional early publications – Europe (based on EPO 2013)

The respondents stated that the optimal strategy is based on the specific circumstances of the special case and is chosen from case to case. Therefore, some users have experience with more than one or even all of these strategies. The most popular one is to file a respective patent application in a country where the possibility of using a grace period is provided, e.g. the USA or Japan. It is also possible to file a

utility model application in some countries like Germany, where a grace period is available for utility models but not for patents.

In a further question, the level of understanding of the researchers/employees was asked. The results are shown in Table 4. Multiple answers were possible.

Level of understanding	Number of answers
Sufficient knowledge, incl. grace period	11 (22%)
Basic idea of patent system/little of grace period	28 (56%)
Little to no understanding of the patent system	3 (6%)
Not applicable	12 (24%)
No answer	15 (30%)

Table 4: Level of understanding – Europe (based on EPO 2013)

It can be seen that just 6% of the researchers/employees have little or no understanding of patent systems, while almost one quarter of the respondents stated to have sufficient knowledge, even about grace periods. It can be concluded that most of the inventors are at least a little bit familiar with patent systems.

Two third of the respondents reported that they have already relied on a grace period. Out of these, 65% already used the grace period in the USA, 30% used the grace period provided for German utility models and 12.5% used the grace period in Japan. Some respondents filed applications based on grace periods in other countries, which provide grace periods.

Nonetheless, these cases occur very rarely. Out of the 40 participants who already used a grace period somewhere, just three (7.5%) stated that they use grace period in 10% of their applications or more often, while 34 (85%) stated that they use grace periods in about 1% of their applications or less.

Out of the 40 users of grace periods, 22 (55%) said that the respective applications have not been an important factor in doing their business and/or research, while 15 (37%) stated that these applications have been a reason for their success.

During the applications using grace periods in several countries, 31 (77.5%) respondents have not faced problems due to the procedure of invoking the grace periods, while 3 (7.5%) had problems, especially because the stated inventor was not identical with the author who published the early disclosure. 6 (15%) participants have not answered this question.

On the one hand, 21 (30.4%) of the respondents stated that they have never faced a situation where they were not able to obtain a patent because a grace period was not available. On the other hand, 42 (60.8%) have already been in such a situation, wherein most of them had already more than one of these cases. Most of the participants who have had problems with early disclosures came to situations where they were able to obtain patent protection for an invention in some legislations and no patent protection in other legislations. Some of them got patents in different countries, but with different claim scopes.

The respondents were further asked if the unavailability of grace periods is playing a role in business and/ or research decision making, beyond the single cases of special inventions. While most of the participants replied that this has no effect, 15 (21.7%) stated that the missing possibility of a grace period has an impact on decision-making in strategic or R&D topics.

In addition, the participants were asked if they have ever been negatively affected by a third party relying on a grace period. Most of them (47 or 68%) answered this question with no, while 12 (17%) stated that they had such a situation at least once. 10 respondents did not answer this question.

Policy issues

A narrow majority of the respondents of 39 (56.5%) had the opinion that the concept of a grace period is an important feature within patent law systems. 28 (40.6%) stated that this is not the case.

53.3% of the participants (38) were in favour of a general grace period, while 29 (45%) were against a general grace period. Not surprisingly, the respondents who preferred general grace periods had the opinion that they are important, while the opponents of general grace periods stated that they are not important.

This picture changes slightly, when just the European respondents are considered. 51.8% of them were in favour of a general grace period and 46.5% were against general grace periods.

One interesting result is presented in Table 5, where the answers regarding general grace periods are shown grouped up according to the affiliation of the respondents.

Affiliation	In favour of grace period	Against grace period
Corporations (Total)	9	13
Corporations (Europe)	6	12
Patent professionals	10	7
Law firms	11	7
Universities	2	0

Table 5: Support of grace period per affiliation – Europe (based on EPO 2013)

It is obvious, that corporations in Europe tend to be against general grace periods, while patent professionals and law firms are more in favour of general grace periods. Not surprisingly, the answering universities were in favour of general grace periods.

In the next question, the respondents who were supporting grace periods in general, were asked to state the reasons for their thinking. The results are presented in Table 6; multiple answers were possible.

Goal of a grace period	Number of supporters
Protect against breach of confidence	33 (86.8%)
Balance patents & science	31 (81.6%)
Safety net only	22 (57.9%)
Protect against re-disclosure	22 (57.9%)
Allow market testing/financing	15 (39.5%)
Protect from all, incl. independent inventors	9 (23.7%)

Table 6: Goals of a grace period – Europe (based on EPO 2013)

It can be seen that most of the participants were in favour of a “defensive” grace period concept, meaning that it should protect against abuses and be an instrument in special cases, where the invention has been disclosed by mistake. More offensive approaches, where a grace period can be used as a tool for allowing testing or searching for investors before filing are just described as goals by a minority of the respondents.

In another question, the respondents were asked about the expected impacts of a grace period. The results, categorized according to the general position regarding grace periods, are shown in Table 7.

Impact	In favour of grace periods	Against grace period
User friendly for SMEs and individuals	25	3
Complicated patent system	4	24
Diminishes legal certainty	16	28
Allows early publication in interest of public	19	4

Table 7: Impacts of a grace period – Europe (based on EPO 2013)

It is interesting that most of the supporters of general grace periods think that providing a general grace period is user friendly for SMEs and individuals, while opponents of grace period deny such an effect. On the other hand, opponents state the complication of a patent system, while not many respondents in favour of grace periods see such an impact. The same holds for the possibility of early publications.

This is seen by most of the grace period supporters, but not by the respondents opposing grace periods. The most likely impact, according to this survey, seems to be that the legal certainty diminishes. Most of the grace period opponents and also most of the grace period supporters are aware of this effect.

Substantive issues

At first, the respondents were asked if a mandatory declaration of early publications of the invention should be necessary to obtain a grace period. 40 (58%) of the participants were in favour of such a mandatory declaration, while 28 (41%) were against such a requirement. One person has not answered this question.

Further, as the most important reasons for the requirement of a mandatory declaration, the enhanced legal certainty (by 39 respondents) and the elimination of a need for an extra communication (by 23 respondents) have been stated.

In a further question, the respondents stated what would be an appropriate duration for a grace period. 18 (26%) would prefer a duration of 12 months, while 34 (49%) were in favour of a duration of 6 months. One respondent stated a duration of 3 months. 17 participants have not stated a preferred duration for a grace period.

Another important issue is the date from which a grace period term should be computed. A majority of 49 (71%) respondents were in favour of starting the grace period from the priority date. 12 (17.3%) stated that a grace period should start from the filing date, while the other respondents did not answer this question.

The harmonization process

Within the group of participants, a majority (54 or 78%) stated that the provision of a grace period should be harmonized internationally, independent of the question if a general grace period or the absence of a general grace period should be harmonized. This result is not very surprising, as the non-harmonized laws, which are in force at the moment, lead to confusion for many applicants.

The next question goes into more detail and asks the participants which parts of the grace period framework should be harmonized. The results are shown in Table 8. Multiple answers were possible.

Elements	Number
All elements	28 (40.5%)
Mode of disclosure	56 (81.2%)
Scope	56 (81.2%)
Duration	63 (91.3%)
Date	63 (91.3%)
Declaration	35 (50.7%)
Prior user rights	43 (62.3%)
None/No answer	4 (5.8%)

Table 8: Elements to be harmonized – Europe (based on EPO 2013)

It is interesting that, even most of the elements received a high level of acceptance, a relatively low amount of respondents has chosen the alternative “all elements”.

User hearing

During the hearing, a lot of different opinions came up, starting from opposing any kind of grace period to supporting general grace periods with long durations. Nonetheless, a majority of users was in favour of a safety-net grace period. This grace period should preferably provide a duration of 6 month and require a mandatory declaration of the early publication. In addition to that, it was broadly accepted that such a grace period has to be harmonized internationally. An even broader grace period, which would also allow the inobservance of possibly novelty-destroying disclosures filed by third parties within the grace period, was rejected by all users present in that hearing.

Additional written submissions

A handful of organisations has sent further statements regarding grace periods. All of them were supporting the idea of introducing the possibility of a general grace period

in Europe. The proposed detailed frameworks are quite different. Topics like the duration of the grace period or if a mandatory filing of the early disclosure should be introduced are controversial within the group that handed these submissions in.

6.2.2. Survey in Germany

In Germany, the Ministry for Education and Research has conducted a study, comparing the grace periods in Germany and the USA with special regards to the academic sector (BMBF 2002). The relevant conclusions of this study are presented here to give a hint regarding the concept of a general grace period in Europe. At first, the results of a written questionnaire sent to the researchers are presented and afterwards, some details from telephone interviews with some selected researchers are discussed.

Written questionnaire of German scientists

During this study, a written questionnaire was sent out to German scientists. Resulting from that, 1266 useful answers were received and evaluated. Within these scientists, university professors, academic assistants, university lecturers and other researchers are present.

In the answers, the researchers state that the most important problems with the novelty requirements without the possibility of a grace period are related to time problems due to preparing a patent application before preparing a publication of the invention. Another reported problem is that it is difficult or not possible to keep an invention secret because a lot of people are involved in the research. A third very important problem is that the invention is not patentable at the time of the first publication. Further, some researchers have problems with the time-consuming reporting and approval of patent applications by the university. About a third of the researchers stated that the patentability of an invention came out only after the first publication, causing problems with a possible patent application. Just about 45% of the researchers are totally or at least partially satisfied with the existing rules in Germany regarding a non-provided general grace period, while the majority has problems with first filing a patent application and publishing the invention afterwards.

Another interesting question was about the proceedings, if the researcher himself or somebody else has published the invention before a patent application was filed. 6.4% have filed a German utility model application, 7.2% have nevertheless filed a German patent application and 5.5% have filed a US-American patent application using the provided grace period in order to obtain an intellectual property right even the invention has already been published. About one third of the respondents stated that they have already resigned to file a patent application for an invention, because they have published this invention before. Additionally, the patent applications of about three percent of the researchers have been rejected, because they have published novelty-destroying state of the art before the application date. Half of these early publications were done by the researches themselves due to lack of information or by mistake, while about one third can be traced back to co-workers, which published the invention by mistake, or lack of information and the rest has been published because of poor secrecy.

Further, the researchers have been asked if they think that non-disclosure agreements are a suitable instrument to avoid unwanted publications before the filing of a patent application for an invention. For about two-third of the respondents, such agreements are useful, while one third believes that they are not useful in this context.

Telephone interviews

In order to complete the questionnaire discussed above, five researchers have been selected and telephone interviews with them have been conducted. They have in common that they have already unintentionally published an invention before a patent application for this invention has been filed. As a result, these interviews cannot be regarded as representative, neither for patent applicants in general nor for the subgroup of academic patent applicants.

The researchers state two reasons why they have published the invention before filing a patent for it:

- At the time of the publication, the economic value and/or the patentability of the invention were not foreseeable.

- The publication of the invention was more important than the possibility of obtaining a patent for it.

When the researchers noticed that the early publication could be a problem for obtaining a patent protection, one of them filed a patent application for a limited scope of protection, which was novel compared to the publication. Another researcher filed a patent application in the USA, using the possibility of a grace period. The other researchers have not filed a patent application or a utility model application for the respective inventions.

For these researchers, it is not assessable, how much damage has occurred due to the loss of patent protection for the inventions that have been unintentionally published. They stated that academic publications are in each case more important than patent applications.

Further, the researchers stated that they are now more careful with publications and that they are equipped with good knowledge about patent law and especially the requirement of novelty.

Not surprising, all of the interview researchers were in favour of implementing the possibility of a general grace period in Germany, similar to the rules that are in force in the USA. One researcher argued that a general grace period would be comfortable, because several publications could be summarized in one patent applications rather than filing a single patent application for each publication.

6.2.3. Further opinions

The introduction of a general grace period in Europe is not considered to be an important issue in Europe. Nonetheless, some people, who are in favour of grace periods, argue that the European Patent Office should introduce a general grace period. One example is a paper by Adelman (Adelman 2000), who argues that a broader grace period in Europe would help to harmonize patent laws all over the world. In particular, he compares the situation in Europe with the one in the USA and states, that the uncertainty, which is one of the most important arguments against the

introduction of general grace periods, is not a critical issue, because the USA have lived with it for a while.

6.2.4. Summary of the situation in Europe

From the surveys presented above, many things can be learned regarding the attitude of users of the European patent system. On the one hand, a majority of the respondents has already had problems with early publications, which have been met with various strategies. On the other hand, such cases happen very rarely.

It can be seen that the problems relating to early publications and grace periods are to a high degree connected to academic researchers. They need to publish their results as soon as possible and are more concerned about these publications than about possible patent protection. In contrast, companies are more interested in obtaining a patent protection than in publishing their inventions.

Relying on these results, it seems that a narrow majority is generally in favour of introducing a general grace period in Europe. While most of the university researchers, patent professionals and law firms are supporting the concept of a general grace period, corporations, in particular large ones, are by the majority against general grace periods. The reason for this divergence is probably that the first group is weighting the advantages for an applicant higher than the disadvantages for third parties, which result from the provision of a general grace period. In contrast, corporations are more concerned about the uncertainty resulting from general grace periods than about the advantages for applicants.

Regarding the scope of a general grace period, most of the respondents in both surveys are in favour of a rather defensive configuration, wherein the own publications are falling under the exception, but publications by others should not be covered.

Especially supporters of such rules consider general grace periods to be user friendly for SMEs and individuals and to allow early publication in interest of public. Opponents of general grace periods see such legislations as a factor that

complicates the patent system and creates legal uncertainty for third parties. Interestingly, the second impact is also expected by most of the respondents who are in favour of general grace periods.

Regarding the detailed rules that should apply for a general grace period, a majority of respondents is in favour of requiring mandatory declaration of early publications and a duration of the grace period of six month, starting from the priority date.

Not surprisingly, most of the respondents are in favour of an internationally harmonized grace period system, even a majority prefers to harmonize parts of it, e.g. the duration or the relevant date, while other parts should be left for the regulation of the individual legislations.

6.3. USA

6.3.1. Consultation with users in the USA

In 2013, the USPTO presented the results of a survey based on the questionnaire worked out by the Tegernsee Group (USPTO 2013). 159 respondents answered questions regarding the grace period, wherein 92 were from the USA, 41 from Europe and the rest from other countries. In addition to this written questionnaire, a public hearing in the form of a roundtable was organized, where the grace period was discussed, next to other topics.

Written questionnaire

Use/Experience with the grace period

In Table 9, the level of understanding of the respondents, grouped by the region of the participants, is presented,

Region	Sufficient Knowledge	Basic Knowledge	Little Knowledge	Total
Europe	12 (38.7%)	14 (45.2%)	5 (16.1%)	31 (100%)
USA	7 (23.3%)	21 (70%)	2 (6.7%)	30 (100%)
Other	0 (0.0%)	8 (72.7%)	3 (27.3%)	11 (100%)
Total	19 (26.4%)	43 (59.7%)	10 (13.9%)	72 (100%)

Table 9: Level of understanding – USA (based on USPTO 2013)

It can be seen that most of the applicants (more than 85%) seem to have sufficient or at least basic knowledge about patent systems. It is interesting to observe that on the one hand, more Europeans than US-Americans stated to have sufficient knowledge, but on the other hand, also more Europeans consider their knowledge as just basic. The respondents from the USA are more centered in the middle at basic knowledge.

The next question asks the respondents if they have ever felt the need to file a patent application after disclosure. In Table 10, the results of this question are summarized according to the region the respondents are coming from.

Region	Yes	No	Not applicable	Total
Europe	17 (31.48%)	23 (42.59%)	14 (25.93%)	54 (100%)
USA	90 (84.91%)	8 (7.55%)	8 (7.55%)	106 (100%)
Other	20 (64.52%)	5 (16.13%)	6 (19.35%)	31 (100%)
Total	127 (66.49%)	36 (18.85%)	28 (14.66%)	191 (100%)

Table 10: Need to file after disclosure – region – USA (based on USPTO 2013)

It is not very surprising that far more US-Americans than Europeans answered this question with yes. Respondents from other countries are rather close to the average values, showing that about two thirds of all participants have already felt the need to file a patent application after the respective invention has already been disclosed, while not even 20% stated that they never had this need.

In Table 11, the results of the same question are presented according to the technological area of the respondents.

Technology Area	Yes	No	Not applicable	Total
Biotech/Pharma	12 (100%)	0 (0.0%)	0 (0.0%)	12 (100%)
Chemistry	3 (37.5%)	5 (62.5%)	0 (0.0%)	8 (100%)
Electronics/ Computers/ Communications	29 (44.62%)	20 (30.77%)	16 (24.62%)	65 (100%)
Mechanics	6 (86.71%)	1 (14.29%)	0 (0.0%)	7 (100%)
Other	13 (68.42%)	3 (15.79%)	3 (15.79%)	19 (100%)
Total	63 (56.76%)	29 (26.13%)	19 (17.12%)	111 (100%)

Table 11: Need to file after disclosure – technological area – USA (based on USPTO 2013)

It can be seen that the differences regarding the need to file a patent application after the first disclosure of the respective invention are rather large. While it seems to be a very common procedure of Biotech/Pharma and Mechanical companies, companies in the fields of Electronics/Computers/Communications and Chemistry are not so familiar with such problems. As the amount of answers is rather low, except for companies in Electronics/Computers/Communications, these results can just be considered as indicators.

If respondents have already had the case that they had to file a patent application after the disclosure of the invention, they were asked about the strategies they used to deal with this circumstance. In Table 12, the answers are presented according to the region of the respondents.

Region	Filed anyway	Filed in areas with grace period	Gave up and treated as trade secret	Other	Total
Europe	4 (25.00%)	5 (31.25%)	6 (37.50%)	1 (6.25%)	16
USA	14 (16.28%)	68 (79.07%)	1 (1.16%)	3 (3.49%)	86
Other	2 (10.00%)	13 (65.00%)	4 (20.00%)	1 (5.00%)	20
Total	20 (16.39%)	86 (70.49%)	11 (9.02%)	5 (4.10%)	122

Table 12: Strategies for early disclosure – USA (based on USPTO 2013)

The most common answer of this question is that the invention is filed in an area with grace periods. This is not surprising, as most of the answers came from US-Americans, which have a grace period system in their home country. Just about a third of the European participants stated that they have filed a patent application in an area where grace periods are provided. It is more usual to give up such an application and treat it as a trade secret.

Table 13 presents the amount of respondents who have already used a grace period, grouped according to their affiliation.

Affiliation	Yes	No	Total
Corporation	21 (45%)	26 (55%)	47
University/Research Institute	9 (75%)	3 (25%)	12
Individual Inventor	5 (20%)	20 (80%)	25
Patent Professional	34 (89%)	4 (11%)	38
Law Firm	52 (98%)	1 (2%)	53
Other	0 (0%)	5 (100%)	5
Total	121 (67%)	59 (33%)	180

Table 13: Past reliance on grace period – USA (based on USPTO 2013)

It is predictable that most of the patent professionals and law firms have already relied on a grace period, as they handle a lot of cases with various applicants, wherein it can happen very easily that a case occurs where a grace period has to be used. It is also not surprising that many universities and research institutes already relied on a grace period. Corporations are, in contrast to that, under average users of grace periods. Even no difference between large companies and SMEs has been made, not even half of the responding corporations have already used a grace period. Considering the individual inventors, just very few, a fifth, reported an earlier reliance on a grace period.

Table 14 provides a summary of the answers that were given to the question if the unavailability of a grace period has been a factor in business or research decisions.

Affiliation	Yes	No	Total
Corporation	15 (39.47%)	23 (60.53%)	38
University/Research Institute	7 (63.64%)	4 (36.36%)	11
Individual Inventor	5 (25%)	15 (75%)	20
Patent Professional	18 (60%)	12 (40%)	30
Law Firm	30 (68.18%)	14 (31.82%)	44
Other	1 (25%)	3 (75%)	4
Total	76 (51.7%)	71 (48.3%)	147

Table 14: Unavailability of grace period as factor in business/research decisions – USA (based on USPTO 2013)

About half of the respondents stated that the unavailability of a grace period has been a factor in business/research decisions. While almost two thirds of the corporations answered this question with no, about two thirds of the university/research institutes answered with yes. Additionally, 75% of the individual inventors have never considered the unavailability of a grace period as a factor in such decisions.

Table 15 summarizes the statements of the respondents regarding instances where patents were obtained in one country, but not in another because of different rules of grace periods. The answers are grouped depending on the region of the participants.

Region	Yes	No	Total
Europe	5 (83.3%)	1 (16.7%)	6
USA	69 (92.0%)	6 (8.0%)	75
Other	17 (89.5%)	2 (10.5%)	19
Total	91 (91%)	9 (9%)	100

Table 15: Patent filed in one country but not in another, due to different grace periods – USA (based on USPTO 2013)

It can be seen that a great majority of the respondents has already had a case wherein a patent could be obtained in one country, but not in another due to non-harmonized rules on grace periods. The answers are not significantly different

between the regions of the participants, which indicates that it is considered as a global problem.

The respondents were asked to state if the reliance on a grace period has directly led to or been a particular contributing factor in the success of business and/or research activities. The results, grouped according to the region of the participants, are presented in Table 16.

Region	Yes	No	Total
Europe	2 (40%)	3 (60%)	5
USA	56 (69.1%)	25 (30.9%)	81
Other	10 (55.6%)	8 (44.4%)	18
Total	68 (65.4%)	36 (34.6%)	104

Table 16: Reliance on grace period has been important factor for success of business/research – USA (based on USPTO 2013)

Even there are just 5 responses from Europeans, it can be seen that the importance of relying on a grace period seems to be higher for US-Americans than for Europeans. Overall, about two thirds of the participants stated that the reliance on a grace period has been an important factor in the success of business and/or research activities.

The next question is related to negative impacts on the respondents due to the use of grace periods by third parties. The given answers are summarized according to the region of the respondents in Table 17 and according to the affiliation of the respondents in Table 18.

Region	Yes	No	Total
Europe	7 (18.42%)	31 (81.58%)	38
USA	18 (22.22%)	63 (77.78%)	81
Other	1 (4.17%)	23 (95.83%)	24
Total	26 (18.18%)	117 (81.82%)	143

Table 17: Reliance on the grace period by another had negative impacts – region – USA (based on USPTO 2013)

Affiliation	Yes	No	Total
Corporation	4 (11.11%)	32 (88.89%)	36
University/Research Institute	0 (0%)	11 (100%)	11
Individual Inventor	2 (10.53%)	17 (89.47%)	19
Patent Professional	6 (20%)	24 (80%)	30
Law Firm	14 (32.56%)	29 (67.44%)	43
Other	0 (0%)	4 (100%)	4
Total	26 (18.18%)	117 (81.82%)	147

Table 18: Reliance on the grace period by another had negative impacts – affiliation – USA (based on USPTO 2013)

Interestingly, more Europeans than US-Americans stated that third parties using a grace period have not negatively affected them. The rates are quite similar through the affiliations of the respondents and show that overall more than 80% of all respondents have never been negatively affected by another party who relied on a grace period.

Views

Table 19 provides an overview of the statements of the respondents regarding the importance of a grace period within patent law. The answers have been grouped according to the region. Additionally, the same answers have been grouped according to the affiliation of the participants in Table 20.

Region	Yes	No	Total
Europe	21 (51.22%)	20 (48.78%)	41
USA	84 (91.3%)	8 (8.7%)	92
Other	21 (80.77%)	5 (19.23%)	26
Total	126 (79.25%)	33 (20.75%)	159

Table 19: Is grace period an important feature of patent law – region – USA (based on USPTO 2013)

Affiliation	Yes	No	Total
Corporation	30 (69.77%)	13 (30.23%)	43
University/Research Institute	8 (72.73%)	3 (27.27%)	11
Individual Inventor	11 (57.89%)	8 (42.11%)	19
Patent Professional	29 (87.88%)	4 (12.12%)	33
Law Firm	44 (91.67%)	4 (8.33%)	48
Other	4 (80%)	1 (20%)	5
Total	126 (79.25%)	33 (20.75%)	159

Table 20: Is grace period an important feature of patent law – affiliation – USA (based on USPTO 2013)

In Table 19, it can be seen that almost 80% of the respondents consider a grace period to be an important feature of patent law, wherein more than 90% of the US-Americans and more than 80% of the respondents from other countries state that the grace period is important. In contrast, only slightly more than half of the European respondents see a grace period as an important feature of the patent law.

Considering the breakdown of the answers according to the affiliation of the participants, only the patent professionals and the law firms show approval rates of around 90%. All the other respondents in other affiliations have majorities considering the grace period to be an important feature of patent law, but just with approval rates of around two thirds of the participants.

Table 21 presents the answers of the respondents to the question, if they are in favour of a grace period, grouped according to their region and Table 22 presents the same answers grouped according to the affiliation of the participants.

Region	Yes	No	Total
Europe	22 (53.66%)	19 (46.34%)	41
USA	83 (90.22%)	9 (9.78%)	92
Other	20 (76.92%)	6 (23.08%)	26
Total	125 (78.62%)	34 (21.38%)	159

Table 21: Are you in favour of a grace period? – region – USA (based on USPTO 2013)

Affiliation	Yes	No	Total
Corporation	29 (67.44%)	14 (32.56%)	43
University/Research Institute	9 (81.82%)	2 (18.18%)	11
Individual Inventor	12 (63.16%)	7 (36.84%)	19
Patent Professional	28 (84.85%)	5 (15.15%)	33
Law Firm	43 (89.58%)	5 (10.42%)	48
Other	4 (80%)	1 (20%)	5
Total	125 (78.62%)	34 (21.38%)	159

Table 22: Are you in favour of a grace period? – affiliation – USA (based on USPTO 2013)

It can be seen that most of the respondents that see the grace period as an important factor of patent systems are also in favour of a grace period. There is a high correlation between considering a grace period as being important and preferring a grace period.

The answers to the question, if the grace period should be internationally harmonized are shown in Table 23, grouped according to the region of the participants.

Region	Yes	No	No opinion	Total
Europe	31 (83.78%)	2 (5.41%)	4 (10.81%)	37
USA	73 (82.02%)	9 (10.11%)	7 (7.87%)	89
Other	23 (92%)	1 (4%)	1 (4%)	25
Total	127 (84.11%)	12 (7.95%)	12 (7.95%)	151

Table 23: Should the grace period be internationally harmonized? – region – USA (based on USPTO 2013)

Despite the question if someone is in favour or against grace periods, it is not surprising that most of the respondents are in favour of internationally harmonizing the grace period, as they can expect less surprising hurdles during international patent application procedures and other positive effects.

Specific Issues

Considering that a grace period is provided, the respondents were asked about the preferred detailed design of such a grace period. In Table 24, the opinions of the respondents grouped according to their region regarding mandatory declarations for invoking a grace period are presented.

Region	Yes	No	Total
Europe	23 (62.16%)	14 (37.84%)	37
USA	17 (19.32%)	71 (80.68%)	88
Other	9 (37.5%)	15 (62.5%)	24
Total	49 (32.89%)	100 (67.11%)	149

Table 24: Mandatory declarations for a grace period – region – USA (based on USPTO 2013)

A majority of the European respondents, almost two third, are in favour of a mandatory declaration for invoking a grace period, while more than 80% of the US-American respondents are against such mandatory declarations. In total, slightly more than two third of all participants are against mandatory declarations. Grouping the same answers according to the affiliation of the respondents, it can be seen that there are no large differences between the various affiliations. All of them are against mandatory declarations. Law firms, with almost 80% dissenting votes, are in particular against such rules.

In Table 25, the preferred length of the grace period is shown. The possible answers were 6 month (as e.g. in Japan), 12 month (as e.g. in the USA) or any other duration, summarized under “Other”. The answers are grouped according to the region of the respondents.

Region	6 months	12 months	Other	Total
Europe	20 (54.1)	8 (21.6%)	9 (24.3%)	37
USA	11 (12.4%)	74 (83.1%)	4 (4.5%)	89
Other	4 (16%)	18 (72%)	3 (12%)	25
Total	35 (23.2%)	100 (66.2%)	16 (10.6%)	151

Table 25: Preferred length of a grace period – region – USA (based on USPTO 2013)

Most of the US-Americans prefer the 12-month duration of their current grace period. European respondents are more in favour of a length of six months. Participants from other countries prefer a 12-month grace period. In total, about two thirds of the participants are in favour of a length of 12 months, while just about one quarter of the respondents prefers a length of 6 months. The rest of the answers state other preferred durations.

In Table 26, the answers regarding the preferred length of a grace period are presented according to the affiliation of the respondents.

Affiliation	6 months	12 months	Other	Total
Corporation	12 (29.3%)	19 (46.3%)	10 (24.4%)	41
University/Research Institute	3 (30.0%)	7 (70.0%)	0 (0.0%)	10
Individual Inventor	10 (58.8%)	4 (23.5%)	3 (17.6%)	17
Patent Professional	3 (9.4%)	28 (87.5%)	1 (3.1%)	32
Law Firm	5 (10.6%)	41 (87.2%)	1 (2.1%)	47
Other	2 (50%)	1 (25%)	1 (25%)	4
Total	35 (23.2%)	100 (66.2%)	16 (10.6%)	151

Table 26: Preferred length of a grace period – affiliation – USA (based on USPTO 2013)

It is remarkable that the only affiliation showing a majority of supporters of a 6-month grace period is the group of the individual inventors. Further, it can be seen that almost 90% of the respondents from patent professionals and law firms are in favour of a 12-month grace period, which is significantly higher than the total average.

The next detail topic is the date from which the term of the grace period should be computed. The opinions of the participants regarding this question are summarized in Table 27 (grouped by region) and in Table 28 (grouped by affiliation).

Region	Filing date	Filing date or priority date	Other	Total
Europe	17 (47.22%)	17 (47.22%)	2 (5.56%)	36
USA	15 (17.05%)	70 (79.55%)	3 (3.41%)	88
Other	14 (56%)	10 (40%)	1 (4%)	25
Total	46 (30.87%)	97 (65.1%)	6 (4.03%)	149

Table 27: Preferred date from which the grace period should be computed – region – USA (based on USPTO 2013)

It can be seen that there is a large difference between the preferred date from which the term of the grace period should be computed between respondents from the USA and from Europe. On the one hand, about one half of the Europeans is in favour of the filing date and the other half is in favour of the filing date or the priority date. On the other hand, a majority of almost 80% of the US-Americans prefers the filing date or the priority date. In total, almost two third of the respondents are in favour of the filing date or the priority date, compared with 30% of the respondents who are in favour of the filing date.

Affiliation	Filing date	Filing date or priority date	Other	Total
Corporation	16 (41.03%)	21 (53.85%)	2 (5.13%)	39
University/Research Institute	3 (30.0%)	7 (70.0%)	0 (0.0%)	10
Individual Inventor	10 (58.82%)	5 (28.41%)	2 (11.76%)	17
Patent Professional	10 (31.25%)	21 (65.62%)	1 (3.21%)	32
Law Firm	4 (8.51%)	42 (89.36%)	1 (2.31%)	47
Other	3 (75%)	1 (25%)	0 (0%)	4
Total	46 (30.87%)	97 (65.1%)	6 (4.03%)	149

Table 28: Preferred date from which the grace period should be computed – affiliation – USA (based on USPTO 2013)

According to the affiliation of the participants, again the individual inventors prefer the filing date as a starting point of the grace period. Interestingly, almost 90% of the respondents from law firms, but just about 65% of the patent professionals are in favour of the filing date or priority date. Broken down according to the technology

area of the respondents, no significant differences between the various technology areas can be observed.

The last question is if the rules on scope and availability of prior user rights during grace period need to be harmonized. In Table 29, the statements of the respondents are summarized and grouped according to the region.

Region	Yes	No	Total
Europe	24 (64.86%)	13 (35.14%)	37
USA	36 (40%)	54 (60%)	90
Other	15 (60%)	10 (40%)	25
Total	75 (49.34%)	77 (50.66%)	149

Table 29: Harmonization of rules on scope and availability of prior user rights – region – USA (based on USPTO 2013)

It can be observed that about half of the respondents are in favour of internationally harmonizing the rules on scope and availability of prior user rights during grace period, while the other half of the respondents is against such a harmonization. Especially the participants from the USA seem to prefer non-harmonized patent systems in this regard all over the world.

6.3.2. Further opinions

Due to the importance of the US-patent system, it is the subject of various public discussions, especially by researchers. In particular, the recent change of several important parts of the law are considered and analysed in various papers. For example, Chisum (Chisum 2011) provides an overview of the most important changes and the respective effects. Merges (Merges 2012) discusses the changes of the law regarding the priority right and the novelty. A large part of this paper is dedicated to the disclosure and in particular to the rules regarding the grace period provided in the USA.

Case (Case 2013) takes a very critical point of view regarding the new patent law in the USA. He states that it has a negative influence on American inventor, because of

the new “First-inventor-to-file” system and the related grace period. In particular, Case argues that the new system does not focus on the first inventor, but on the first one who files an invention and that such a rule is against the interests of small sized companies and single inventors, but in favour of large concerns.

6.3.3. Summary of the situation in the USA

About two thirds of the respondents stated that they already needed to file a patent application after the first disclosure of the respective invention. Users from Europe had this need less often than their colleagues from the USA. The reason therefore is probably the difference in providing a grace period between the US-patent system and the European patent system. Considering the answers according to the various technological areas, it can be seen that Biotech/Pharma-companies and, surprisingly, companies in the field of mechanics reported a need for filing patent applications after the publication of the respective inventions.

When the strategies of the respondents that they use in a case, where an invention has been published before a patent application for this subject matter has been filed, are compared to each other, large differences between respondents from different countries can be observed. On the one hand, participants from the USA are almost always using the possibility of a grace period. On the other hand, users from Europe are more likely to give up such an application and try to use it as a trade secret, an option, which is very rarely used by the US-based users. Again, this can be traced back to the different provision of grace periods in the USA and in Europe.

Despite patent professionals and law firms, which are heavy users of grace periods due to their daily work, especially universities and research institutes are using grace periods. Corporations are not relying on grace periods very much. Interestingly, individual inventors are also not using grace periods often, even one of the intentions of such a provision is to protect individual inventors and other inexperienced users from mistakes. One reason for that might be that individual inventors are not filing very many patent applications, so that the possibility of making a failure once is also lower. Additionally, individual inventors usually do not have the need to publish their inventions as early as possible.

The question if the unavailability of a grace period has been a factor in business/research decisions, leads to similar results. While universities and research institutes state that they are heavily impacted by this, corporations are not reporting such effects. Again, individual inventors do not consider the unavailability of grace periods as a factor in business or research decisions.

Considering the missing international harmonization of the rules regarding grace periods, most of the respondents report that they have already had a case, where they could obtain a patent for an invention in one country, but not in another one due to missing possibilities of invoking a grace period. Significant differences between the answers of the respondents from different countries cannot be observed.

For most of the respondents, grace periods represent an important factor for success in business or research. As expected, US-Americans consider grace periods to be a more important factor than users from Europe.

Most of the respondents reported that they have never been negatively affected by third parties using a grace period.

It can be seen that a great majority of the respondents stated that they consider grace periods as an important part of patent systems and a very similar majority is in favour of grace periods. Not surprisingly, US-Americans are more in favour of grace periods than Europeans. The latter just show a slim majority of approval.

Overall, most of the respondents are in favour of internationally harmonizing the rules regarding the provision of grace periods.

Regarding the specific issues that should be harmonized, most of the participants are against mandatory declarations, wherein a majority of US-respondents are against mandatory declarations, while European respondents are mostly in favour of mandatory declarations.

For a harmonized patent law, US-Americans prefer a duration of a grace period of 12 months, while Europeans prefer a length of 6 months. Overall, a majority of the respondents was in favour of the 12-months duration. Broken down to the affiliation, it

can be seen that most individual inventors are in favour of a length of 6 months, while all others prefer a length of 12 months.

Regarding the date from which the grace period should be computed, most of the respondents prefer the filing date or the priority date. While just about half of the Europeans are in favour of this broader regulation, a majority of US-Americans prefers the filing date or the priority date compared to always using the filing date. Broken down to the affiliation of the participants, all affiliations are in favour of the filing date or the priority date, except the individual inventors, which prefer to always use the filing date.

Regarding the rules on scope and availability of prior user rights during a grace period, just about half of the respondents are in favour of harmonizing this issue. While Europeans are more in favour of a harmonization, US-Americans are mostly against such a harmonization.

6.4. Japan

6.4.1. Study on grace period by the JPO

In 2012, the JPO published a study (JPO 2012) regarding the provision of a grace period in Japan, in particular on the effects of the change of the respective law during the revision of the patent law in Japan, which came into effect in 2012. As mentioned above, the scope of the available grace period was broadened compared to the law in effect before the revision.

This study is divided into two main parts. In the first part, a statistical survey is provided, while in the second part, a questionnaire survey is presented. This survey is discussed in more detail, next to other issues, in (JPO 2013).

Statistical survey

Before the introduction of the new patent legislation in 2012, the number of applications requesting a grace period was decreasing from almost 2000 cases in the

fiscal year 2009 (April 2009 to March 2010) to slightly over 1500 in the fiscal year 2011 (April 2011 to March 2012), which is a reduction of more than 20% within two years. In relative terms, the approximately 2000 applications requesting a grace period in 2009 represent about 0.57% of a total of 348,596 applications filed in 2009, while the 1500 applications filed in 2011 are about 0.44% of the 342,610 applications filed in 2011.

In contrast to this development, the number of applications requesting a grace period increased by about 70% in the months after the new patent law came into effect compared to the years before, as can be seen in Fig. 3.

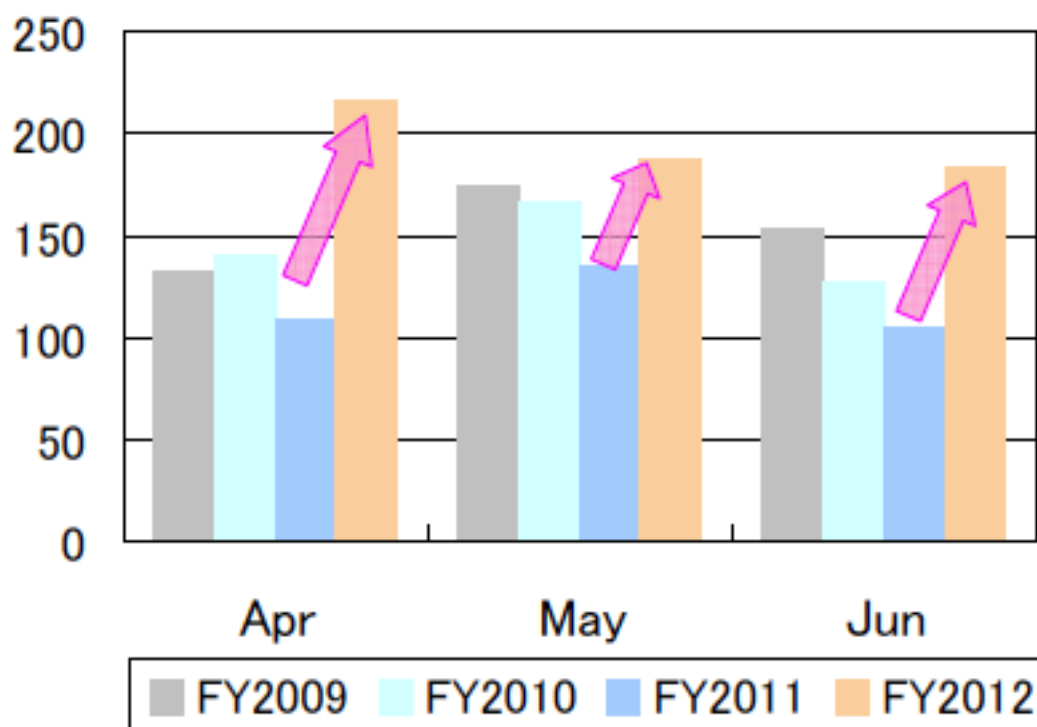


Figure 3: Development of applications requesting grace period – Japan (JPO 2012)

Fig. 3 shows the increase of the applications requesting a grace period in April, May and June 2012 compared to April, May and June 2009, 2010 and 2011. In total, the amount of applications requesting a grace period in these three months in 2012 is about 70% higher than the amount of applications requesting a grace period in the same three months in 2011.

In Table 30, the number of requests for a grace period is presented, grouped according to the economic type of the applicant.

	April – June of 2011		April – June 2012	
University/Public Research Institute	88	25.2%	106	18.0%
Joint Applicant, including a research institute	89	25.5%	100	17.0%
SME	34	9.7%	130	22.1%
Large Company	90	25.8%	169	28.7%
Joint Applicant, not including a research institute	24	6.9%	54	9.2%
Other	24	6.9%	29	4.9%
Total	349	100%	588	100%

Table 30: Applications requesting grace period per type of applicant – Japan (based on JPO 2012)

Table 30 shows that the requests for grace periods have increased for all presented groups in total numbers. Interestingly, the relative share of SMEs of the applications that requested for a grace period has increased by about 2.3 times to 22.1%, while the share of universities and public research institutes and joint applicants including them have decreased by about 30%.

In Table 31, the number of applications requesting a grace period between April to June 2011 and April to June 2012 according to the type of disclosure and the type of the applicant are presented.

	University/Public Research Institute		Joint Applicant, including a research institute		SME		Large Company	
	2011	2012	2011	2012	2011	2012	2011	2012
Printed Publication	10	14	7	11	8	19	30	29
Internet	6	14	5	14	1	18	14	48
TV/Radio	-	2	-	0	-	1	-	0
Academic Meeting	69	67	73	69	15	15	41	51
Other Meeting	-	0	-	0	-	5	-	7
Exhibition/Fair	2	7	2	5	6	34	2	22
Test	0	0	1	0	2	3	1	0
Sale	-	0	-	0	-	21	-	8
Other Working of Invention	-	0	-	1	-	8	-	2
No Data Entry	1	2	1	0	2	6	2	2
Total	88	106	89	100	34	130	90	169

Table 31: Type of disclosure per type of applicant – Japan (based on JPO 2012)

A few interesting points can be seen from Table 31. First, almost all numbers increased from 2011 to 2012, which is not surprising. The publication through the internet seems to be already as important as through conventional channels like print media. Enormous increases of internet publications can especially be seen for SMEs and large companies. Again especially relating to SMEs and large companies, it seems that the new grace period, including a broader scope regarding exhibitions and fairs, led to an enormous increase in pre-filing publications at exhibitions and fairs. A third notable result is that the disclosures through sales are very high for SMEs, even much higher than for large companies.

Statistical survey

Users of the Japanese patent system have been asked about their opinion regarding the revision of the patent law in 2011, in particular the extension of the scope of the grace period. The result is presented in Table 32.

	Good	Good, but not enough	Bad	Premature to evaluate	Total
Headquarters of industry-academia collaboration and IP in universities	29 (58%)	4 (8%)	4 (8%)	13 (26%)	50 (100%)
University teachers and researchers	24 (55%)	4 (9%)	2 (5%)	14 (32%)	44 (100%)
SMEs	81 (66%)	4 (3%)	4 (3%)	33 (27%)	122 (100%)
Large companies	18 (47%)	5 (13%)	1 (3%)	14 (37%)	38 (100%)
Total	152 (60%)	17 (7%)	11 (4%)	74 (29%)	254 (100%)

Table 32: Opinion about revision – Japan (based on JPO 2012)

It can be seen that 60% of the respondents, a large majority, are in favour of the new, broader scope of the grace period. SMEs have the largest approval rating, while large companies have the smallest approval rating. Just a handful of participants are against the revision. Additionally, a large group of almost 30% does not have an opinion about the revision, as the time period that the new legislation is in force was too short to form an opinion for many people.

For the next questions, the participants have been grouped in three different groups. These are universities, SMEs and large companies. The typical answers of these groups are described in the following.

Universities

Universities are typically frequent users of grace periods. The main reason for that is that universities are far more concerned about presenting their results as soon as possible than about obtaining a patent for an invention. On the other hand, they are aware of the worth of patents and as a result, they tend to publish the results first and file a patent application afterwards, requesting a grace period.

Two universities reported that they have already used grace periods in at least one case. Later, the respective patents have been a source of income due to license contracts with business enterprises. One of these universities has additionally tried to obtain patent protection in other countries, but had to give up some of these applications because the respective legislations did not provide a possibility to require a grace period.

SMEs

Only some SMEs follow a strict strategy on filing a patent application first and selling the inventive products later. These companies are typically characterized by a high awareness of the importance of patent protection on the one hand and by a sufficient fund for the field of patent protection on the other hand. Most of the SMEs are selling their inventions and try to obtain patent protection afterwards, when the sales of the invention have been sufficiently high and the invention seems therefore to be valuable.

One small company stated that it had no intention to file a patent application for an invention, until it got very good critics for it. Due to the grace period, it was still possible to file a respective patent application. Another small company reported that they had a joint-research with a public research and development institute. As the

institute presented the results to the public, the company had to require a grace period for the patent application of the invention based on the research.

Large companies

Large companies tend to use grace periods rarely. Most of these companies have well working structures in the field of patent protection and control patent applications and disclosures strictly. Additionally, such companies are usually operating internationally and using grace periods might prevent them from obtaining patents in other countries, where grace periods are not provided. Therefore, most large companies use the grace period provided in Japan only as an emergency tool, when the invention has been disclosed by mistake or due to any other failure.

One large company submitted an article on an invention in an academic magazine. After that, they found out that no patent application has been filed for this invention by mistake. Using the grace period, it was still possible to file such a patent application even it has already been unwantedly published. Another large company reported that they did not want to file a patent application for an invention, until there was a huge public reaction after the invention has been presented at an academic conference. Therefore, they filed a respective patent application in a hurry and requested a grace period.

6.4.2. Consultation with users in Japan

In 2013, the JPO conducted a user consultation in Japan, containing a questionnaire survey and a roundtable, based on the work of the Tegernsee group. In this consultation, a few topics in patent law are addressed, like the mandatory publication after 18 months or prior user rights. The results of this study regarding grace periods are presented in the following (JPO 2013).

The questionnaire was held between January and March 2013. The JPO has received 412 responses, wherein about one third came from large companies, another third from SMEs and the rest was approximately equally shared between universities and research institutes and patent professionals and law firms.

Two roundtable discussions were organized by the JPO; one in Osaka on February 28, and one in Tokyo on March 12, both in 2013. Each of these roundtables was formed by five panellists, two representatives from large companies, one representative from SMEs, one university professor and one patent attorney. During the discussion, several topics, including grace periods, were discussed.

Users' attitude toward grace periods

In Table 33, the responses to the question “Are you in favour of a grace period?” are shown, broken down to the affiliation of the respondents.

	Yes	No	No Answer	Total
Patent Attorney	52 (81%)	11 (17%)	1 (2%)	64
Universities/Research institutes	56 (79%)	11 (15%)	4 (6%)	71
SMEs	91 (76%)	21 (18%)	8 (7%)	120
Large companies	102 (69%)	44 (30%)	1 (1%)	147
Total	301 (75%)	87 (22%)	14 (3%)	402

Table 33: In favour of grace period – Japan (based on JPO 2013)

As can be seen, the overall acceptance of the grace period amounts to 75%. The level of acceptance ranges from 69% within large companies up to 81% within patent attorneys.

In the next question, the respondents were asked to state their perceptions regarding grace periods. The results are presented in Table 34, wherein multiple answers were allowed.

Positive perceptions	Grace period addresses needs of academia and promote earlier dissemination of technology	190	354
	Grace period makes patent system user-friendly	164	
Negative perceptions	Diminishes predictability of patent system	57	135
	Grace period makes patent system complicated	78	

Table 34: Perceptions of grace period – Japan (based on JPO 2013)

It can be seen that the positive perceptions are more than two times more than the negative perceptions. This shows that most of the respondents think that providing a grace period has more positive than negative effects.

In Table 35, the frequency of using a grace period, broken down to the various groups, is depicted. The group including patent professionals and law firms is left out in this question.

Group	<1/1000	1/1000	1/100	1/10	>1/10
Universities/Research Institutes	1	1	21	43	1
SMEs	5	6	18	5	2
Large Companies	31	46	40	2	0

Table 35: Frequency grace period – Japan (based on JPO 2013)

It is obvious that SMEs and especially universities and research institutes use grace periods far more often than large companies. However, 81% of the large companies stated that they have already requested a grace period at least once.

Large companies

Large companies use grace periods basically for minimizing the damage of unwanted early publications. While managing a large amount of patent applications, errors in managing the publications of the respective inventions happen rather frequently. Additionally, it is stated that sometimes it is not possible to file a patent application before the invention is presented e.g. at an academic conference.

Another case where large companies use grace periods frequently are for inventions that were made during joint research projects with universities or research institutes. In these cases, it seems to be common to respect the need of the external researcher to publish the results e.g. at academic conferences, regardless if a patent application covering these results has already been filed or not. As also mentioned during the roundtable discussions, large companies face situations where the partner

in a joint research project has to publish the results before a patent application has been filed. As a result, a grace period has to be requested by the company.

Nonetheless, large companies see grace periods as safety nets, which can be used in critical situations, but not regularly.

SMEs

30% of the SMEs reported to have already used a grace period, but 63% of the responding companies stated that it is necessary to have the option to file a patent application after the first publication of the respective invention. This divergence might be explained by the fact that SMEs do not file many patent applications in absolute numbers.

The reasons for requesting a grace period for a patent application are, about equally distributed; errors, disclosures at exhibitions, disclosures at business meetings and disclosures at academic conferences. SMEs show higher percentages of disclosures at exhibitions and business meetings, compared to universities and large companies.

During the discussions, comments relating to the situation of SMEs showed that SMEs tend to disclose their inventions by selling or presenting them to their customers. If the feedback is positive, then they think about filing a patent application for the invention. As reasons for such behaviour, limited and insufficient capacities for managing intellectual property rights are cited.

Resulting from that, it seems that the safety net function is even more important for SMEs than it is for large companies, due to the smaller capacities of managing intellectual property rights. Additionally, it is often used by SMEs to file patent applications after first feedback by the customers has been received.

Universities/research institutions

Almost all (94%) respondents from universities/research institutions have reported that they have already used a grace period at least once. As universities are typically

more aware of early publications than filing patent applications, they are frequent users of grace periods.

During joint research projects with companies, especially large companies, universities were faced with requests of these companies to establish IP management systems to ensure that patent applications are filed for the inventions made during these collaborations. As a result, universities are getting more and more professional in the field of IP protection. During a roundtable discussion, one of the speakers stated that they used grace periods in about 14% of their patent applications a few years ago, but that has dropped to about 5% now, due to a stronger IP management system.

As research for universities has another goal setting than for private companies, it is more difficult to establish good IP management systems. University researchers see patents as another step of the research process, but not as the real goal. Additionally, due to the academic freedom which is dominant at universities, it is difficult to tell researchers when they should publish their results.

Summarizing, it can be seen that universities/research institutions are on a good way to establish better IP management systems in order to reduce the amount of patent applications that are filed requesting a grace period.

Impacts resulting from using grace periods

Most of the respondents see the provision of grace periods as pure safety nets. Just about 17% (68 out of 412) consider the “enabling of inventors to conduct market research and/or obtain financing before filing patent applications” as a purpose of grace periods.

28% of the participants reported that using a grace period for a patent application led directly to success of their business and/or research activities. The highest success rate was stated by universities (37%), while just 22% of the SMEs and large companies indicated such a success. One explanation for this difference between universities and companies might be that it is easier for universities to link a patent

application with success, as they just connect patent with raising funds through earning license revenues. For companies, licensing is often not desired, but they produce the invention by themselves. As a result, the worth of a patent for an industrial company is far more difficult to evaluate.

Harmonization of grace periods

About one third of the participants stated that they have already gave up a patent application due to differences in the provision of a grace period in different legislations, e.g. when a grace period is not available. As a result, about 85% of the respondents think it is necessary to harmonize the grace periods internationally.

Asked about the detailed aspects of grace period that should be harmonized, most participants agreed on the duration, the mode of disclosure, the date for computing duration and the scope of the grace period. Still slightly more than half of the participants state that the declaration/procedure of requesting a grace period should be harmonized, while just about one third thinks that prior user rights during the grace period should be harmonized. For many respondents and also for some panellists in the roundtable discussions, it is in particular a problem that Europe and China are not providing general grace periods. This forces some applicants to give up patent applications in these countries, when a grace period would be needed.

Some respondents stated that a general grace period leads to unstable patent rights. In contrast to that, about one third of the participants reported that they have already filed a patent application without using a grace period, knowing that the respective invention has already been disclosed before the filing date. As a result, patents might be granted which could be destroyed by such disclosures. Supporters of general grace periods argue therefore, that a situation without providing a grace period would lead to unstable patent rights, and not the other way round. Especially by mandatory prescribed procedures, problems occurring by grace periods regarding stability of patent rights can be met. About two thirds of the participants were in favour of mandatory declarations of potentially novelty-destroying disclosures, which fall under a grace period.

Regarding the best length that should be provided for a grace period, about two thirds of the respondents stated that they prefer six months. Again two third of the participants stated that the date from which the term of the grace period is computed should be the filing date or the priority date of the patent application.

6.4.3. Summary of the situation in Japan

It is rather surprising that the number of requests for grace periods has been increased enormously after the new patent law, allowing a broader grace period, was in force. Especially the fact that the usage of such a grace period by SMEs increased far more than the usage of universities is surprising at the first glance. The reason for this might be that the new grace period allows more kinds of disclosures, which are used by SMEs, while the ways of disclosure typically used by universities have already been included before.

During the questionnaires, most of the respondents have shown their satisfaction with grace periods in general and in particular with the new grace period rule in Japan. Not surprisingly, mainly universities and SMEs use grace periods regularly, while large companies tend to use it rarely as a safety net.

Most of the respondents see the impacts of a grace period merely positive. The frequency of relying on a grace period is on average rather low, but shows that universities and research institutions use them the most, followed by SMEs and large companies, which use them rarely.

It can be seen that joint research projects between universities and large companies have impacts on both parties. On the one hand, large companies accept the need of universities to file before the application date of the respective patent application by using grace periods. On the other hand, universities learn to manage their IP portfolios in a more efficient way, which results in less frequent uses of grace periods.

For SMEs, the difference between supporting a grace period and using grace periods is large. Further, it seems that the new Japanese legislation has met the needs of SMEs regarding the provision of grace periods, as far more grace periods are

requested by SMEs than before. Nonetheless, SMEs are still behind large companies in regards to using the possibilities of patent rights.

Universities are, as expected, a heavy user of grace periods due to their priority to publish first and file later. One reason of the not efficient IP rights management at universities is the culture at universities, which does not allow to centralize these issues. Another reason is the different goal setting of universities compared to companies.

Most of the respondents were in favour of harmonizing the grace period internationally; even the preferred parts differ between the supporters. As the participants stated to prefer a duration of six months, it seems that they are satisfied with the existing legal framework in Japan. For the date from which the term of the grace period is computed, they preferred the priority date.

7. Analysis

Based on the data presented before, an analysis of these data can be provided. In particular, the differences between and the similarities of the three presented legislations in Europe, the USA and Japan should be depicted and analysed.

One important point, which can be drawn from the surveys and also from the data from Japan, is that it happens rather rarely that a grace period is used. In a legislation that provides general grace periods like Japan, only about 0.5% of the patent applications request a grace period. In legislations, which do not provide a general grace period but just a very limited grace period, the share of patent applications using a grace period can be considered to be far below this number, such that it can almost be neglected.

One similarity is that most of the respondents all over the world have already had the problem of a disclosure of an invention, which should be patented. These rates are higher in the USA and in Japan than in Europe, which can be explained by the fact that the users in the USA and in Japan have the possibility to use general grace periods already and are therefore aware of such problems. Nonetheless, also users

of legislations that do not provide general grace periods often face the problem of early disclosures.

Another similarity is that there are large differences between the types of applicants, regardless of the origin of the applicants. One particular group, researchers of universities or other research institutes, are affected by the provision of general grace periods to a higher degree than other types, in particular large companies. Researchers are usually highly interested in publishing their results as soon as possible, because it should be avoided that other researchers working in the same field are faster and other reasons. Patent issues are, compared to this need of publishing as soon as possible, just secondary. Nonetheless, many researchers want to file patent applications for their inventions after they have published them. As a result, this group of applicants is more interested in general grace periods all over the world than other groups of applicants, which are more interested in obtaining a patent right than in publishing the invention as soon as possible.

Within the approval rating of general grace periods, large differences between the legislations can be observed. While the European users are divided in two equal groups, wherein one is in favour of general grace periods and the other is against general grace periods, the users from the USA and Japan are, with a large majority, in favour of general grace periods. It seems that the applicants, which are used to such a system are satisfied with it. Probably another important factor which can explain this difference is the traditional way of considering general grace periods and their effects. While the traditional European point of view is generally against general grace periods, the US-American and the Japanese point of view seems to be more in favour of such a legal instrument.

One difference between users within legislations without provision of a general grace period (Europe) and users within legislations with provision of such a possibility (USA and Japan), is that applicants which do not have the possibility of requiring a general grace period, are sometimes forced to give up their wish to obtain a patent when they have already published the respective invention. Applicants from the USA and Japan, on the other hand, still have the possibility to obtain a patent at least in their home country, in contrast to the applicants from Europe. This leads to an advantage of

users from Japan and the USA over the users from Europe in terms of patent competition.

Detailed issues

European and Japanese respondents prefer a length of 6 months for a grace period, while US-American respondents are in favour of 12 months. Not surprisingly, most of the users seem to be satisfied with the length of the grace period of their home-legislation. In general, a shorter, 6-month period is preferred for a defensive approach of a grace period, while a 12-month period is more suitable for a very broad scope of a grace period.

Regarding the date from which the grace period should be computed, most of the respondents prefer the use of the filing date or, if applicable, the priority date. Even there are differences in the level of approval between the applicants and in particular between the users of the three observed legislations, each group is in favour of this rule and rejects the rule to always use the filing date for the computation of the grace period.

Mandatory declarations of early publications, as they are e.g. necessary in Japan, are preferred by most of the European and Japanese respondents, while US-Americans are mostly against this requirement. This again shows that the users from the USA are in favour of broader general grace periods than users from Europe or Japan.

Harmonization

As expected, most of the users from all the three analysed legislations are in favour of internationally harmonizing the rules on grace periods, next to many other topics in patent law.

Nonetheless, the opinions about the topics for harmonization are different between the groups of respondents of the different legislations.

European users are especially in favour of harmonizing the mode of disclosure, the scope, the duration and the relevant computing date. Additionally, a smaller majority of respondents from Europe would prefer to harmonize the rules on mandatory declarations and on prior user rights. Users from the USA are, in contrast to that, against harmonizing the rules on mandatory declarations and prior user rights. The reason for that might be that US-Americans are by the majority against mandatory declarations and are afraid of harmonizing the respective rules against their wishes. Regarding prior user rights, it seems that US-Americans consider such rights as too important to harmonize them.

Another important point can be gained from the statistical data provided by the JPO. As can be seen, the provision of a broader grace period leads to an increase of patent applications that require a grace period. Even the data cannot prove that it also increases the number of patent applications, because the total numbers of patent applications requiring a grace period are very small compared to the total amount of patent applications, it can be followed that a broader grace period leads to an increase of the total number of patent applications. This can be done, because even some of the patent applications requiring a grace period would have been filed anyway, it can be seen from the other data that some applicants do not file a patent application when they already published the respective invention before. These applicants are using a grace period, if possible. As a result, it can be said that *ceteris paribus*, a broader grace period leads to more patent applications.

8. Conclusion & suggestions

Based on the analysis of the data, the following points can be concluded.

An international harmonization is necessary. Such a harmonization, independent of how the detailed rules of the harmonization will finally look like, would make the world-wide patent system easier for all involved parties, in particular for applicants. An enormous majority of the respondents of the presented surveys is in favour of a harmonization. Nonetheless, there are a lot of positions against the harmonization of every detailed topic within grace periods. It seems that a broad discussions is

necessary to separate the issues that should be harmonized from the issues that should be left to the single legislations.

It can be seen that the introduction of broader grace periods leads to a decrease of parallel activities due to the earlier publications compared to situations with narrower grace periods. Such early publications generate spillover effects and reduce the parallel activities in research and development of companies. This reduction leads to a generally higher efficiency and productivity of the companies and as a result, the total welfare of the society increases.

Another result is that a grace period reduces the risk of an early publication of an invention by an inventor. In such a case, the invention is not “lost” for patent protection, but it is still possible to obtain a patent for such an invention. This insurance mechanism of a grace period is always an advantage for an inventor, compared to a situation where no (or just a limited) grace period is provided, because he can choose between publishing the invention before or after the application date. This choice is for free, so that the inventor does not have to pay any price or has to bear any disadvantage as a compensation for the choice.

Further, it can be seen that under the available general grace periods, the legal uncertainty for third parties, especially competitors of the inventor, is higher than under a legislation that does not provide a general grace period. This is a disadvantage for third parties and especially for competitors that are active in a similar field as the inventor.

The data suggests that a broader grace period leads to more patent applications, because inventors which have published their invention before filing a respective patent application are still able to file it, in contrast to an early disclosure in a legislation which is not providing a grace period. A higher number of patent applications can be seen as desirable, because the basic goal of patent law is to provide patents for patentable inventions and it should be avoided to exclude inventions, which are patentable, but just do not fulfil formal issues.

Based on this analysis, a grace period with the following characteristics is suggested, in order to optimize the respective rules from an economic point of view.

Duration

A length of six months can be considered as a reasonable time for a grace period. On the one hand, it provides enough time for the applicant to prepare a detailed patent application after an early disclosure, and on the other hand, the period of uncertainty of third parties is limited to a reasonable amount of time. Further, most of the respondents of the presented surveys prefer a length of six months over other possible lengths, e.g. 12 months.

Date

Regarding the date, from which the grace period should be computed, the application date or, if applicable, the priority date should be used. This has the effect that the grace period can be used all over the world to a better degree than a rule just considering the application date, because the application dates of several applications of one invention are differing. As a result, it might happen that an application is filed too late, such that the grace period cannot be used anymore. Such a limited rule causes disadvantages for the applicant, but it does not add anything to the welfare of third parties. Therefore, the broader rule of using the priority date, if applicable, is considered to be the better choice.

Mode of disclosure

The suggested form of a grace period should cover all publications, including written and oral publications, disclosures through the internet or during sales conversations. There is no specific reason for excluding specific disclosures from the grace period. Further, the same rules as for the examination of citations during the examinations procedures can be used, such that the decisions and in the decision-making practice of this legal field can be considered as relevant.

Scope

The scope of the grace period should cover all disclosures that can be traced back to the inventor, including publications by non-authorized parties and publications by the inventor himself. This scope can be seen as a merely defensive approach, wherein the inventor should be protected, but the rights of the inventor should not harm the rights of third parties.

Mandatory publication by the patent office

One very important factor in the framework of the presented grace period is that the mandatory publication of the patent application should be done 18 months after the first early disclosure, and not 18 months after the application date. Such a rule reduces the uncertainty period of third parties significantly. The only difference between a publication of an invention at the application date and the publication of an invention before the application date is that in the second case it is not immediately clear if there has been a patent application filed. The timespan between the first disclosure and the publication of the patent application is the same.

Formal requirements

In order to allow a mandatory publication of a patent application by the patent office, it is necessary to require a mandatory declaration of the first early disclosure. Without such a declaration, the publication rule as described above cannot work. Further, a mandatory declaration reduces the work of the patent office, while the legal certainty of the applicant can be increased.

Prior user rights

Prior user rights define the rights of someone who uses the invention before the patent application has been published. Usually, the national legislations allow the use of the invention even after the invention has been published to a certain degree. These rights are just considering uses within the respective country and therefore, it seems to be a topic which should be left to the national legislations, which can define

rules for their country. In order to reach the goal to maximize the welfare of the society from an economic point of view, it seems not to be necessary to harmonize this topic.

9. Outlook

Further research in this area can be done in several directions. Three possible fields are presented here.

First, it seems that there is lack of statistics, e.g. of applications requiring grace periods. In some countries, these data are not available because the patent office does not know them (e.g. in the USA) or because they do not offer these data to the public (e.g. in Europe). As a result, it has to be relied on very few datasets and on other sources, which are not as reliable as statistics, e.g. surveys. This lack of data has to be filled, such that more comprehensive analysis of this topic is possible.

Second, it is necessary to enlighten the whole patent legislation. While just one specific issue has been analyzed in this paper, it is also interesting and necessary to have a more holistic view on the whole topic, because the various detailed issues play together, e.g. the grace period and the mandatory publication of the patent application. Economical models, which take into account all or at least more than one, interacting issues should be developed to get more insights into the mechanics of patent law and the behavior shown by the various players.

Third, the strategic interests of the players in the field of patent legislation and in particular regarding grace periods should be considered. Due to several reasons, the involved parties have different and often conflicting interests. Such an analysis could provide insights into the working of a patent system in general and particular of grace periods.

10. Bibliography

- Adelman M.J. (2000); *A grace period and European patent law: It's time for a change*; In: International intellectual property law & policy, Vol. 4, chapter 31, 2000.
- Banerjee K., Harikishor P. (2013); *Protecting an invention after public disclosure*; October 1, 2013.
- BMBF (Bundesministerium für Bildung und Forschung) (2002); *Zur Einführung der Neuheitsschonfrist im Patentrecht – ein USA-Deutschland-Vergleich bezogen auf den Hochschulbereich*; Bonn, Februar 2002.
- Case, J.L. (2013); *How the America invents Act hurts American Inventors and weakens incentives to innovate*; In: University of Missouri-Kansas City Law Review, Vol. 82, No. 1, 2013.
- Chisum, D.S. (2011); *Priority Among Competing Patent Applicants Under the American Invents Act*; December 5, 2011.
- de Saint-Georges M., van Pottelsberghe de la Potterie B. (2012); *A quality index for patent systems*; In: Research Policy, Volume 42, p 704-719, 2012.
- European Patent Convention (EPC) (2000).
- European Patent Organisation (2014); <http://www.epo.org> (viewed 2014).
- European Patent Organisation (2013); *Report on the EPO consultation of European users on the Tegernsee studies and the Tegernsee joint questionnaire*; June 2013.
- European Patent Organisation (2010); *Special edition 1 of OJ EPO 2010*, 2010.
- FivelPoffices (2013); *IP5 Statistical Report 2012 Edition*, Munich, November 2013.
- Franzoni, C., Scellato, G. (2010); *The grace period in international patent law and its effects on the timing of disclosure*; In: Research Policy, Vol. 39, p 200–213, 2010.
- Hall, B.H. (2007); *Patents*; In: Contribution to The New Palgrave: A Dictionary of Economics, second edition (2007).
- KIPO (Korean Intellectual Property Office) (2014); <http://www.kipo.go.kr> (viewed 2014).

- Lerner, J. (2002); *150 Years of Patent Protection*; In: AEA Papers and Proceedings- The Economics of Technology and Innovation, Vol. 92, Np.2, p 221-225, May 2002.
- Japan Patent Office (2012); *Study on Grace Period – Revision of patent law in Japan*; In: Trilateral Office and User Meeting, Kyoto, Japan, November 15, 2012.
- Japan Patent Office (2013); *Report on Consultations with Users*; June 2013.
- Japan Patent Office (2014); <http://www.jpo.go.jp> (viewed 2014).
- Japanese Law Translation Database System (2014); <http://www.japaneselawtranslation.go.jp> (viewed 2014).
- Maruyama, R. (2000); *The Grace Period: A Japanese Perspective*; In: CASRIP Publication Series: Rethinking Int'l Intellectual Property, No. 6, p 260-262, 2000.
- Merges, R.P. (2012); *Priority and novelty under the AIA*; September 2012.
- Paris Convention (1883); *Paris Convention for the Protection of Industrial Property*.
- Patent Cooperation Treaty (1970).
- Posner, R.A. (2005); *Intellectual Property: The Law and Economics Approach*; In: Journal of Economic Perspectives, Vol. 19, No.2, p 57-73, Spring 2005.
- Schumpeter, J.A. (1339); *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process*.
- SIPO (State Intellectual Property Office of the People Republic of China) (2014); <http://english.sipo.gov.cn/> (viewed 2014).
- Tegernsee Experts Group (2012); *Grace Period*; September 24, 2012.
- TRIPS (1994); *Agreement on Trade Related Aspects of Intellectual Property Rights*.
- United States Patent and Trademark Office (2014); <http://www.uspto.gov/> (viewed 2014).

11. Annex

11.1. Abstract

Similar to other issues, the patent legislations all over the world are subject to international harmonization. Due to the developing globalization, a harmonization is necessary in order to increase the efficiency of the patent systems all over the world.

One important topic within patent law, which is not yet harmonized, are grace periods. Usually, the disclosure of an invention without having filed a patent application covering the invention leads to a rejection of a later filed patent application for this invention, because it is not new anymore. Grace periods allow the publication of an invention before a respective patent application has been filed. While almost all patent legislations worldwide provide a grace period, the scope of these rules differs to a high degree. In the narrowest sense, a grace period is only available in very specific cases, e.g. when the invention has been shown at a special fair or when the invention has been stolen or published by an unauthorized person. Such a grace period is e.g. provided by the European Patent Convention. In a broader meaning, so called general grace periods can be provided. The availability of these general grace periods is not limited to special circumstances, but also includes own, intentional publications of the invention by the inventor. The USA and Japan provide such general grace periods.

To reach the goal of a worldwide harmonized definition of a grace period, it is necessary to determine the most optimal design of such a rule. This work provides a comparison of the grace period provided in Europe, Japan and the USA from an economic point of view.

At first, the existing rules in these countries are presented and compared. Further, a theoretical analysis showing the advantages and disadvantages from several points of view is made. The main advantage of general grace periods is that patent applicants have more freedom to publish their inventions, which is e.g. important for researchers or for small companies, which want to get feedback from the market before they invest in patent applications. Further, the risks of unintentional

publications are reduced, because such a disclosure might be repaired and do not necessarily lead to a loss of rights.

The main disadvantage is the increase of the legal uncertainty of third parties, which cannot be sure if an invention might be patented later or not for a longer period of time compared to a patent system which does not provide the possibility of a general grace period.

On the one hand, statistical data on the use of grace periods has been used and on the other hand, data from surveys about this topic has been analysed.

Finally, based on these analyses, several results can be seen. First, it can be observed that broader grace periods lead to more applications requiring a grace period exception. From this it can be concluded, that *ceteris paribus*, broader grace periods lead to more patent applications.

Another result, which can be gained from the surveys, is that most of the persons involved in patent law in countries providing general grace periods are satisfied with the respective grace period laws. In contrast, users in Europe seem to be divided between being in favour of general grace periods and being against general grace periods.

Based on these results, a grace period design for an international harmonization is proposed. The main basic points of this concept are a maximum duration of the grace period of six months, a mandatory declaration of disclosures made before the respective patent application has been filed and the mandatory publication of the patent application 18 months after the first disclosure of the invention.

This design of a grace period should balance the rights of the inventors and the rights of third parties. While applicants should have a mid-length grace period, the legal uncertainty of third parties can be reduced by a faster mandatory publication of the patent application compared to applications not requiring a grace period. In order to be able to publish an application 18 months after the first disclosure of the respective invention, it is necessary that the applicant informs the patent office of this disclosure.

11.2. German abstract (Deutsche Zusammenfassung)

Ähnlich wie andere Bereiche sind auch die weltweiten Patentgesetzgebungen einer internationalen Harmonisierung unterworfen. Aufgrund der sich entwickelnden Globalisierung ist eine Harmonisierung notwendig, um die Effizienz der Patentsysteme auf der ganzen Welt zu steigern.

Ein wichtiges Thema der Patentgesetzgebung, welches noch nicht harmonisiert wurde, sind Neuheitsschonfristen. Üblicherweise führt die Veröffentlichung einer Erfindung, ohne eine entsprechende Patentanmeldung eingereicht zu haben, zu einer Zurückweisung einer nachträglich eingereichten Patentanmeldung für diese Erfindung, weil diese nicht mehr neu ist. Neuheitsschonfristen erlauben die Veröffentlichung einer Erfindung, bevor eine entsprechende Patentanmeldung eingereicht wurde. Obwohl fast alle Patentgesetze weltweit eine solche Neuheitsschonfrist kennen, variiert der Umfang dieser Regeln in einem hohen Maße. In der engsten Auslegung ist eine Neuheitsschonfrist nur in sehr spezifischen Fällen möglich, z.B. wenn die Erfindung auf einer speziellen Messe ausgestellt wird oder wenn die Erfindung gestohlen oder durch eine nicht autorisierte Person veröffentlicht wurde. Solch eine Neuheitsschonfrist wird beispielsweise durch das Europäische Patentübereinkommen bereitgestellt. Breitere Auslegungen werden als allgemeine Neuheitsschonfristen bezeichnet. Der Zugang solcher allgemeiner Neuheitsschonfristen ist nicht auf spezielle Umstände limitiert, sondern umfasst auch gewollte Veröffentlichungen der Erfindung durch den Erfinder. Die USA und Japan stellen solche allgemeinen Neuheitsschonfristen bereit.

Um das Ziel einer weltweit harmonisierten Definition einer Neuheitsschonfrist zu erreichen, ist es notwendig, die optimale Ausgestaltung einer solchen Regel zu bestimmen. Diese Arbeit stellt einen Vergleich der Neuheitsschonfristen, welche in Europa, Japan und den USA verfügbar sind, aus einer ökonomischen Perspektive bereit.

Zuerst werden die existierenden Regeln in diesen Ländern vorgestellt und verglichen. Weiters wird eine theoretische Analyse, welche die Vor- und Nachteile aus verschiedenen Blickwinkeln beleuchtet, vorgestellt. Der Hauptvorteil von

allgemeinen Neuheitsschonfristen ist die größere Veröffentlichungsfreiheit für Patentanmelder, welche z.B. besonders wichtig ist für Wissenschaftler oder für kleinere Unternehmen, die zuerst Rückmeldungen vom Markt haben wollen, bevor sie in eine Patentanmeldung investieren. Weiters werden die Risiken von ungewollten Publikationen reduziert, weil solche Veröffentlichungen eventuell repariert werden können und nicht notwendigerweise zu einem Rechtsverlust führen.

Der Hauptnachteil ist die Erhöhung der Rechtsunsicherheit von Dritten, die sich, verglichen mit einer Situation, in der keine Neuheitsschonfrist möglich ist, für eine längere Zeitdauer nicht sicher sein können, ob eine Erfindung patentiert wird.

Einerseits werden statistische Daten über die Nutzung von Neuheitsschonfristen benutzt und andererseits werden Umfrageergebnisse über dieses Thema analysiert.

Basierend auf dieser Analyse können mehrere Ergebnisse gesehen werden. Erstens kann beobachtet werden, dass weitere Neuheitsschonfristen zu mehr Anmeldungen, die eine solche Neuheitsschonfrist beantragen, führen. Daraus kann geschlossen werden, dass weitere Neuheitsschonfristen *ceteris paribus* zu mehr Patentanmeldungen führen.

Ein weiteres Resultat, welches aus den Umfragen gewonnen werden kann, ist, dass die meisten Personen, die in das Patentsystem in Ländern, die eine allgemeine Neuheitsschonfrist bereitstellen, involviert sind, mit den entsprechenden Gesetzen zufrieden sind. Im Unterschied dazu sind die Benutzer des Patentsystems in Europa zur Hälfte für allgemeine Neuheitsschonfristen und zur Hälfte dagegen.

Basierend auf diesen Resultaten wird ein Entwurf für eine international harmonisierte Neuheitsschonfrist vorgeschlagen. Die wesentlichen Eckpfeiler dieses Konzepts sind eine maximale Schonfrist von 6 Monaten, eine obligatorische Erklärung für Veröffentlichungen, die vor der entsprechenden Patentanmeldung gemacht wurden, und eine obligatorische Veröffentlichung der Patentanmeldung 18 Monate nach der ersten Veröffentlichung der Erfindung.

Dieser Entwurf einer Neuheitsschonfrist soll die Rechte der Erfinder und die Rechte Dritter ausgleichen. Während Anmelder eine Neuheitsschonfrist mittlerer Länge zur Verfügung haben, wird die Rechtsunsicherheit Dritter durch die schnellere obligatorische Veröffentlichung der Patentanmeldung, verglichen mit Anmeldungen, die keine Neuheitsschonfrist in Anspruch nehmen, verringert. Um diese Veröffentlichung einer Anmeldung noch 18 Monate nach der ersten Veröffentlichung der entsprechenden Erfindung durchführen zu können, ist es notwendig, dass der Anmelder das Patentamt von dieser Veröffentlichung informiert.

11.3. Lebenslauf Stephan Haas

Curriculum vitae



Dipl. Ing. Dr. Stephan Haas, Bakk. rer. soc. oec.

Ausbildung

- Seit 10/2009 **Universität Wien**
Magisterstudium Volkswirtschaftslehre
Titel der Diplomarbeit: *Comparison of grace periods provided in the patent laws of selected countries from an economic point of view*
- 10/2009 - 09/2012 **Technische Universität Wien**
Doktoratsstudium Maschinenbau
Fachbereich Mechanik und Mechatronik
Titel der Dissertation: *End-of-Life-Management of Automation Devices*
- 10/2010 - 05/2011 **Donauuniversität Krems**
Universitätslehrgang Innovationsmanagement
- 10/2005 - 10/2009 **Technische Universität Wien**
Diplomstudium Wirtschaftsingenieurwesen-Maschinenbau
Vertiefung: Wettbewerb und Unternehmensführung
Titel der Diplomarbeit: *Technik und Marktchancen von Plug-In Hybridfahrzeugen und range-extended Electric Vehicles*
- 10/2006 - 10/2009 **Universität Wien**
Bakkalaureatsstudium Betriebswirtschaftslehre
Vertiefung: Ökonomische Analyse

Arbeitserfahrung

- Seit 05/2012 **Haffner und Keschmann Patentanwälte GmbH**
Patentanwaltsanwärter
- 02/2010 - 04/2012 **Securikett Ulrich & Horn GmbH**
Projektmanager: Leitung von Projekten in verschiedenen Abteilungen
- Leitung einer Produktionsabteilung
 - Prozessmanagement und Qualitätsmanagement
 - Innovationsmanagement in F&E
 - Vertriebsprojekte
- 03/2009 - 08/2009 **Magna Steyr, Graz**
Praktikum zur Erstellung der Diplomarbeit

07/2006, 07/2007	Schaeffler Austria GmbH (FAG Austria AG), Berndorf Ferialpraxis, Abteilung Technischer Einkauf
09/2005	Dupont Austria GmbH, Guntramsdorf Ferialpraxis, Abteilung Lagerlogistik
08/2003	Honda Austria GmbH, Guntramsdorf Ferialpraxis, Abteilung Lagerlogistik

Auslandserfahrung

08/2008 - 01/2009	Chalmers Tekniska Högskola, Göteborg, Schweden Auslandssemester
05/2005 - 08/2005	Vancouver, Kanada Sprachaufenthalt

Sprachkenntnisse

Deutsch	Muttersprache
Englisch	Verhandlungsfähig
Französisch	Grundkenntnisse
Schwedisch	Grundkenntnisse
Persisch	Grundkenntnisse

EDV Kenntnisse

MS Office (ECDL), Catia V5, ME10, ProEngineer, Solid Edge, Lotus Shark

Sonstiges

Führerschein Klassen A, B

Freizeitinteressen

Handball, Modellbau, Lesen

Guntramsdorf, September 2014