Legal responses of the United States of America to patent trolls – A step into the right direction?

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Summary

This thesis aims to identify and provide a comprehensive discussion regarding patent trolls, more precisely what defines a patent troll, what are the distinguishing marks, characteristics and strategies of these entities, combined with an analysis of both their negative harm and positive effects, furthermore elaborating and analysing the evolution of the related legislations and legal acts, concentrating on the United States of America.

As most characters in business, trolls too have a historical background and a system they have emerged from. Submarine patents are among the first examples of the undesirable impact of loopholes in a legal system and what they might do and cause to economics, legal and business related fields. Even though this problem was eliminated in the late 1990, its adverse and highly damaging influence still appears from time to time in the 21th Century. Patent trolls followed submarine patents, further exploiting the legal system, and if possible causing even more damage in the abovementioned fields than submarine patents did. Due to legal circumstances these entities function – most of the time – legally, they do not cross any related law, however are being usually negatively judged widely by experts, law professors, businessmen and politicians. Despite of their legal functioning there are certain characteristics and strategies that are typical and quite obvious marks of the operation of a patent troll. Even though these undertakings may follow different techniques, these strategies regularly appear within their behaviour, additionally they widely differ from other patent-interested companies, placing a heavy burden on the targeted firms.

Owing to their feature and mainly adverse impact patent trolls are a very up-to-date topic both within legal and economic related discussions and the reason behind this popularity is their controversial feature. These patent assertion entities are vividly part of the intellectual property related fields of the business playing a major role and being a major cause of the rise of patent related law suits. The positive effects and the negative harm of their activity can both be highlighted, as much as the growing number of this industry. The reasons behind the increasing number is quite widespread all the way from the related patent laws and quality of patents to the asymmetrical bargaining power that leads to attractive payoffs and settlements.

Both the U.S. States and even higher political stages have all realized how urgent it is to provide new and amend the existing necessary legislations in order to strengthen the position of targeted firms, innovators and stop patent trolls from further developing. In the past couple of years many bills were introduced regarding this subject aiming to solve the necessary legislation and patent litigation problems.
The issue of patent trolls due to their negative effect on economics, inventions and R&D investments is an everyday topic at the highest political stages too. Politicians are trying to rephrase the patent system, more precisely the related law in order to support innovators, to „help address some of the problematic behaviours of patent trolls.”\(^1\) Apart from political sectors there are different major entities and companies that try to fight against them too, both separately and together, either by different programmes, or by entering law suits brought by these non-assertion entities in order to provide a judgement in favour of these targeted entities are.

1. Introduction

Intellectual property law, specifically patents are closely related to the innovation ecosystem\(^2\) of different markets, fields thus to the promotion of science, R&D systems, wide-ranged investments and support of innovators in general. To ensure the security of these fields is firstly a legal related question, to provide sufficiently strict, but flexible rules that cannot be circumvented. However, it is in the nature of legal systems that they encompass loopholes too. These inadequacies may be scarcely noticeable, but on other cases may cause serious problems and have adverse impact on mutual fields. Patent trolls are a great example of a harmful consequence of an imperfection – amongst other several reasons - within the patent law in the U.S.

Apart from the legal related problems there are several reasons and different causes that enabled patent trolls to come into existence and emerge. The technical development boom, especially in the information technology sector, in relation with this the growing number of patent applications, the overwhelmed examiners, low-quality and over-broad, consequently more vulnerable patents all continuously help the rise of patent trolls.

Submarine patents were among the first similarly harmful type of entities which concentrated on the patent system and its flaws, tricking innovators, however legal changes brought an end to such activities.

Patent trolls appeared at the beginning of the 21th Century, nowadays took the lead and considered as one of the biggest problems in several fields, because even though these non-practising entities are firstly connected to the intellectual property law, it does not necessary mean they have effect on that (legal) field only. Competition law, business law, R&D systems, economics, and business in general, innovations, investments are just some of the fields that are deeply involved. On one side this correspondence is what makes patent trolls so harmful, their spacious effects reach all these territories, slow down innovations, threaten both small and major companies. On the other hand their legally sufficient activity renders the other parties’ situation, self-defence and capability to fight against trolls more difficult, placing them into uneven bargaining circumstances.

Furthermore it is worth to take a broader perspective and place the focus on the EU horizon and on its related legal field too regarding this subject. Even though patent trolls are a more extensive problem in the U.S., the situation and its effect may be a lot closer and may

have a bigger impact than in might appear at first glance. According to some legal academics, “patent trolls seem to already have crossed the Atlantic Ocean and reached Europe”3 too. Even though it does not have such serious and diversified impact, and both the creation of Unified Patent Court and the European Patent may have a big responsibility4 in the future existence of patent trolls in the EU, there are already some cases, like IPCom v Apple Inc. that indicate the appearance of patent trolls.5

3 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law - Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
5 IPCom GmBH v. Apple Inc. (case Nos. 2 O 53/12 and 2 O 95/13) began on February 11 in Mannheim, Germany.
1.1 Purpose

The purpose of this paper is to discuss what defines patent trolls, focusing on the special characteristics and strategies of these patent assertion entities and measuring both their negative harm and positive effect on the economics, legal and business as a whole. Additionally this thesis aims to analyse and discuss the evolution of the relevant legislation and legal acts in the United States of America, concentrating on introduced bills and other anti-troll legislation solutions.

1.2 Method

This paper is using the general legal method. It highly concentrates on the U.S. legislation and patent law related introduced bills. The source of information is mainly U.S., less EU related, thus the purpose of this thesis shall be completed by examining and analysing legal articles, patent law correlated researches, studies, U.S. especially, Federal Circuit and Supreme Court case-law.

In section 5.2 regarding the Investment Act and PATENT Act a comparative method is conducted mainly in order to highlight the legislative differences between the two bills, thus providing a deeper view and understanding of the U.S. anti-troll bills.

Patent trolls are a relatively new field of patent law, therefore the research is relying mainly on legal, academic articles and legal papers rather than books.

Apart from legal research and the aforementioned, economic research will be used in limited extent in order to highlight the adverse impact of the activity of non-practising entities.

1.3 Limitation

In order to provide and overall picture regarding the subject of the thesis the following limitations should be acknowledged.

It is assumed that the reader has prior knowledge with the relevant legislation due to providing detailed information regarding the related law is not the aim nor the scope of this paper.

In addition the thesis is focusing inter alia on the anti-troll legislation, more precisely on the introduced bills, through U.S legislation wishes to balance the related patent laws and provide sustainable solutions to the urgent legal-related problems. Discussing and analysing
all the related patent laws and existing patent legislations is not included in the thesis, however due to the topic itself they might be mentioned or referred.

Furthermore detailed economic analysis will not be provided either, is not subject of this paper, however to understand the overall impact of patent trolls, some refers will be highlighted due to the major effect of the activity of patent trolls on the economic and business related fields.

1.4 Organisation of the Paper

In the first section the concept of the patent troll phenomenon will be evaluated, including historical background and discussions regarding the definition and different titles of patent trolls.

The following part will focus on the main characteristics and strategies of these entities, how they are functioning, what is their main activity.

The third part will examine whether and in what extent these strategies of different patent trolls are harmful or rather carry positive effects, additionally it will specify the reasons behind the growing number of the patent assertion entities.

The fourth segment will provide an analyses regarding the evolution of the related legislation, and will draw attention on other solutions too.
2. What is a patent troll?

The non-official legal term – even though it has been recently acknowledged by the U.S. Supreme Court too⁶ - patent troll is undeniably more common within the United States of America (U.S.) than in the European Union (EU). The reason for that could be found inter alia in the differences between the U.S. and EU legal systems. The term obviously has an adverse sound that leads the non-professional and perhaps even some professional readers to understand and connect it with a negative meaning. As Nicolas Janssens de Bisthoven underlines it – in legal speaking, a well-performing world the patent systems would protect the inventor „by according him a temporary and territorial monopoly, in return for making his invention available to society in order to promote research and technical improvements“⁷

However there are loopholes in every legal system and more and more legal articles are highlighting that patent troll entities as a serious – not to mention, growing – problem both within the legal and economic systems.

It is challenging to find a definition that describes both the aims, strategies and characteristics of patent trolls due to how different they can be and how new and insufficiently known they are within some business sectors. However, defining those entities with such behaviour is crucial in order to be able to draw the line between the legally operating entities and – also legally – functioning patent trolls. Patent trolls are a very interesting mixture of legality and economic harm. Owing to patent law regulations they are generally cooperating with the legal system, they hold all the rights of patents, even though they are not the inventors. Generally speaking the intention of patent regulations was not aiming to defend such entities, but rather to ’promote the progress of science’, and defend the inventors,⁸ however the legal system and related laws do not differentiate between the inventor or the patent holder regarding the rights of patents – due to „it is not necessary that

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⁶ Supreme Court of the Unites States – COMMIL USA, LLC v Cisco Systems, INC. Decided May 26, 2015
⁷ Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law - Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
the patent holder is the inventor of the creation in question.". Considering such consequences, patent trolls seems rather an ethical than a legal problem. All together the strategies followed by patent trolls – apart from some positive opinions – are usually widely criticised and even without a concrete and every day –used definition, patent assertion entities are mainly negatively judged. How seriously it is taken in the U.S. is proven by the fact that patent assertion entities are critically taken and are in the centre of legal questions at the highest stages too. „The folks that you’re talking about [PAEs] are a classic example; they don’t actually produce anything themselves. They’re just trying to essentially leverage and hijack somebody else’s idea and see if they can extort some money out of them... [O]ur efforts at patent reform only went about halfway to where we need to go and what we need to do is pull together additional stakeholders and see if we can build some additional consensus on smarter patent laws. – President Obama, February 14, 2013”.

To understand how these enterprises work within different fields, what kind of ‘tools’ they are using, whether they have a rather negative or positive effect on economy one should first look at the beginning and the emergence of the patent troll phenomenon.

2.1 Submarine patents – before patent trolls

As it was mentioned previously to fully understand what patent trolls are one must look first at the beginning, namely at the submarine patents. Previously in the U.S. it was possible to continuously re-file an application and in this way delaying – on purpose – the date of the granting. It was a useful tool in the hands of applicants who approximately predicted the next step within a technology, filed in a patent application but wished not to receive the grant right away and let this period last for – in several circumstances- years. With

9 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law - Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
10 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
11 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
13 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
14 http://www.baldwins.com/submarine-patents - Submarine Patents
15 http://www.baldwins.com/submarine-patents - Submarine Patents
this practise they purposely let their patent “pending an extremely long time”\textsuperscript{16} and rise at the time the concrete development appeared in the particular field. It was possible due to the fact that there was no pre-grant publication in the U.S. before 2000\textsuperscript{17} and the innocent scientists, developers would have developed a product which mostly matched with the details, systems of the submarine product. At that time, the applicant let the patent proceeding reach its final step, received the grant and charged the developer for royalties. This was possible up until 1995. Before that the patent term was 17 years counting from the date of grant, but in 1995 the Trade Related Aspects of Intellectual Property Rights (‘TRIPS’) of the World Trade Organization (‘WTO’) entered into force and changed a crucial point regarding the term of protection: it counts form the filing date.\textsuperscript{18}

To understand it more clearly in the past in the U.S. it was possible to file a patent on a certain technological development that was not yet on the markets. The owner of that submarine patent “by requesting repeated “continuations” during the patent application process” had the possibility to force the patent to be delayed indefinitely until that certain technological development started to appear on the market, say in 1970. The filer then stopped requesting continuations, the patent issued, and the patent-seeker easily collected royalties on a network routers for 17 years from that point, until 1987.\textsuperscript{19}

A very interesting case illustrates how serious the harm of submarine patents can be and how easily they still caused some unpleasant surprises in the 21. Century despite the change of laws in 1995 and 2000. TRIPS agreement went into effect on the 8\textsuperscript{th} of June 1995 therefore this date is one of the crucial point regarding filed patents that tented to be submarines. The applications filed on this certain date or afterwards – in theory – can cause no harm from this point of view because of the new rules that count the protection – which is 20 years now – from the date of filing, however it was still possible to find awakening submarine patents even after 17 years.\textsuperscript{20} A quite intriguing fact that there are still hiding patents is that on the 7\textsuperscript{th} of June -1 day before the deadline – there were approximately ten times more application filed in than on any other day.\textsuperscript{21}

\textsuperscript{17} American Inventors Protection Act of 1999 - US applications are published 18 months after filing
\textsuperscript{18} Trade Related Aspects of Intellectual Property Rights –Article 33.
\textsuperscript{19} http://c2.com/cgi/wiki/SubmarinePatent
\textsuperscript{21} Alexander M. Bell (Brown University) - An Autopsy on Submarine Patents - http://cs.brown.edu/~ambell/subs/Bell_Thesis.pdf
TiVO, Inc. was granted an U.S. Patent on February 16, 2010 regarding data storage management and scheduling system – this application was filed on October 20, 1999. This patent was filed in after the changes in 1995, however it was before 2000, which means that even though the protection will count from the filing date, it was probably not published for ten years. This shows that for some unknown reason this application – once again – ’stayed under water’ for 10 years and will enjoy a U.S. patent protection up until 2019. This leads to the conclusion that submarine patents even though they were filed after 8th June, 1995, can still unexpectedly appear if the filing date is before November 29, 2000.

The particular European legal system avoided this problem with the stricter European Patent Convention. In this convention, Article 93 states (and stated) that the European Patent

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24 http://www.uspto.gov/web/offices/pac/mpep/s1120.html
25 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
Office must publish the patent application after the expiry of eighteen months from the date of filing:  

“The European Patent Office shall publish the European patent application as soon as possible (a) after the expiry of a period of eighteen months from the date of filing or, if priority has been claimed, from the date of priority, or (b) at the request of the applicant, before the expiry of that period.”

This rule avoided the appearance of the submarine patents within Europe and is the first example why the early form of patent trolls could not enter the field of Europe.

2.2 The definition and different titles of patent trolls

Originally patents and the different patent systems are supposed to protect developers, inventors and their inventions provided that they are new, involve an inventive step and are susceptible of industrial application. However, patent trolls turn this legal bastion upside down, they use patents as legal weapons. Their strategy and characteristics can vary and therefore it is hard to provide a single definition of patent trolls, however the title itself usually used as an ugly label. Apart from the most common term – patent trolls – there are other titles that are regularly used when describing such undertakings, such as ’patent pirate’, ’patent extortionist’, ’patent parasite’ or ’patent speculator’. These are all rather derogatory expressions, however there are more neutral and diplomatic terms like, ’non-practising entities’ or ’non-assertion entities’. Furthermore, there are some positive titles, as patent trolls define themselves such as a ’patent angel’ or as ‘intermediaries’ within the patent system.

26 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
27 The European Patent Convention – Article 93, - Publication of the European Patent Application
28 European Patent Convention – Article 52.
29 https://www.eff.org/issues/resources-patent-troll-victims - Patent Trolls - Electronics Frontier Foundation
31 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
33 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
Patent trolling as a verb covers the act of collecting and acquiring patents and using them against other companies in litigations regarding infringement cases.\textsuperscript{35} Enforcement of patents without manufacturing, researching background, focusing mostly on the enforcement of patent rights via aggressive litigation is usually found within the behaviour of patent assertion entities. As it was mentioned previously and can be noticed easily the term itself has a genuinely negative sound. Judge Koh of the U.S. District Court has explicitly forbidden Apple, Inc. to use the term and permitted the company to rather choose other terms such as ‘non-practising entity’, ‘patent assertion entity’ or ‘a company that doesn’t make anything’.\textsuperscript{36} However we can see a different example at the U.S. Supreme Court where not so long ago in the Commil USA, LLC v. Cisco Systems, Inc. Case Justice Scalia used the pejorative term for the first time in the Court’s history.\textsuperscript{37}

Peter Detkin gave the first definition of patent troll by defining it as “somebody who tries to make a lot of money of a patent that they are not practicing and have no intention of practicing and in most cases never practiced”.\textsuperscript{38} The most important characteristic – the issue of non-practice – can be already seen in this definition and appears in other interpretations too.

Patent trolling also used to express “situations where a patent holder accuses infringement and threatens injunctive actions against many companies that might pay a licensing fee, than sits back and waits for a payoff”.\textsuperscript{39}

As both the definitions and the expression may vary, the forms of these entities can be quite different too “First, they could be the companies who purchase controversial patents for purpose of asserting them against industry (...). Second, patent trolls could be a company that originally sold products, but has either completely or largely closed their operation (...). Further, patent trolls could be the agents that assert patent on behalf of patent owners (...). Lastly, patent trolls could be the form of Law firms.”\textsuperscript{40}

\textsuperscript{35} Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
\textsuperscript{38} Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn from the American Experience?
\textsuperscript{39} The John Marshall review of intellectual property law – The troll next door.
\textsuperscript{40} Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
3. Characteristics and strategy – how to recognise a patent troll

To differentiate patent trolls from others companies one must look at the main characteristics of these entities. There are certain „rules” that most of the non-practicing entities seem to follow and these strategies and special circumstances are the key factors in deciding whether or not the certain entity is a patent troll, functions as a patent troll, follows a typical business method as a non-practicing entity or not. According to Bruce Berman:41 „The most disparaged type of Patent Troll is one who purchases a patent for a reduced price at a bankruptcy auction, while having no intention to manufacture a product or to innovate further with the invention. This type of Patent Troll then seeks out corporations that appear to be infringing on their newly acquired patents and sends demand letters threatening the companies with injunctions in order to extort licensing fees.”42

3.1 Characteristics of a patent troll

The characteristics may vary, due to the differences between the targeted fields, the strategy of the non-assertion entities, but there are certain distinguishing marks and other recognizable features that highlight the existence and actual aim of the patent troll.

i. Acquires patent rights, patent portfolios

This is absolutely the key characteristic of patent trolls. These patent assertion entities usually are in possession of thousands of patent rights mostly in technology software, pharmaceuticals and biotechnology sector.43 These are the sectors where the highest and fastest R&D investments are taking places – therefore more patent applications are filed in than in most of the other fields. Furthermore, these „industries contain several competing companies.”44 A single technological device (e.g.: mobile-phones) might encompass thousands of patents45, this made them a wonderful target due to injunctive relief – before the eBay

41 http://www.brodyberman.com/about-us/
42 The John Marshall review of intellectual property law – The troll next door.
43 Technology licensing and patent trolls – J.P. Mello; Boston University
44 Technology licensing and patent trolls – J.P. Mello; Boston University
45 Thomson Reuters - Inside the iPhone patent portfolio – September 2012
http://ip-science.thomsonreuters.com/m/pdfs/iphone-report.pdf
The rule still applies today, the more patent right they own the bigger chance they have, and the bigger and wider the field of targets they can concentrate on.

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<td>Pendrell Corp (fka ICD Global Communications [Holdings] Ltd)</td>
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There are different ways how these entities purchase or obtain these patents. One of the most common technique is – as it was previously mentioned – to purchase patents of companies that are under claims management regarded auctions, on a lower price than it is worth originally. Under enforcement, litigation or bankruptcy procedures the companies’ property, including intellectual properties, such as patents are also available to bidders. Other possibilities to acquire the patents on a simple patent auction, or – surprisingly – even on eBay.

47 Patent trolls and the amount of patents they own: http://www.patentqualityinitiative.com/databank/npe%20litigation
50 http://www.ebay.com/sch/Patents-Trademarks-/50973/i.html
Additionally the so-called ‘dotcom crisis’ was also an extraordinary opportunity to patent trolls. It was quite predictable that thousands of patents must have been hidden behind the wall of these companies’ legal department due to the features of the IT field. The broken companies were forced under the debt collection procedures, and patent trolls took an advantage of that.

Furthermore, these entities also purchase the IP rights from individuals or smaller undertakings that are in a need for financial support, either for their next research or for solvency.

ii. **Do not invest into R&D investments**

The title ‘non-practicing entities’ describes the other major feature, that they do not practice the patent rights. This title encompass that they do not participate in research, do not invest into development, do not manufacture, instead they focus on royalties, licence fees and “aggressive litigation”. In a case before the US Supreme court, namely the Continental Paper Bag Co. V. Eastern Bag Co. the Court explicitly said that the „the privilege of any owner of property to use or not use it, without question of motive.” Their main aim differs from a usual company’s. Companies tend to use the products that are related to their inventions, to their patents. They invest into R&D in order to promote future developments, get a better chance in competition, however this is not the intention of a patent troll, but using their IP rights as a weapon, solely focusing on royalties, licence fees.

However it is very important to acknowledge, that the single fact that a company does not practice its patent shall not lead to the conclusion that they are patent trolls. An example is related to Kodak Co. The company filed a lawsuit for infringement – and won – against Sun Microsystems regarding a patent that was never used by Kodak. The reasons behind such steps – non-practicing – might be unclear, however they could easily be strategic decisions in such high-level competition. What distinguishes these undertaking from patent trolls is, that the main income of troll companies is usually from one source that is licence fees, royalties.

52 Technology licensing and patent trolls – J.P. Mello; Boston University
53 Technology licensing and patent trolls – J.P. Mello; Boston University
57 The John Marshall review of intellectual property law – The troll next door.
while other company’s revenues are diversified. Therefore during any investigation while deciding whether a certain undertaking is a patent troll, other characteristics of patent trolls are crucial in order to make the right decisions.

iii. Target the right companies

As it was highlighted previously, patent trolls do not invest into any R&D, therefore they do not have developments, products that could be patented on their own. This leads to the conclusion that they must contact other companies, entities that own IP rights. This is the first part where they must target the right companies. Usually they choose companies that are under enforcement or bankruptcy procedure and attend auctions, or small companies that need financial support, therefore they are willing to sell their patents, patent portfolios.

The second time when they have to target the right companies, is a very crucial part of the patent troll’s activity. They must choose wisely the companies that – due to their claim – „infringe” their patents. Most common targets are the major, big, internationally broad companies. These undertakings have the financial background to rather settle and pay the settlement payments than enter into a very costly litigation procedure and risk permanent injunctions. These litigations are extremely expensive, last for years and a permanent injunction may cause unbearable damages.
The second type of companies are the small, "inventor-driven" companies. These undertakings usually lack the financial support, or cannot risk the "shame" that a litigation means to a young firm in the eyes of the investors. These small startups, and companies simply cannot afford the cost of IP litigations, so they tend to license the right from the trolls, and pay the royalties.

In the middle there are typical features that attracts patent trolls. Beside big companies, patent trolls are actually not looking at the company itself, but rather at the financial sizes. This means they target firms that are "flush with cash and firms that have had recent, positive cash shocks." It pays such an important role, that even those companies can be considered as targets whose other departments promote better than the one actually holding the patent.

Non-practicing entities are usually measuring the possible outcomes, because actual litigation is not their core aim, they rather wish to settle with the companies. As Jeffrey H. Matsuura says: "Litigation is not the desired outcome for the trolls. Instead, they would prefer that the users of the technology make a business judgement that is more economically efficient to share a portion of the profits with the patent owner." Because of this risk they highly

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59 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
61 Technology licensing and patent trolls – J.P. Mello; Boston University
64 Jeffrey H. Matsuura: Jefferson v. the patent Trolls – A populist vision of intellectual property rights.
target firms that are deeply involved with other litigations, however major legal department may have a deterrent effect.65

Furthermore, broad and low-standard patents involve a higher possibility for a positive process, because questionable validity can lead to better settlement negotiations.66 In addition, research shows that the more a company invests into R&D, the more attractive it becomes to patent trolls and the bigger the possibility for litigation.67

iv. Have asymmetrical bargaining power

In general the risk on the side of patent trolls comparing to the defendants is very asymmetrical. There are several reasons why the business policy of patent trolls is so successful, therefore not surprisingly the number of trolls are increasing. The overall problem is the differences between the parties’ bargaining power.

IP litigations are very expensive and usually last for years. Datas show that the prices have been drastically increasing in the past 68 and recently –according to the American Intellectual Property Law Association – „the average suit in which $1 million to $25 million is at stake costs $1.6 million through discovery and $2.8 million through trial.”69 Furthermore there are absolutely extreme cases, like the Polaroid case, where the litigation lasted for more than nine years and ended with a settlement for $925 million.70 Most of the defendant companies rather opt for settlement than risk such prices and years of litigation.

On the one side there are the entities that invested into their patents, these patents might be their most precious property, and these are at risk in a litigation. The possibility of injunctive relief just strengthens the position of patent trolls, who use this tool and do propose prices during the settlement negotiation just a bit under the expected litigation prices,
in this way further pushing the targeted undertakings to settle, rather than enter litigation. The reality is that those companies which have already invested and incorporated their patents into commercial products will „take whatever action is necessary to ensure that they can continue to market their product.” This situation once again puts the targeted companies into a weak negotiating position and rather pushes them towards a one-sided license agreement.

Another problem for the target companies is the secret-feature of patent trolls. They gladly establish so-called ’shell-companies’, in this way trying to hide their identity putting the targets into a very uncomfortable situation not knowing explicitly who the plaintiffs representing, afterwards „requiring those who settle to sign non-disclosure agreements, making it difficult for defendants to form common defensive strategies (for example, by sharing legal fees rather than settling individually).”

3.2 Business strategy – how to avoid too wide concept

The strategies of patent trolls are closely related to the previously mentioned asymmetrical bargaining power. Their strategies, tactics are successful because of the contrast between the trolls and the targeted entities position in the business, additionally because of financial reasons. There are many articles and IP experts who were trying to summarise these methods and policies. According to Jeffrey H. Matsuura: (Patent trolls) “instead of actively moving to make use of their inventions by developing them themselves or by licensing others to develop them, they let their patents sit unused. As time passes, they monitor commerce with an eye toward parties who may be using the patented inventions in various products. When they find such use, the trolls contact the users and demand payment of license fees as compensation for permission to make use of the protected inventions. If the contacted parties refuse to pay, the trolls may choose to go to court to enforce their patent.” Due to other opinions, NPEs and their strategies can be summed up as “commercial organizations that

72 Congressional Research Service; Brian T. Yeh – An Overview of the „Patent Trolls“ Debate. 2013
73 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
74 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
76 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
acquire patents specifically with the view to bringing actions in the hope of making money by forcing settlements”. 

Their most common practice as business strategy starts with exploiting small or broken companies and buy up their patents for a low purchase price at a bankruptcy auction. These patents can be quite broad and be a great use to threaten companies. After the purchase the patent troll will seek out undertakings that might be infringing their property and sends demand letters to thousands of companies at once. The threatening letters usually include the possibility of legal action – commonly without any actual evidence of an infringement or the option to pay certain licence fees. In such asymmetrical bargaining power situation, aggressive litigation is the key strategy that all patent trolls follow. Due to expensive litigation costs and possible injunctive reliefs, the threat of litigation is highly successful and – in line with the patent troll’s core aim and actual intention – usually ends with a settlement. This financial reasons put patent trolls into a very strong bargaining position and the companies clearly into a weak one.

However sometimes such strategies can be misleading. While concentrating on the characteristics there may be some similarities between patent trolls and other investors, innovation enterprises. From a strict point of view these are also non-practicing entities, nonetheless the major difference is that the patent trolls acquire the portfolios only to „extract royalties”. Similarly to those companies for strategic and business reasons undertakings might purchase or acquire patents solely in order to defend their businesses. However these shall not be constituted as patent trolls either, because unlike patent trolls they are on the market and do practice on those markets.

The third and probably most interesting category regarding the misleading features of patent trolls can be the question of universities. According to Mark A. Lemley, universities do

77 Patent Trolls in the light of IP rights and EU competition law – Moritz Jakobs. 2010-2011
78 http://www.investopedia.com/terms/p/patent-troll.asp -Patent Troll
79 https://www.eff.org/issues/resources-patent-troll-victims - Patent Trolls - Electronics Frontier Foundation
80 The John Marshall review of intellectual property law – The troll next door.
81 “One PAE sent 8,000 notice letters to coffee chains, hotels, and retailers seeking compensation for use of Wi-Fi equipment made by several manufacturers that they allege to infringe on its patents.”
83 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
share some similar characteristics with patent trolls. They are also non-practicing entities due to the fact that they – even though produced sixteen times as many patent in 2004 as in 1980 – do not get engaged in manufacturing, „they do not sell products.” There are more and more articles that carefully discussing this topic and try to highlight both pro and cons examples and draw attention to similarities between patent trolls and universities, as how they are trying to maximize the financial revenue of their patents, in this way co-working with some litigation procedures with patent trolls… In the Myriad Genetics case University of Utah joined as plaintiff to the testing company which was „seeking to force a competing breast cancer test off the market...if the lawsuit succeeds, the likely result will be less competition and higher prices for breast cancer testing.”

At first glance this can be surprising, however these examples are harsh and the situation of universities are not black and white. Universities are also 'profit-maximizing entities' and the revenue, universities earn from licencing agreements is a great part of their financial support. Even though universities may act similar to patent trolls sometimes and should absolutely take their impact on society and science – and on patent law itself – more seriously they do differ from patent trolls. While patent trolls always wait for other companies to develop, invest into a new patent and afterward claim for royalties, universities does not act similarly. What universities do is actually investing into R&D, they develop the new patents, highly participate in these procedures and this clearly distinguishes them from the patent assertion entities.

4. Their impact on business and economics and reasons behind the growing number

The reason why patent trolls are such a divisive topic within the academic, business and at the highest political stages is the impact, the lingering effect of their activity. There are sharp arguments about trolls and while the vast majority judge patent trolls due to their effect on business, economic there are distinctive opinions regarding this subject.

4.1 Positive influence on economy and society

As it was mentioned previously and will be elaborated furthermore, patent trolls and their business policy, their behaviour are quite controversial. More precisely their after-effects often appear to be harmful and negative and therefore are commonly judged. Patent trolls regularly target small companies, companies that are in financial difficulties, enterprises that lack financial support for further R&D investments or other commercial investments. One typical example within this territory are the startups. Startups and similar, smaller companies are an easy target, due to the fact that they are simply more vulnerable and usually „cash-poor”, yet defending their patents is costly, therefore they rather „agree to royalty-based settlements“. However apart from the usually negative voices there are certain opinions which claim that patent trolls could be consider in a positive way that increases innovation, and especially favourable to these smaller entities.

According to Steffen Juranek and Axel Haus cases before the courts that involve a patent troll are usually „resolved faster, and need an average 18% less time to resolve-hence the speed of technology diffusion increases significantly“. Furthermore Juranek and Haus highlighted that because a litigation against a troll can be very expensive, defendants rather settle with such patent assertion entities – „the patent trolls thus make the licence market more effective“. According to them because most of the litigation end with a settlement this clearly fastens the time cases pend before the court which can be considered as a positive effect of their business policy.

89 Santa Clara University School of Law; Colleen Chien - Startups and Patent Trolls. September 13, 2012. 
http://digitalcommons.law.scu.edu/cgi/viewcontent.cgi?article=1554&context=facpubs
90 http://scienecnordic.com/patent-trolls-can-increase-innovation
http://brage.bibsys.no/xmlui/bitstream/handle/11250/217631/DiscussionPaper.pdf?sequence=1
92 Santa Clara University School of Law; Colleen Chien - Startups and Patent Trolls. September 13, 2012. 
http://digitalcommons.law.scu.edu/cgi/viewcontent.cgi?article=1554&context=facpubs
From another perspective small companies, such as startups may lack the necessary financial or material support they need to invest further into R&D. Some claim that patent trolls actually promote innovation in a way that they are helping small companies when acquiring their patents. “Even though they hold the patent, it is not easy for a small player to collect money from a large company. By selling the patent to a troll, they are paid for their work, and being innovative becomes more lucrative for small actors. It is difficult for a little company to sue Apple, for example, while a troll has the expertise and resources required.”

In this way undertakings might have the opportunity to further practice within their sector, develop new patents, thus investing into new researches. In this situation patent trolls have a dual role, on one side they purchase what smaller companies own and worked for – patents – on the other hand they pay for these patent rights, and the R&D companies can henceforward continue their business.

They seem to be helpful characters when they contribute between small and big companies, as „intermediaries“. Small companies may have difficulties selling their inventions in such tight competition, may find it hard to stand out and it can easily lead to unpleasant situation where valuable inventions „fall into disuse or be used without their inventor being notified or paid.”

This role of patent trolls is acknowledged at the highest political level too, which agrees that it „brings value to society” with providing help to patent holders and buyers to find each other and, this way patent assertion entities pursue the transfer of technology to those undertakings that have the necessary background to produce products to customers due to patent rights.

Relying on among the above mentioned reasoning’s patent trolls wish to be called as „patent angels”. The main purpose of the patent system is promoting innovation – they claim that their strategy actually offers solutions to smaller companies, to innovators in difficult situations, provides a chance to fulfil the original intention of the innovations.

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94 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
95 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
97 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
4.2 The majority’s opinion – adverse repercussion

Many research has been taking place to illustrate the negative impact of patent trolls. The adverse effects can be various and may differ regarding smaller or bigger companies, however economic and innovation growth, more precisely the negative effect of patent trolls activity on these sectors are usually highlighted.

The negative repercussion at smaller companies are easy to be seen. From a financial point of view they can cause harm from the basics, they might harm the „survival and operation” of these entities.98 Many small companies, especially new startups that have only started to enter the business and merely survive financially may even not be in the position to agree to a licensing fee-based settlement. To these companies a demand-letter from a patent trolls may entail drastic and irrevocable steps, such as change in their core business, involve a significant operational impact, or may lead to exiting the relevant market…etc.99

There are several managers and representatives of different undertakings who claimed how serious burden is the activity of patent trolls on their company and what kind of problems it entails. “Almost all telecommunication codecs are covered by patents….The company who demanded of us exists only to pool and monetize patents and listed about 30 violating patents.

We had no choice but to pay, and as a young company, it killed us.”

Furthermore there are some opinions which emphasize the difficult and hopeless situation from a startups perspective. “They sued my startup for infringement on a group of insanely broad software patents. While many much larger companies are fighting we do not have the resources to do so. It is the single most frustrating experiences I’ve had professionally. Extortion, pure and simple. The troll even admitted his model was to sue everyone, get settlement dollars because fighting was too expensive.”

Furthermore litigation, its heavy financial burden and what it entails afterwards regarding innovation are among the top reasons why both businessmen and academics claim that patent trolls have an adverse repercussion. Firstly after a costly litigation it is quite common that undertakings reduce their R&D policy, which leads into less new investments, patent applications and all together reduces innovation. One research – regarding a health information technology companies, which ceased all innovations in that technology- shows how the sales of the company’s products fall by one-third compared to their other patents which were not subject of the infringement procedures.

According to James Bessen and Michael J. Meurer in 2011 the cost of defendants in patent litigation was $29 billion and only 25% was flowed back and was re-invested into innovation. Another study underlines how “litigation destroys over $60billion in firm wealth each year.” Furthermore according to Catherine Tucker patent trolls’ activity and litigations affected a medical imaging technology negatively and reduced the sales by one-third compared to other products that were not touched by the litigations procedures. These are just a couple examples that underline the major financial costs and litigation expenses defendants have to deal with and how it is responsible for diminution of innovation.

105 Congressional Research Service; Brian T. Yeh – An Overview of the „Patent Trolls” Debate. 2013
Apart from the enormous costs and litigation expenses, there are other factors which are detrimental to innovation. As it was mentioned previously, the more companies invest into R&D – this possibly implies more patents – the bigger chance they have to become a target of a patent troll.\(^{108}\) This likelihood, that patent assertion entities sooner or later might appear might lead to an uncomfortable question, namely is it worth it to invest, to promote innovation while risking costly litigations?\(^ {109}\) This might clearly reduce innovation, even if investments would have both social and economic benefits in the future.

### 4.3 Growing number and the reasons behind it

As it was mentioned before, litigation is one of the most frequently used strategy of patent trolls. However it is important to highlight, and is a mutual feature that litigation is not the core aim of these undertakings, it is rather a well-working threat to defendants and to companies – due to its high costs, possible injunctive reliefs and the years it may last. Even though „litigation is not the desired outcome for the trolls”\(^ {110}\) because there is no guarantee of winning such cases, however, due to the asymmetrical bargaining power it is a very useful weapon. Therefore patent trolls usually not only threat with litigation but sue companies for infringements. This is the reason behind the extremely growing number, that in 2014 nearly two-thirds of all patent litigations was filed by patent trolls.\(^ {111}\) Other research shows that „suits brought by PAEs have tripled in just the last two years, rising from 29 percent of all infringement suits to 62 percent of all infringement suits. Estimates suggest that PAEs may have threatened over 100,000 companies with patent infringement last year (2012) alone.”\(^ {112}\)

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109 Congressional Research Service; Brian T. Yeh – An Overview of the „Patent Trolls” Debate. 2013
110 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
There are several reasons both behind the growth of patent infringement law suits – as it was elaborated before – and behind the growth of the appearance of patent trolls on this market. These two are closely interrelated. The increasing number of broad-patents and patents in general, and the asymmetrical bargaining power, the legal environment, and the „potential for large payoffs attracts new players to the patent trolling industry”.

In the last twenty years there was a growth worldwide regarding the patent applications – this can be due to several reasons. Firstly, for instance the R&D investments mostly in electronics, audio-visual and information technology pay an important role. Secondly, as some articles underline it, the „patenting philosophy of companies have changed”- the so-called ‘defensive patenting’ as a strategy on the side of companies also a relevant factor regarding the growing number of patent applications. Furthermore, the lack of difficulties to obtain a patent may also be responsible for such a patent boom. The number of patent applications within the U.S. tripled between 1980 and 2001 and the patent system in general has been growing and expanding in the U.S. Owing to a 2005 WIPO

113 Technology licensing and patent trolls – J.P. Mello; Boston University
115 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
116 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
117 Technology licensing and patent trolls – J.P. Mello; Boston University
118 Congressional Research Service; Brian T. Yeh – An Overview of the „Patent Trolls” Debate. 2013
research that among the 5.6 million patents worldwide 49% were owned by applicants from Japan and the United States.\textsuperscript{119}

Relying only on the increasing number of patent trolls will not provide an overall picture and cannot give a sufficient explanation regarding this question. In order to find the source for the reasons one must search for the causes furthermore. An interesting opinion of Dan L. Burk and Mark A. Lemley is focusing on the reasons behind the growing number of the patents. “\textit{Even if the world is more innovative than it used to be, we doubt it is four times more innovative than it was in the 1980s, or that it is nearly twelve times as innovative as the 1870s, a decade that saw the development of the telephone, the lightbulb, and enormous railroad innovation, among other innovations. The more logical explanation is that it is simply easier to get a patent today than it used to be, and that we are granting patents on more obvious inventions than in the past.”}\textsuperscript{120} This conclusion highlights the question form another perspective and leads to another conclusion that one of the major problems is the quality of the patents and the patent application system itself in the U.S. Several projects and researches claim that the increasing number of low-quality patents are one of the biggest issues regarding the patent trolling problem and its success. According to a research the activity of United States Patent and Trademark Office, regarding the \textit{“applications received and actual patent issued increased by 80\% from 1990 to 2000 and increased by 250\% from 1980 to 2000.”}\textsuperscript{121} Most of the patent litigation cases end in settlement, do not even appear before the court, therefore the most important issue is the quality, more precisely the low-quality of patents.\textsuperscript{122}

In order to receive a patent in the U.S. the application and the innovation must fulfil the following conditions: \textit{“invention (patent-eligible subject matter), novelty, non-obviousness, utility.”}\textsuperscript{123} These conditions are the ground for a successful application, however may be the main cause in case of too broad concept. Due to Carol M. Nielsen Michael R. Samardzija, \textit{“the patent law in the United States is intended to be adaptable to encompass}

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\item\textsuperscript{121} The John Marshall review of intellectual property law – The troll next door
\item\textsuperscript{123} Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
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“anything under the sun that is made by man.” This is clearly a very broad clarification of what can be construed as an invention.

A whole patent application procedure used to take less than a month before 1990, however, it has been extremely lengthened and nowadays it may last for four years or even more. This amount of time does not entail that the institutions and examiners devote more time and effort to analyse the filed applications from a more detailed perspective, but the opposite. The examiners are tremendously overwhelmed, have riskily little amount of time to review sufficiently and strictly enough an application. Due to Stephen Barr the backlog of the U.S. Patent and Trademark Office can be presented with the following example: “If the agency could shut its doors to catch up on its work, its 5,500 patent examiners would take at least two years to clear the backlog of pending applications. When the agency reopened, there would be more than 1 million new applications piled up on the doorstep.” The reasons behind it – the previously mentioned enormous backlog and time-constraint, more and more filed applications, overwhelmed examiners – are closely connected to the low-quality question regarding the patents from two point of view. One is a legal-based question, how this patents are legally weak, however, it may also furthermore include a technical quality problem. The extensive and wide limited patents are the source and “daily-livelihood” of patent trolls.

5 Legal perspective – the evolution of related legislations; other solutions

As it was elaborated in the chapters above patent trolls and their activity in general have been a growing number in the last ten to fifteen years. The discussions about it appeared over and over again in legal, economic and business studies, researches have been conducted

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126 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
128 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
frequently to highlight their negative influence. The issue became and grew to be such a problematic one that caught the attention of the highest stages too.\textsuperscript{129} Even though there are different causes and problems that must be solved in order to avoid further harm on the side of non-practising entities – legal solutions, well-defined laws are the key factors and the ground in the fight against them. Both state and federal government leaders started to focus on proposing new legislation, concentrate on different legal solutions and on improvements in the related legal fields with the intention to normalize and secure the targeted fields, to protect the targeted companies and entities.\textsuperscript{130}

5.1 Different patent law reforms and legislations

President Obama signed the Leahy-Smith America Investment Act (AIA) in September 16, 2011 at the Thomas Jefferson High School for Science and Technology in Alexandris, VA.\textsuperscript{131} This legislation was filed in by Sen. Patrick Leahy and Rep. Lamar Smith and was among the first ones which aimed to help and pursue entrepreneurs and companies to invest, and appear on the market more.\textsuperscript{132} The legal academics’ opinion regarding the act were two-folded. On one side it contained several changes, most probably the biggest ones since 1952, the latest biggest “shakeup of UPSTO.”\textsuperscript{133} On the other side it did not provide all the necessary adjustments, as President Obama said “only went about halfway to, where we need to go” due to during the time of the seven years of negotiations, the activities of patent trolls were not as much well-known, therefore the focus did not yet shift on them.\textsuperscript{134} Apart from that, it took important steps in decreasing the current patent backlog, created an alternative beside patent litigation regarding patent validity by creating new programmes at the Patent and Trademark Office and furthermore took an important step to strengthen patent quality by

revising the conditions.\textsuperscript{135} Additionally, arguably the biggest difference it entailed was shifting from “first to invent” to a “first to file” system.\textsuperscript{136} It basically meant that the USPTO and the date of file is what matters in deciding who will be legally official owner of a patent.

Robert Barr a professor of intellectual property law at UC-Berkeley compares the older and the new system after the AIA: “Under the old system, if you kept lab notebooks ... you could prove you were the first inventor even if you were not the first to file, so you didn’t necessarily have to be the first to get to the patent office,” he says. “Now, with a few exceptions, you need to be the first. If two people come up with the same invention, and they often do ... it’s not going to matter if you can prove you were the first inventor if you weren’t the first to file.”\textsuperscript{137} The critics highlights the problem with this system that it highly hinges on the inventors’ financial background. As Jonathan Withrow, a partner at Rankin, Hill & Clark explains: “You may not file an application ’cause you don’t have the money...And that leaves the door open for someone else to file.”\textsuperscript{138}

At the beginning of 2014 there were two important cases before the Supreme Court, which focused on shifting the legal fees in patent cases.\textsuperscript{139} The Octane Fitness LLC v. ICON Health & Fitness, Inc., case was not a typical patent troll case, due to Icon Health, a producer of fitness equipment, accused a smaller competitor, Octane Fitness,\textsuperscript{140} of violating a patent.\textsuperscript{141} The defendant won the case and wanted its legal fees to be paid and relied on the “claim was obviously baseless” argument\textsuperscript{142}. Even though the district court agreed, the Federal Circuit did not. The other case the court heard involved Highmark Inc., a health insurer that claimed it was not violating a patent regarding computer software.\textsuperscript{143} As the one mentioned above the

\textsuperscript{140} http://www.supremecourt.gov/opinions/13pdf/12-1184_gdhl.pdf
defendant also prevailed and convinced the district court’s judge to order the patent owner to pay legal fees on the ground that the complaint was baseless, however, the Federal Circuit did not agree once more. Before the Supreme Court’s Octane judgement to rely on baseless arguments the Federal Circuit required actual evidences which show bad faith and baseless on the side of the other party – this practice was absolutely in favour of patent trolls. Fortunately the Supreme Court rejected the Federal Circuit’s argument and “heightened proof standard, holding a case is “exceptional” if, by a preponderance of the evidence, it “stands out” from others with respect to the substantive strength of the party’s position or the unreasonable manner of litigating.” With such ruling the Court give a strong tool in the hand of companies in the fight against patent trolls and made it a lot more dangerous to file a patent infringement suit. With the Highmark v. Allcare Management Systems case the Supreme Court further strengthened this ruling and highlighted in its judgement, that the Federal Circuit’ practice was too strict.

So far nineteen states have focused, amended and introduced legislations regarding bad faiths in patent entities and all in all twenty-seven states have anti-patent trolling legislation. This data shows how seriously states take the patent trolling problem. Even though patent law in general is a federal subject, states do introduce anti-patent trolling acts on their own, being Vermont the first state in May, 2013. These acts mainly cover and focus widely on the question of bad faith assertions, provides factors that help the courts to

http://www.nytimes.com/2013/10/18/business/extracting-a-toll-from-a-patent-troll.html?_r=2&_ga=1.268763569.1704870991.1440249518
http://www.nytimes.com/2013/10/18/business/extracting-a-toll-from-a-patent-troll.html?_r=2&_ga=1.268763569.1704870991.1440249518
http://www.ipwatchdog.com/2015/09/16/patent-fee-shifting-stops-not-only-patent-trolls-but-industry-bullies-too/id=61575/
http://www.ipwatchdog.com/2015/09/16/patent-fee-shifting-stops-not-only-patent-trolls-but-industry-bullies-too/id=61575/
http://www.nytimes.com/2013/10/18/business/extracting-a-toll-from-a-patent-troll.html?_r=2&_ga=1.268763569.1704870991.1440249518
148 https://www.oyez.org/cases/2013/12-1163
consider in such cases, some state provide penalties for related violations, and provide basic definitions of such undertaking, etc.… 151

Apart from the below elaborated Innovation Act and Patent Act there are four major bills introduced before the Congress. 152

• The STRONG Act of 2015, more precisely the Support Technology and Research for Our Nation’s Growth Patents Act of 2015 153 is not actually and only a patent reform, however, closely related therefore it is also mentioned in this paper. The bill was introduced by Sen. Coons and co-sponsored by Sens. Durbin and Hirono who oppose the Innovation Act. 154 The act primarily focuses at the USPTO regarding reviewing patents, would lower the burden of proof of wilful infringements, would introduce the possibility of reduced USPTO fees for universities, additionally it would “pre-empt all state legislation regarding bad faith demand letters.” 155

• The TROL Act of 2015 – Targeting Rogue and Opaque Letters Act of 2015 – was introduced in April 28, 2015 by Rep. Burgess. Focuses on demand letters, however, does not includes what they must contain. 156 Similarly as the STRONG Act, also would pre-empt all the state legislations that penalizes sending demand letters in bad faith. 157

• The Demand Letter Transparency Act of 2015 – was introduced on April 20, 2016 by Rep. Polis, 158 once again with the focus on demand letters. This Act would require each and every entity which sends a certain number of demand letters to submit these

to the USPTO, highlighting each patent which they rely on. This Act goes further by defining demand letters as “any written communication directed to an unaffiliated third party stating or indicating that the intended recipient, or anyone affiliated with that recipient, is or may be infringing a patent, or may bear liability or owe compensation to another because of such patent.” Also states what demand letters must contain. In addition authorises the court to penalize entities if their infringement does not meet the USPTO requirements.

- The Innovation protection Act of 2015 – supported and introduced by Rep. Conyers and focuses on end fee diversion from the USPTO.

5.2 Comparison of the Innovation Act and the PATENT Act

Apart from the abovementioned patent legislations, both the U.S House of Representatives and the Senate have introduced their patent related legislations, with the intention to solve patent trolling problems the best possible way. These bills are quite similar in several part, however, contain differences too. The Innovation Act was filed in for the second time – the act was introduced previously but got blocked at the Senate – and this time it is sponsored by Rep. Goodlatte. The bill went through several amendments, including a “manager’s package”, and passed the House Judiciary Committee in June 2015. This bill touches all the important questions regarding the anti-patent troll debate especially patent infringement litigation. The Senate has also introduced a bill in the subject under the name of Protecting American Talent and Entrepreneurship Act of 2015 (The Patent Act) on April 29,
2015 by Senator Grassley and touches upon basically on the same ideas, therefore the two bills have similar provisions too.  

It is quite interesting to compare these two bills from a legal perspective, due they cover almost the same areas and both include solutions for the most important and urgent issues regarding patent law and anti-patent regulations but from different perspectives. The most crucial difference is the fee-shifting question. Attorney and legal fees are one of the key questions in the fight against patent trolls and the possibility to shift these fees to the other party in case they bring baseless infringement suits would make patent suit far more risky.

According to Gene Quinn, the difference is that “while both bills allow for consideration of special circumstances, as you can see by comparing the language...it is clear that the House version of fee shifting found in the Innovation Act requires attorneys’ fees to be awarded in all cases unless there is a finding by the court that the non-prevailing party took positions that were reasonably justified in law and fact... To the contrary, the language of the Senate bill takes the direct opposite approach, requiring attorney’s fees only if the district court makes a finding that the non-prevailing party took positions that were not objectively reasonable. Thus, the Senate bill creates a presumption that attorney’s fees are ordinarily not awarded, but can be awarded if there is a satisfactory showing.”

Some attorneys and academics have concerns about whether the House version of the fee-shifting provisions may actually have an adverse effect and will actually discourage undertakings from filing even legitimate suits, while others, believe the Senate version did not go far enough but rather “leave a safe harbour for patent trolls”.

Another crucial point is the fee recovery. Both acts contain provisions stopping patent assertion entities to disappear behind shell companies which have no financial background, or other assets and lack the ability to pay the fee award, however once again the solutions differ. On one hand the House provision declares in case of the losing party cannot pay, “the court shall grant a motion by the prevailing party to join to the litigation another

interested party that has a direct financial interest in the patents to be liable for the fee award.”171 On the other hand the Senate version differs in a crucial point. It “aims to identify such interested parties earlier in the litigation, rather than after fees have been awarded, and makes clear that joinder of such parties is necessary only when the plaintiff is a nonpracticing entity, and that the provision does not apply to universities.”172 The Senate version in this way is a bit more direct, detailed and provides a safe harbour to universities, while the House version is a lot more general provision.

At last but not least the bills differ regarding demand letters. The Senate bill goes further once more and provides more detailed provisions, includes requirements and a willfulness provision, additionally creates penalties too “for those who “engage in the widespread sending” of misleading demand letters.”173 It is important to mention and point at the “widespread sending” expression due to it targets patent trolls, it is a typical patent trolling strategy to send out thousands of demand letters at once and this bill perfectly captures and fights against the patent assertion entities’ typical behaviour.

5.3 Other solutions

While both the States and higher political stages provide and introduce bills, different legislations in order to stop the patent trolling practices and concentrating on the important issues there are other solutions and ideas which may have positive effect too.

One interesting solution was introduced by Google. Google announced its programme called Patent Purchase Promotion under the slogan “trust us not the trolls”, which aimed to help smaller inventors, startups which are at a high risk of being targeted by a patent troll.174 Google decided to open up a platform between May 8-22, 2015 where these companies had an opportunity to apply with their patents on this platform and later on Google decided whether it is worth to buy the patents or not. Google claimed that with this solution, it tries to block patent trolls and their activity which may contain acquiring valuable patents from small

patent holders. However, different articles questioned this selflessness and rather agreed, that Google is trying to build up a major patent portfolio without any further details or information what it seeks or plans to do with the patents afterwards.

There are different associations, like the Internet Association, which represents internet companies across America providing information regarding the subject, similarly the TrollingEffect website that contains information and news regarding patent trolls and their activity, strategy to the public. Additionally, AlliedSecurityTrust represents bigger companies like Google and IBM – serves as an entity which practices the so-called “defence patenting” and is fighting against patent trolls on behalf of those companies. As Nicholas Janssens de Bisthoven characterizes them they are basically “tolerated contra trolls” due to they cannot file lawsuit against the members.

Apart from solutions there are some practices which could strengthen the targeted firms in the fight against a patent troll. These may vary all the way from possibly rely on rather strong and not so wide patents, to team up with other undertakings in the industry who have been also attacked by a patent troll and fight as a group before the courts – in this way splitting the possible legal fees.

6 Conclusion

One of the purpose of this paper was to provide an overall picture of patent trolls, about their activities, strategies, in order to get an initial understanding and to be able to differentiate between them and other entities with similar business behaviour. In conclusion, it is safe to say that the biggest problem with the patent trolls is that they function legally and

175 Richard Beem - Patents: Buy, Sell, or Practice? What Google Learned May Surprise You!
178 http://internetassociation.org/
179 https://trollingeffects.org/?_ga=1.18953404.547673901.1446300530
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181 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
182 Nicolas Janssens de Bisthoven - A joint initiative of Stanford Law School and the University of Vienna School of Law- Patent Trolls and Abusive Patent Litigation in Europe: What the Unitary Patent Package Can Learn From the American Experience?
183 Technology licensing and patent trolls – J.P. Mello; Boston University
take advantage of the nature of the U.S. patent systems. Due to this feature it may be a difficulty to decide whether someone is facing a patent troll or simply up against a company with a tight competition strategy, or an entity that is practising defensive patenting in order to secure its market and interests. From a legal point of view it is very interesting how an originally helpful and inventor-supportive legal territory that intends to promote inventions, investments, additionally to the possibility to enter markets, may cause major and sometimes irrevocable problems and how it leads thousands of companies into solvency, slows down innovation and investments on the targeted fields.

These highly targeted fields generally understood as IT and telecommunications only, however research show an increase of patent trolls’ interest towards the bio and pharmaceuticals industries too.\textsuperscript{184} According to Robin Feldman and W. Nicholson Price II signs appeared that patent trolls are approaching towards these territories, especially through acquiring university patents.\textsuperscript{185}

Furthermore, this paper aimed to analyse the related legislations and different bills through which the politicians fight against non-practicing entities in the U.S. The urgency of solving the patent troll problem is happening constantly. New bills are being introduced by senators’ regularly which aim to amend the related rules, focusing on the most crucial legal issues. These bills include some highly appropriate and useful solutions which could bring the expected results and may change the situation between patent trolls and targeted companies regarding the asymmetrical bargaining power.

These typical legislative problems that need solutions on the side of the U.S. legislation are at the doorstep of the Court of Justice of the European Union (CJEU) too. In a recent case between Huawei v. ZTE\textsuperscript{186} the CJEU issued its judgement, focusing on Article 102 TFEU\textsuperscript{187} regarding an alleged infringement of a standard essential patent. The CJEU stated the conditions of demand letters and the necessary steps prior bringing an action.\textsuperscript{188} With this ruling the CJEU ruled on one of the crucial legislative issues that are handled within inter alia the Innovation and Patent Act, and will hopefully further monitor the legislative challenges – even though approached from a different, competition law perspective.

\textsuperscript{187}Treaty on the Functioning of the European Union -
Due to the U.S. Supreme Court’s previously mentioned decision\footnote{Continental Paper Bag Co. v. Eastern Paper Bag Co. -210 U.S. 405 \url{https://supreme.justia.com/cases/federal/us/210/405/case.html}} and the nature of patents itself it is up to the owner of the patent to decide whether it wishes to use and practice its patent and the related rights or not, therefore even though the number of patent trolls will be highly reduced after the implementation of the anti-troll legislations, it is doubtful that they will absolutely disappear from the business world. However, even though wilful characters will appear and target companies, the situation and the opportunities of the companies will be a lot more promising and different, additionally threatening with law suit will be far more risky and hazardous, placing the patent trolls into a lot more unpleasant and uncertain position.
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