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THE EUROPEAN UNIFIED PATENT COURT: ASSESSMENT AND IMPLICATIONS OF THE FEDERALISATION OF THE PATENT SYSTEM IN EUROPE

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Abstract

The push for the creation of a European Unified Patent Court (UPC) aims to achieve the federalisation of the patent system in Europe. By replacing the jurisdiction of national courts in the legal disputes relating to patents with unitary effect, the UPC will create a new centralised judicial authority for patent litigation and standard-setting. However, there is evidence that the UPC Agreement was rushed and its impact assessment was not based on valid data. Therefore, questions are raised about the implications it may have, especially those regarding language arrangements in the litigation proceedings and the impact which may arise from the loss of national sovereignty, as national judges will no longer be able to adjust patentability standards to the development and sustainability needs of local businesses. This article examines the impact of the loss of national sovereignty and argues that, to the extent that the UPC establishes a monopolistic source of legal power which escapes the control of the democratic policy-making process, its authority is problematic. Additionally, the findings of relevant studies are analysed in order to evaluate the original arguments of the EU Commission, and to go beyond the narrow context within which the debate on the UPC has been framed.

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1. Introduction

In February 2013, an Agreement was signed by the representatives of 25 EU member states (i.e. the EU-27 excluding Spain and Poland, and with Italy not participating in unitary patent arrangements), for the creation of a European Unified Patent Court (UPC) whose aim is to reduce or eliminate multiple patent proceedings being brought in different EU states. It has been presented as part of an EU-wide innovation strategy to support the development needs of European small and medium-sized enterprises (SMEs). The UPC will establish a new supranational judicial institution which will become the highest legal authority for the setting of patent standards and the adjudication of patent disputes in Europe. It will have a Court of Appeal based in Luxembourg and a Court of First Instance which will be sub-divided in central, regional and local divisions.¹ The proceedings at the Court of Appeal and central divisions of the Court of First Instance will be in the language in which the patent concerned was granted,² allowing, for the first time in history, local businesses to be sued abroad and in a foreign language.³ The EU is not a party to the Agreement, but referrals to the Court of Justice of the EU (CJEU) are possible.⁴

The UPC will operate in relation to an upgraded framework of patents that are granted by the European Patent Office (EPO), with such patents being able to have unitary effect in all participating states (i.e. those which have approved the relevant EU Regulation).⁵ By replacing the jurisdiction of the national courts in enforcement and invalidity proceedings of such patents, the UPC will take exclusive competence to determine all disputes relating to patents with unitary effect. The new system has all the main characteristics of a federal court, apart from the name. However, although a federal structure is adopted, important elements are strikingly different. First, the EU states do not form a federation under which benefits are pursued for the common good of one state and second, there is no legislative authority to influence the economic policy which underlies the determination of the legal principles and standards that define patents as objects of property in the UPC system.

It should be noted that the UPC project, which has been rejected repeatedly in the last 40-years, has arguably been pushed through the EU organs relatively easily, as the political focus appears to have shifted to the short-term handling of the current severe economic crisis. As the negotiations and drafting of the agreement were rushed, there

¹ Council of the EU, Agreement on a Unified Patent Court, 11 January 2013, Doc. no. 16351/12, Article 9.5. The Court of First Instance will have a central division in Paris with sections in London and Munich as well as local and regional divisions, Article 7, available at <http://register.consilium.europa.eu/pdf/en/12/st16/st16351.en12.pdf>.

² Ibid, Articles 49(5), (6). Patents will be granted in one of the official languages of the European Patent Convention (EPC), English, French and German.

³ Ibid, Articles 49-50.

⁴ Ibid, Article 38.

⁵ Regulation No 1257/2012 of the European Parliament and of the Council of 17 December 2012 implementing enhanced cooperation in the area of the creation of unitary patent protection, OJEU L 361/1, available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:361:0001:0008:EN:PDF>.

has not been a comprehensive impact assessment study to examine the implications involved.⁶ Such a study is necessary to enable national parliaments to debate whether an important element of national sovereignty can be surrendered to the authority of the UPC.

The aim of this article is to analyse the main arguments and evidence that have thus far been presented in the final run-up of this project. It will also examine in detail implications that have not been widely discussed by identifying and analysing the key legal and economic parameters involved.

The article is structured as follows: Section 2 establishes a working base regarding basic aspects of patent policy and discusses a set of data regarding the latest patenting activity in Europe to secure objective points of reference. Section 3 examines the impact from the loss of national sovereignty when the state will no longer be able to influence economic policy through an adjustment of patent standards that suit the development and sustainability needs of local businesses. In section 4, it will be shown that the UPC Agreement was based solely on a study commissioned by the EU Commission which was outdated and of limited scope. This section presents and analyses the findings of additional studies in order to evaluate the EU Commission's data and conclusions and, more importantly, to go beyond the narrow context within which the debate on the UPC has been framed. Section 5 complements the previous section by analysing in depth the policy objectives expressed by the EU organs for which no previous study or evidence has so far been presented.

2. Patents: Basic points of reference

The patent system involves a highly competitive innovation game that results in winners and losers at both individual (e.g. company's market share) and collective levels (e.g. state economy, tax revenues, etc) which are closely interconnected.⁷ As this game is usually won by the strongest players, the focus shifts to the economic conditions of the relevant market that is influenced and shaped by the success of patented inventions. Under the current conditions of free-market capitalism, it is possible that the acquisition of successful patents can lead the market to extreme situations of monopolies and oligopolies and the disappearance of local players.⁸ In this respect, the way in which patents are regulated as objects of property affects considerably the effect that patents can have in the relevant market. Two aspects of patent regulation are particularly relevant in this context and can be evaluated with reference to the patenting activity in Europe. On one hand, patents are regulated in such a way as to promote patenting activity in order to enhance innovation and allow expansion of companies in the national and international markets (i.e. the sword

⁶ House of Commons, European Scrutiny Committee, "The Unified Patent Court: help or hindrance?", 65th Report of Session 2010–12, Vol 1, 3 May 2012, at 5: "The evidence also demonstrated concern about process. The drafting of the agreement was widely criticised for being both rushed and opaque", available at <http://www.publications.parliament.uk/pa/cm201012/cmselect/cmeuleg/1799/1799.pdf>.

⁷ It is known "that IPRs may actually inhibit innovative activity", see, P. Drahos, "Intellectual property rights in the knowledge economy" in D. Rooney, G. Hearn, and A. Ninan (eds.) *Handbook on the knowledge economy*, (Edward Elgar Publishing, 2005), at 144. See also T. Aplin and J. Davis. *Intellectual property law*, (Oxford University Press, 2008), at 8-13 and references therein.

⁸ D. Xenos, "Limiting the IPRs of Pharmaceutical Companies through EU Competition Law: The First Crack in the Wall" (2011) 8(1) *SCRIPTed* 92-98.

aspect of patent regulation strategy). On the other hand, the regulatory regime has to be re-adjusted in such a way as to restrict the flow of patents in order to correct market failures which have resulted from monopolistic distortion due to excessive patent protection (i.e. the shield aspect). Therefore, the regulatory regime has to be adapted according to the level and characteristics of patenting activity that reflect different economic and development needs of various European state economies. As a result, the optimum regulatory strategy can best be appreciated with reference to the current patenting activity in Europe.

2.1 Promoting patents - the sword aspect of patent regulation

The quality and market relevance of an invention can guarantee enormous commercial and financial success for a patent owner. The economic success that results from successful patents can become a powerful incentive for innovation and growth.

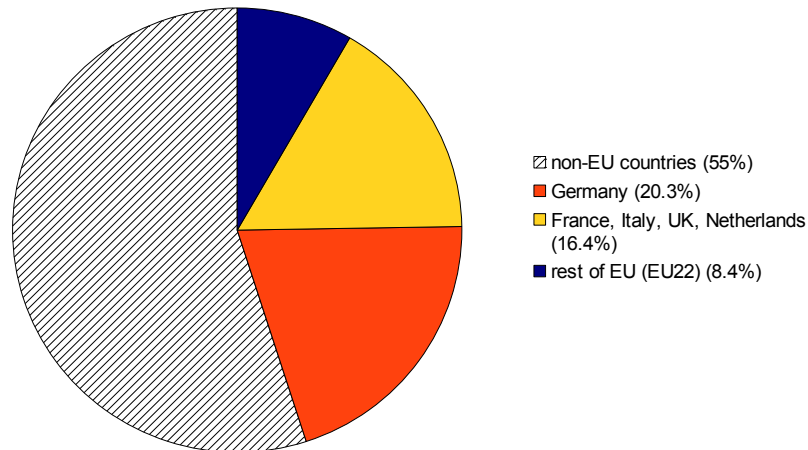
The benefits resulting from patents are also evident beyond the patent-owner's establishment. There are huge tangible benefits for national states reflected in: tax revenues, growth of high-skilled jobs, improvement of technological know-how, development of strategic commercial and educational links (through university research) with innovative companies, etc. Additional benefits are also recognised at the individual level for the consumer who has access to new or improved products. Legal protection of patents is required in order to reward the effort, investment and creativity of the current and prospective inventors, and guarantee a continuous drive for research and development. In view of the fact that the individual success of inventors can collectively guarantee and maintain continuous growth for the national economy and its technological and research infrastructure, issues surrounding patents have acquired an important political dimension that is reflected in state-level politics.

The promotion of patents by the state can be achieved by legally defining and determining their proprietary nature in a way that guarantees the strategic expansion of state-based businesses in the relevant market through the grant of exclusive commercial rights of patents.

2.2 State level share in patent acquisition in Europe

At the European level, the regulation of patents as objects of property is often determined initially at the granting level by the European Patent Office (EPO). Every year, the EPO issues data on the patents granted in the preceding year which are categorised under the name of the state in which the patentee is based. Information is also released in relation to the patenting activity of individual companies, although the data that are made available are limited to a list of top patentees, all of which are large corporations.

The EPO's data are analysed and presented in Figures 1 and 2 below. The first figure shows a graphic representation of the statistical analysis of patents that were granted in 2012. The percentages correspond to the number of patents that the EPO granted to companies or individuals according to their base country.



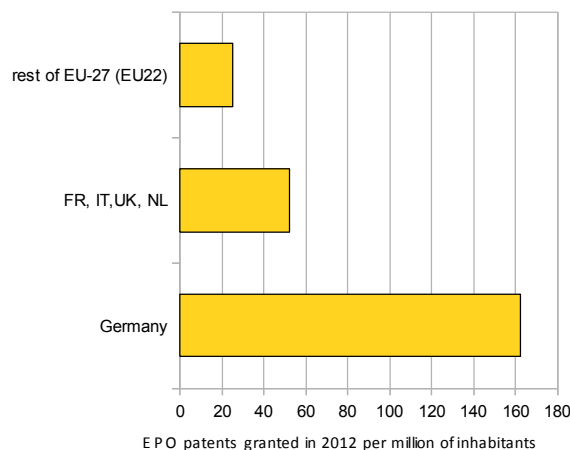
*Fig. 1 Applicant's country of residence for EPO patents granted in 2012.
(percentages of a total of 65687 patents)*

It is clear that the majority of patents are granted to companies that are not based in the EU. In the EU zone, one state, Germany has almost as many patents as the other 26 EU states. It is also evident that the EU patent landscape is divided into patent-export countries and patent-import countries. The data also indicate that the technological research output of most EU countries is dwarfed by non-EU research activity.

An additional element of the picture is that most of patents are granted to very large firms. In 2012, two German multinationals, Siemens and Robert Bosch obtained 1655 patents, added together, that is almost as many patents as all UK applicants (a total of 2021 patents). In that same year Philips, the large Dutch corporation obtained more than 1 in every 4 patents granted in the Netherlands (i.e. 461 patents for Philips compared to 1705 for the whole country). A similar situation occurred in previous years.⁹

Another aspect of the EPO data becomes apparent when the patent activity in the EU is presented according to population metrics. Figure 2 below shows the average number of patents which the EPO granted per million inhabitants for the same three groups of EU countries.

⁹ EPO latest published statistics, 2012: "Granted Patents", available at <http://www.epo.org/about-us/annual-reports-statistics.html> and the additional files therein.



*Fig. 2 Per capita EPO patents granted across the EU-27 in 2012.
(averages for three different groups of EU countries)*

These data reflect a very uneven picture of patent activity across the EU. Starting from 162 patents granted per million of population (pm) in Germany in 2012, the number of patents drops to 52 pm for the region's next four countries and sinks to just 25 patents pm for the remaining 22 countries of the EU.¹⁰

These asymmetries show the great differences that exists between Germany and 22 EU states (EU22), but also the weak patent position of the middle tier countries, France, Italy, UK and the Netherlands. Therefore, since patenting activity varies considerably across EU economies – a direct result of their widely differing characteristics – regulatory strategy of patent protection has to be optimised according to the differing needs of various national businesses, especially SMEs, to support their development and sustainability. Accordingly, the shield aspect of patent regulation which corrects market imbalances is of critical importance.

2.3 Restricting patents - the shield aspect of patent regulation

The prolonged and continuous success of external players can gradually lead to the downsizing or extinction of the local players or can prevent their emergence.¹¹ The problem is not simply that some countries or industrial parties will not benefit from the patent system but mainly that the market can be distorted by the emergence of monopolies which possess the necessary resources to produce technological results within a short period of time or simply acquire the patents of small entities (e.g. university research centres).¹²

¹⁰ Eurostat, “Population data”, available at <http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes>.

¹¹ Some of the differences in industrial capacity of the competing parties in various countries can trace their origins in heavy state subsidies to “national champion” industries in the pre-EU period.

¹² See, e.g., A. Hughes and A. Mina, “The Impact of the patent system on SMEs”, Report to the Strategic Advisory Board for Intellectual Property (SABIP), 2010, available at <http://www.ipo.gov.uk/ipresearch-impact-201011.pdf>.

In addition, as a patent is in essence a monopoly of a technical solution, flooding the market with patents can be economically counterproductive, as the opportunities for competition and further innovation are restricted. A typical manifestation of system dysfunctionality is the phenomenon of ‘patent thickets’ which has raised “widespread concern among researchers and policy makers that the level of patenting in certain sectors may be so high as to discourage rather than encourage innovation in the [given] sector”.¹³ Another worrying phenomenon is that of ‘patent trolls’ (patent assertion entities or non-practicing entities) that concern companies with no research or innovation activity which buy up patents and then use them to sue others.¹⁴ These entities, which are particularly prevalent in the software and business methods sector and currently highly active in some jurisdictions, can easily spread across EU countries once the patent system becomes centralised by the UPC.

Consequently, the flow of patents that enter into the patent system needs to be controlled in order to guarantee innovation, growth and job opportunities. Too many patents in the hands of a small number of corporations located in a few countries creates serious monopolistic imbalances that have adverse politico-economic consequences, especially in Europe which is not one state and whose unity is a matter that needs constant justification and effort. In short, the problem of optimally adjusting the level of patent protection to correct monopoly distortions is located at two levels:

(a) National level: sector-focused development within a given state (e.g. competition between *local SMEs and (local or foreign) large firms and corporations*), (see also analysis of the *Aerotel* case with reference to SMEs in section 3.2) and

(b) EU level: state-focused development (e.g. competition between widely heterogeneous economies, as reflected in the country patenting statistics above) (see also analysis of the Deloitte report in section 4.2.2).

In this respect, the legal standards that determine patents as objects of property have to be constantly re-adjusted in such a way so as to bring the flow of patents in a given sector within an optimum level, such that local businesses can freely compete and grow. Such a readjustment of the patent standards set by the EPO can currently be made by the national judge and the legislator (as will be explained in the following section). This possibility which exists today within the structure of state powers that safeguard the basic right of the people to exercise a democratic control on the various

¹³ B. Hall, C. Helmers, G. von Graevenitz, C. Rosazza-Bondibene, “Technology entry in the presence of patent thickets”, January 2013, at 1, available at http://www.chelmers.com/projects/HHvGR_thickets_paper.pdf citing M. Lemley, C. Shapiro, “Probabilistic patents”, (2005) 19 *Journal of Economic Perspectives* 75–98, J. Bessen, E. Maskin, “Sequential innovation, patents, and imitation. RAND”, (2007) 40 *Journal of Economics* 611–635, Federal Trade Commission, “To Promote innovation - The proper balance of competition and patent law and policy”, (2003) Washington, DC: GPO, available at <http://www.ftc.gov/reports/innovation/P040101PromotingInnovationandCompetitionrpt0704.pdf>, WIPO, ‘The surge in worldwide patent applications (No. 4/4)’, (2011). See, also, Communication of the EC Commission, “Executive summary of the pharmaceutical sector inquiry report”, COM (2009) 351 final, available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0351:FIN:EN:PDF>, at 3.2.1.

¹⁴ C. Helmers and L. McDonagh, “Trolls at the High Court?”, *LSE Law, Society and Economy Working Paper* 13/2012, available at http://www.lse.ac.uk/collections/law/wps/WPS2012-13_McDonagh.pdf.

legal measures imposed on them will close forever as the UPC replaces the jurisdiction of the national courts in this area.

Given the very imbalanced picture of European patenting activity (with 26 EU states managing to obtain just 25% of the total EPO patents), instead of guaranteeing more attention to local needs, EU policy makers are promoting the replacement of national courts through the UPC. The following section will discuss how the state's loss of power in determining a flexible patent policy is likely to aggravate the current situation of diverse heterogeneities and market imbalances.

3. The state's loss of power in determining a flexible patent policy for development and growth of the economy

3.1 Replacing the national patent courts and economic policy with an international monopolistic judicial system

Departing from the point that there are no natural or objective standards of patentability, the proprietary nature of patents (or their exclusions thereof) is determined with economic policy considerations in mind, reflecting the development needs and capacities of the national state. The economic policy which underlies the setting of patent standards is subjected to constant evaluation and revision, as enabled by the democratic policy-making process of the state.

The creation of the UPC involves the following constitutional issues: Firstly, under the UPC system, the proprietary nature of patents will be determined exclusively by the legal standards and principles of a judicial body that will no longer be influenced by the economic policies of legislators. Secondly, this new source of power will consist mostly of foreign nationals who will be called to determine proprietary rights without reference to the needs and capacities of the national state and its people.

Although the UPC has been advocated as the European response to the centralised patent system of the US, it should be remembered that the EU is not one country but a group of independent states with separate economies, development capacities, fiscal systems, defence and welfare needs. In other words, the UPC's federal structure cannot be justified and imposed in the absence of a federation. This reason can also explain the limit imposed on the competence of EU legislators under Article 345 of the Treaty on the Functioning of the European Union (TFEU) which recognises the member state's right to determine issues of property, and by extension, of patents as objects of property.¹⁵

Under the UPC system, judges of different nationalities will be given powers to determine patent standards and thresholds affecting the national economies of states which they are unfamiliar with or indifferent to. Such an approach would only be appropriate if the states taking part in the UPC formed part of a federal state (as in US, for example, the states of Texas and Alabama) in which a common destiny is

¹⁵ H. MacQueen, C. Waelde, G. Laurie, A. Brown, *Contemporary Intellectual Property: Law and Policy*, (Oxford University Press, 2011), at 384: "The European Union does not have the authority to interfere with property rights in member states (Article 345 of the Treaty on the Functioning of the European Union (TFEU)). Any Europe-wide reforms can only add to national property rights, they cannot take them away."

pursued – reflected in a common fiscal system, funding for education, military infrastructure, etc.¹⁶

As patentability principles and standards are ultimately influenced by considerations of policy for economic development, what would the UPC's policy choices be? On one hand, if the UPC does not take into account economic development policies in order for its decisions to appear 'objective', 'pan-European' and 'uniform', then the adjudication and development of law will be made by a zombie mechanism¹⁷ which pursues no purpose and has no direction. On the other hand, if the UPC considers economic policies, the following questions beg for answers: which policies will be followed, for which sector, how much weight should be given to a certain policy over another, how will these policies be determined, how will these policies ever be appropriate for all European countries at the same time given the wide discrepancies in development that exist among them, and ultimately, why should a judicial institution have sole decision-making competence for the underlying economic policies?

There is no precedent in the political history of modern democracies where important property issues affecting the economic sustainability and development of a country, and the proprietary rights and business prospects of its people, were conclusively and exclusively taken by a judicial body at supranational level. A democratic policy-making process for the determination of patents as objects of property exists, of course, in all countries of the world, including the US, whose system the UPC tries to imitate. The difference is that the US unified patent system does not escape democratic control, and the economic policies that it serves are widely debated by legislators, judges, economists, lawyers and industry players, all of whom are residents of the same country.¹⁸ It should also be noted that the US patent system is currently in a deep crisis; the roots of which go back at least two decades. During the 1990s, the annual number of patent legal actions doubled¹⁹ and today the increase in patent lawsuits by non-practicing entities (patent trolls) is "so pronounced that they now constitute the majority of U.S. patent lawsuits".²⁰ Therefore, EU initiatives and

¹⁶ G. Majone, "Rethinking the European integration after the debt crisis", *European Institute UCL Working Paper* No. 3/2012 (2012), at 9: "When socioeconomic conditions differ so much, it is not only politically difficult but also inefficient (in the Pareto sense) to harmonize national laws and policies: if countries have significantly different needs and hence different national priorities, the policies that maximize aggregate welfare ought to be different rather than harmonized", available at <http://www.ucl.ac.uk/european-institute/highlights/majone>.

¹⁷ Supranational institutions have been criticised for being insensitive to public opinion, see, e.g., *ibid*, at 17.

¹⁸ See, e.g., a recent public event at the Federalist Society in Washington DC on 14 May 2013: "Is the patent system working or broken? A discussion with four distinguished federal judges", available at <http://www.fed-soc.org/publications/detail/is-the-patent-system-working-or-broken-a-discussion-with-four-distinguished-federal-judges-event-audiovideo>.

¹⁹ J. Bessen and M. Meurer, "The patent litigation explosion" (2005) 8(5) *Boston Univ. School of Law Working Paper*, at 1.

²⁰ Reuters (Press release): "Obama says patent reform needs to go farther", 15 February 2013 <http://uk.reuters.com/article/2013/02/15/uk-obama-patent-idUKBRE91E03C20130215>. See also G. Sperling, "Taking on patent trolls to protect American innovation", *The White House blog*, 04 June 2013, available at <http://www.whitehouse.gov/blog/2013/06/04/taking-patent-trolls-protect-american-innovation>.

policies that refer to the US system as a paradigm to be followed should be treated with caution.

The democratic policy-making control is essential because it safeguards the interests of the people who are affected by the decisions of those who impose them and, also, because it enables a dialogue through which various opinions can be expressed, heard and explored so that decisions can be taken in an informed manner and can be scrutinised and evaluated in pursuit of a socio-economic policy and purpose. In this respect, the UPC cannot fix a socio-economic policy, which must underlie the determination of patent standards, as it does not serve the interests of one people and it is not subjected to democratic control. Moreover, since the opinion of national legislators and judges, and through them those of the public, will practically no longer be relevant, the centralised structure of the UPC will create a monopolistic source of power depriving the system of checks and balances. The possibility of referring cases to the CJEU does not change the substance of the problem for two reasons: first the window that is left for referrals is small, and secondly – and more importantly – the CJEU is not entitled to determine the nature of property of patents – for the same reasons that apply to the UPC.

‘Uniform’, ‘pan-European’, patent standards are to a great extent desirable, as they provide consistency and predictability in the application of law, wider territorial coverage and greater market value for a patent. The problem does not lie with the uniformity of standards but rather with the absolute manner of pursuing their determination and control. Therefore, the problem lies not with the standards per se but rather with the monopolisation of the content of these standards that will be imposed by the UPC, which will emerge as the sole institution of power.

It should be noted that ‘uniform’, ‘pan-European’, patent standards are already developed by the EPO when patents are granted. The problem of absence of a clear economic policy and democratic control is observed in relation to the EPO also.²¹ Political studies have analysed how such agencies can escape the political control of the executive and legislative bodies via ‘agencification’, the process by which public organisations, although legally accountable to the government, become functionally and structurally decoupled from the politically accountable executive. In this way, their political and managerial autonomy is enhanced to such a degree that they develop functions which tend to focus primarily on serving the interests of the groups with which they are doing business. Indeed, the EPO is free to work with its customers (i.e. patent applicants) to adjust the boundaries of patentability.²²

It is not, therefore, surprising that the EPO’s legal tests and principles have been criticised for limiting considerably the scope of exclusions from patentability, as provided for under the European Patent Convention and national laws which pursue

²¹ P. Drahos, *The Global Governance of Knowledge: Patent Offices and their Clients*, (Cambridge University Press, 2010).

²² T. Christiansen and P. Lægveid, “Regulatory reforms and agencification”, Working Paper prepared for the 3rd ECPR Conference, Budapest 8–10 September 2005, available at <http://regulation.upf.edu/ecpr-05-papers/tchristensen.pdf>; I. Schneider, “Governing the patent system in Europe: the EPO’s supranational autonomy and its need for a regulatory perspective” (2009) 36:8 *Science and Public Policy*, 619–629.

certain socio-economic policies.²³ Although uniform standards are desirable and the EPO decisions are respected and upheld, it is still currently possible for national systems to readjust the EPO patent standards and legal principles to the economic policies, needs and capacities of the national state and the business interests of its people. As the UPC replaces the jurisdiction of the national judge in the re-examination of the EPO's patent standards and principles, the 'uniform' 'European' standards will become absolute.

3.2 Understanding the current role performed by the national judge

The national judge influences and develops the law of patents in accordance with the will of the national legislators, as expressed in patent laws, taking also into account international standards (i.e. European Patent Convention (EPC), EPO's case-law). Since there are no objective or natural patent standards, an element of economic and development policy underlies, and must underlie, their judicial determination.²⁴

An important example that illustrates the need for an informed policy decision can be seen in the examination of the "inventive step", which is a substantive criterion of patentability (section 1(1)(b), Patents Act 1977; Article 52(1), EPC). The determination of this patentability criterion should be made with policy considerations in mind. As pointed out in the Gowers Review of Intellectual Property, at para 5.24:

[i]f it [the level for the inventive step] is set too high, not enough patents will be granted for genuinely inventive products. ... If the inventive step is too low, too many non-innovative patents could be granted which prevent genuine innovators from obtaining IP rights.²⁵

An element of economic policy underlies the legal standards of patentability, as developed by the national judge, who is able to take into account the effect that these standards have on local businesses and the economic development strategies of the state. In other words, the determination of patentability standards is not made by robots equipped with scientific knowledge that can understand and examine technological inventions. Instead, the law is shaped by well-informed judges who are able to appreciate the economic issues and policies involved. The ultimate check on the choices of the national judges that affect economic policies of the state lies with the legislators, as subjected to democratic control, who can uphold or reject the judge-made legal standards through patent law amendments and reforms.²⁶

²³ See, e.g., S. Sterckx and J. Cockbain, *Exclusions from Patentability: How Far Has the European Patent Office Eroded Boundaries*, (Cambridge University Press, 2012).

²⁴ R. Posner, "Why there are too many patents in America", *The Atlantic*, 12 July 2012, available at <http://www.theatlantic.com/business/archive/2012/07/why-there-are-too-many-patents-in-america/259725/>. See also note 18.

²⁵ Gowers Review of Intellectual Property, HM Treasury, 2006, available at <http://www.official-documents.gov.uk/document/other/0118404830/0118404830.asp>.

²⁶ As pointed out by one of the leading judges of our era, Lord Steyn, writing in extrajudicial capacity, 'in striking the balance the courts may arrive at a result unacceptable to Parliament. In such cases Parliament can act with great speed to reverse the effect of a decision. It has done so in the past. That is in the spirit of our constitution, and is wholly in accord with the democratic ideal.', Lord Steyn, "Deference: a tangled story" [2005] *Public Law* 346-359.

Moving from theory to practice, the crucial and indispensable role played by the national judge will be shown by looking at the real thing. For the purposes of the current analysis, the example that is used is the Court of Appeal's judgment in *Aerotel Ltd v Telco Holdings Ltd & Ors* (2006) that dealt with the examination of the patentability of computer programs. In paragraph 20 of the judgment, Lord Justice Jacob (as he was then) has pointed out:

The patent system is there to provide a research and investment incentive but it has a price. That price (what economists call "transaction costs") is paid in a host of ways: the costs of patenting, the impediment to competition, the compliance cost of ensuring non-infringement, the cost of uncertainty, litigation costs and so on. ... Innovation in computer programs, for instance, proceeded [in the US] at an immense speed for years before anyone thought of granting patents for them as such.²⁷

In this passage, the kind of deliberation that can be performed by the national judge can clearly be discerned. The judge considers the advantages and disadvantages of patent protection and proceeds by including a comparative empirical evaluation of the corresponding computer programs industry in the US. This allows him to take into account an element of economic policy when determining the appropriate patentability standards and principles for computer program inventions.²⁸ In other words, the judicial examination of patents and the interpretation and application of patentability criteria are not an aimless exercise.

Having identified the element of economic policy, the national judge should decide what legal principles and standards should be adopted in order to control the flow of patents in the computer programs sector. The national judge will look at the EPO's case-law in order to ensure uniformity of the applicable rules that determine patents as objects of property. In certain circumstances, however, it may not be possible to apply exactly the EPO's standards, as an economic policy element may be identified and analysed by the national judge with reference to the development needs and capacities of the given industrial sector concerned which would be undermined by applying such standards.

In the *Aerotel* case, in examining the patentability of a software-related invention under the permitted exceptions to the excluded patentable matter of computer programs, as provided for under section 1(2) of the Patents Act 1977 (Art. 52, EPC), the Court of Appeal (in Lord Justice Jacob's judgment) laid down a four-step test that can be used in such cases by both patent examiners and the judges in the UK.²⁹ This

²⁷ *Aerotel Ltd v Telco Holdings Ltd & Ors* [2006] EWCA Civ 1371, available at <http://www.bailii.org/ew/cases/EWCA/Civ/2006/1371.html>. See also G. Moody, *Rebel code: Inside Linux and the Open Source Revolution*, (Perseus Publishing, 2001); R. Cohen, "New Zealand government announces that software will no longer be patentable", *Forbes*, 8 May 2013, available at <http://www.forbes.com/sites/reuvencohen/2013/05/08/new-zealand-government-announces-that-software-will-no-longer-be-patentable/>.

²⁸ As a comment to include here, Lord Justice Jacob's comparative evaluation should have also taken into account the conclusions of a prior expert report which had been cited on various occasions by the UK Parliament, see MacQueen *et al*, note 15.

²⁹ See, e.g., John Lahiri Khan's Application (BL O/356/06), Hearing Officer: 'The presence or otherwise of a technical effect is therefore a subsidiary factor which will fall to be considered only where an invention passes the first three *Aerotel*/Macrossan steps.'; WMS Gaming Inc.'s Application

test is stricter than that applied by the EPO for the examination of excluded matters.³⁰ It should be stressed that the approaches taken by both the national judge and the EPO should not be examined as to whether they are right or wrong. What is right or wrong transpires through the effect that the applicable legal principles can have on the sustainability and development of the given sector concerned (here the software industry).

In particular, since the EPO employs an easier test, the patentability of software is easier to establish. The easier the test employed the greater the number of patents that will flow into the system. If too many patents are granted, and given the nature of software as an intermediate product for many other businesses and industrial sectors, the exclusive rights of patent owners may have a negative impact on business and economic development of both the sector concerned (computer programs) and other adjoining sectors (e.g. electronic commerce).

However, the stricter test of *Aerotel* means that it is more difficult to get a patent for software and, therefore, the sector can allow more industry players to grow, especially SMEs.³¹ Of great importance is the fact that the *Aerotel* test has been determined with reference to economic policy considerations, as expressed by Lord Justice Jacob's evaluation of the computer programs industry (as quoted above). In contrast, the more relaxed legal test employed by the EPO does not pursue any particular policy and, more importantly, *cannot* pursue any policy, as the Munich-based institution is not subjected to democratic endorsement and control nor does it serve the interests of one state in order to be able to apprehend the development needs and capacities of the given technological sector concerned.³²

The important role that the national judge currently plays in re-adjusting the externally-imposed patentability standards and thresholds (e.g. of the inventive step criterion) in order to allow for a flexible patent protection strategy, which is absolutely vital for the sustainability and development of various technological sectors, will regrettably come to an end with the creation of the UPC. If the role of the national judge, as it stands today, is replaced (in practice) by the UPC, the ability of a democratic state to shape national patent policy in a manner that guarantees effective competition and development for each technological sector will disappear with dire consequences for the sustainability of local business and the well-being of individuals.

The national patent law system does not only provide a standard-setting framework but also allows the actual assessment of facts and distribution of justice. Currently, national judges retain a considerable degree of discretion in the assessment and application of rules and facts. Also, the judges are not insensitive to the positive effect that state-based companies have on the national economy. In many situations, a patent

(BL O/260/13), for the patent application entitled 'Apparatus for playing wagering games', 24 June 2013.

³⁰ McQueen *et al*, note 15, at 424-425.

³¹ See, e.g., T. Lee, "Top judge: ditching software patents a 'bad solution'", *Ars Technica*, 13 May 2013, available at <http://arstechnica.com/tech-policy/2012/05/top-judge-ditching-software-patents-a-bad-solution/>.

³² See also Sterckx and Cockbain, note 23; Drahos, note 21; J. Pila, "Software Patents, Separation of Powers, and Failed Syllogisms: A Cornucopia from the Enlarged Board of Appeal of the European Patent Office." (2011) 70(1) *Cambridge Law Journal* 203-228.

case can attract public and media attention because the stakes involved go far beyond the immediate interests of the litigant companies. For example, in the known patent dispute between Apple and Samsung in the summer of 2012, which attracted considerable coverage in international media, a US court fined the South Korean company around \$1 billion for infringement of a patent of the American corporation.³³ However, in an almost identical case decided at the same time in South Korea, the national court favoured the South Korean corporation.³⁴

The crucial point that this section makes is that the role of the national judge in patent law is a matter of high constitutional importance. The UPC, which will create a monopolistic source of legal power, tries to imitate the US federal patent system. However, it fails to secure the most basic element needed by such a court, which is its ability to identify appropriate patentability standards that suit the development needs of the economy. The UPC cannot identify economic policy needs simply because there are neither one people in Europe nor a federation for which its federalised structure could be justified.³⁵ As ‘uniform’, ‘pan-European’, ‘one-size-fits-all’ standards cannot be determined without reference to a clear economic policy, these standards cannot be imposed in absolute terms. To the extent that the monopolisation of legal power which is created by the UPC escapes the control of the democratic policy-making process, the legal authority of the UPC appears to be problematic.

4. Impact assessment studies: Choosing your supermarket carefully

Due to the complexity of the economic and legal questions surrounding the UPC, it cannot reasonably be said that non-expert politicians are able to take an informed decision on the UPC proposal without having prior access to evidence and assessment studies. This prerequisite applies to the decision-making process at both the EU and national levels.

At the European level, there is only one study on the unified patent litigation system, conducted in 2009 by Professor Harhoff for the European Commission, which is of limited scope (hereinafter the Ludwig-Maximilian University report).³⁶ In 2012, the European Scrutiny Committee of the UK Parliament (House of Commons) found that that report was outdated and contained errors.³⁷ At the national level, Deloitte LLP produced a study for Poland which estimated a negative impact of the UPC on the

³³ P. Elias, “Apple-Samsung patent lawsuit: Samsung ordered to pay Apple \$1.05 Billion”, *Huff Post Tech*, 24 August 2012, available at http://www.huffingtonpost.com/2012/08/24/apple-samsung-patent-lawsuit-ruling_n_1829472.html.

³⁴ E. Ramstad, “Korean court helps Samsung”, *Wall Street Journal*, 24 August 2012, available at <http://online.wsj.com/article/SB10000872396390444358404577609154169601924.html>.

³⁵ T. Lee, “Specialist patent courts are part of the problem”, *Forbes*, 19 August 2011, available at <http://www.forbes.com/sites/timothylee/2011/08/19/specialist-patent-courts-are-part-of-the-problem/>.

³⁶ D. Harhoff, “Economic cost-benefit analysis of a unified and integrated European patent litigation system”, (2009) (Tender No. MARKT/2008/06/D 1) available at: http://ec.europa.eu/internal_market/indprop/docs/patent/studies/litigation_system_en.pdf.

³⁷ European Scrutiny Committee, note 6, at Ev2.

national economy and its development prospects.³⁸ On the basis of this study, the Polish government walked away from the UPC Agreement.³⁹

What has happened is that an Agreement on the UPC has been signed at the EU level based on the findings of a single academic report that says nothing about the impact that this new super powerful judicial institution will have on each national state and the business interests of SMEs, as will be discussed in the following section. Arguably, as a non-expert politician is not realistically capable of directly assessing the merits of such reports, it is reasonably expected that there should be somebody to check their credibility, relevance, scope, etc. In principle, politicians representing their country in the EU can require an expert national study and refer those imposed by the EU Commission for national expert evaluation before putting their signature on documents that surrender important elements of state sovereignty.

At the European level, although the EU Commission sponsored the Ludwig-Maximilian University report, its system had not afforded the necessary checks and balances of a democratic system that guarantee the requisite quality and thoroughness of the commissioned expert opinions. As mentioned above, some national studies did exist and provided vital information regarding the merits of the Ludwig-Maximilian University report. Therefore, it may be seen as unfortunate that other studies had not been referred to or taken into account by the EU Commission to examine whether the Ludwig-Maximilian University report was an adequate evaluation of the suitability of the UPC.⁴⁰ Since such cross-examining evidence and studies had been excluded, non-expert politicians (MEPs and representatives of most of the Member States) had only access to a pre-selected document, the Ludwig-Maximilian University report, which was sponsored by the EU Commission. Furthermore, the replies of the EU Commission to MEPs' questions during the European Parliament's plenary (voting) session of December 2012, debating the UPC, were communicated with a delay of more than two months and only after the UPC Agreement had been signed on the previous days.⁴¹

Moving beyond this restricted framework of expert information, a brief description will be given, in the following paragraphs, of relevant studies that have been used at various levels of the decision-making process regarding the impact that the UPC will have on the national state and the business interests of its people.

³⁸ See section 4.2 below (the Deloitte report for the Polish Economy).

³⁹ J. Ciesnowski, "Intellectual property: Poland opposes single EU patent regime", *Warsaw Business Journal*, 2 January 2013, available at <http://www.wbj.pl/article-61446-intellectual-property-poland-opposes-single-eu-patent-regime.html>.

⁴⁰ See answer given to MEP Nikolaos Chountis' question (of 10 December 2012) by EU Commissioner Mr Michel Barnier on behalf of the Commission, E-011245-12, 21 February 2013, available at <http://www.europarl.europa.eu/sides/getAllAnswers.do?reference=E-2012-011245&language=EN>.

⁴¹ *Ibid.*

4.1 Assessment at EU Level

4.1.1 Open Consultation (2006)

In 2006, the EU commission offered an open consultation on its website inviting the general public and the various stakeholders to express their opinion on the proposed UPC system. However, this consultation is outdated having been conducted 7 years ago during the term of the previous European Parliament and in a period of time in which the socio-economic and political circumstances were different. In addition, at that time, there was no concrete and detailed proposal to which public opinion could be directed. Since 2006 new economic players and civil society groups have emerged, and awareness of the effects of patents has considerably increased, especially after the financial crisis of 2008 which still persists. It should be noted that despite their democratic credentials, open consultations are not usually taken into account (see e.g. the official EU Commission's study on the UPC, discussed in section 4.1.3 below), whilst the subject of consultation is often narrowly framed by the EU Commission's questionnaires limiting considerably the scope of public participation.⁴²

4.1.2 Impact assessment study (2011) – irrelevant to the UPC

On the EU Commission's website on patents which contains the official information about the unitary patent regulations and the UPC, the only background document that exists is an 'Impact assessment' study of 13 April 2011.⁴³ It should be clarified that this study has nothing to do with the UPC, as the EU Commission commissioned a specific study on the proposed new regime of patent litigation (see following subsection). The document which is entitled 'Impact assessment' is a working paper that accompanied the EU Commission's proposals for EU Regulations on enhanced cooperation in the area of the unitary patent protection and translation arrangements.⁴⁴ This 'impact assessment' deals mostly with costs of translation and publication of patents, renewal fees, and problems deriving from the complexity of licensing, registering transfers and other rights. Although litigation costs are not examined, the study states that "[i]t is estimated that less than 1% of all patents become subject to litigation during their term".⁴⁵ Apparently, the EU Commission considers litigation

⁴² See, e.g., Questionnaire of the public consultation on the efficiency of proceedings and accessibility of measures regarding civil enforcement of intellectual property rights (IPRED), available at

http://ec.europa.eu/internal_market/consultations/docs/2012/intellectual-property-rights/questionnaire_en.pdf;

G. Moody, "The great IPRED consultation fiasco", *ComputerworldUK blog*, 2 April 2013, available at <http://blogs.computerworlduk.com/open-enterprise/2013/04/the-great-ipred-consultation-fiasco/index.htm>.

⁴³ EU Commission's website on the Single Market (Patent Documents), available at http://ec.europa.eu/internal_market/indprop/patent/documents/index_en.htm.

⁴⁴ EU Commission Staff working paper (SEC(2011) 482 final), "Impact assessment, accompanying document to the Proposal for a Regulation of the European Parliament and the Council implementing enhanced cooperation in the area of the creation of unitary patent protection and Proposal for a Council Regulation implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation arrangements", available at http://ec.europa.eu/internal_market/indprop/docs/patent/sec2011-482-final_en.pdf.

⁴⁵ *Ibid.*, at 5 and 32.

costs an academic subject and refers interested parties to its Ludwig-Maximilian University report.

4.1.3 The Ludwig-Maximilian University report: The EU Commission's one and only study

The EU Commission commissioned an impact assessment (i.e. costs-benefits) study on the UPC which was carried out by the Ludwig-Maximilian University of Munich. The University's report entitled 'Economic cost-benefit analysis of a unified and integrated European patent litigation system' was published on 26 February 2009.⁴⁶ This is the one and only official study that the EU Commission has produced to justify the setting-up of the UPC. The scientific value of this report has been questioned, if only because of its very limited scope (see the discussion in this section below and in section 4.2.1). For example, in the UK, SMEs account for 99% of businesses,⁴⁷ and the same or higher percentage applies to most of the EU countries. The Ludwig-Maximilian University's report covers the SMEs in one short paragraph which contains a few general statements, and makes no serious attempt to provide a cost-benefit analysis of the UPC in this context.⁴⁸ As noted above, the European Scrutiny Committee of the UK Parliament dismissed this report as containing errors and being, admittedly, outdated.⁴⁹ Additionally, this report does not sufficiently address the issue of patent trolls litigation that will expand in Europe once the patent litigation system is centralised by the UPC.⁵⁰ Apart from some general information regarding the patent trolls phenomenon in the US, it fails to note that it is the centralised federal patent system of the US and forum shopping that has facilitated patent-troll practices. The only thing that the report offers is a general advice that "when it comes to the design of the unified Patent Court, the danger of 'trolling' should be taken seriously."⁵¹

There is some information in this report that needs to be looked at more closely. A key argument is that the UPC will reduce the cost of litigation by eliminating the duplication of infringement and revocation of patent cases. Duplication occurs when, for example, a case that is brought for patent infringement in Germany may again be re-heard in Greece or Poland if the litigating parties have a presence in these countries. Under the UPC, the patent-holder can pursue an action through a single judicial route for a final ruling that will apply in all EU member states participating in the UPC regime. Therefore, in theory at least, there could be a reduction in litigation costs in patent disputes involving a duplication of legal proceedings. The report gives general figures suggesting that 'between 146 and 311 infringement cases are being duplicated annually in the EU Member States'.⁵² However, the validity of this number

⁴⁶ Harhoff, note 36.

⁴⁷ UK IPO, "From ideas to growth: Helping SMEs get value from their intellectual property", April 2012, at 7, available at <http://www.ipo.gov.uk/business-sme.pdf>.

⁴⁸ Harhoff, note 36, at 51.

⁴⁹ European Scrutiny Committee, note 6, at Ev 2.

⁵⁰ See also notes 11 and 15.

⁵¹ Harhoff, note 36, at 50.

⁵² *Ibid*, at 5.

is questionable as the report concedes that it is unable to produce “reliable statistics that would allow us to compute with precision the incidence and costs of duplication.”⁵³

A serious flaw of the report is that it is based on erroneous data. For example, the report suggests that in year 2004, there were 153 patent cases in the UK.⁵⁴ This information can be cross-checked with data from a recent study.⁵⁵ According to this study’s findings, only 27 patent cases were brought to the England and Wales High Court (Patents Court) in that year. In another place, the report cites 105 cases in the United Kingdom for the year 2000.⁵⁶ Again, this number is unrealistic, as in that year only 18 cases were brought before the High Court. For the nine year period 2000-2008, the total number of patent cases brought to the High Court was only 255, which gives 25 cases per year on average. Moreover, half of these cases do not concern UK claimants or defendants. In addition, in this nine-year period, only 73 patent cases reached the Court of Appeal and only 5 cases made it to the Supreme Court (formerly the House of Lords).⁵⁷ Patents are also the least litigated type of IP at the Patents County Court. In this court, there were a total of 64 IP-related cases in 2007 and 2008. Less than a fifth of these cases involved patents.⁵⁸ These numbers provide a picture of the entire patent litigation activity in the UK for a period of nine years and point to the fact that only a few patent cases are brought before the UK courts in any given year. Despite the impression that has been created by various circles, the analysis of data shows that patent litigation is extremely rare.⁵⁹

The number of patent cases that the Ludwig-Maximilian report assumed for the UK is beyond realistic estimates. This leads to the paradoxical conclusion that the duplicated cases that will be saved by the UPC are more than the actual cases running. For example, in estimating cost savings from avoiding duplication, the Ludwig-Maximilian University report makes the assumption that “[t]he number of cases in Great Britain was between 70 and 78 in the 2008 scenarios, and between 97 and 109 in the 2013 scenarios. These case numbers were multiplied with the stated cost reduction.”⁶⁰ In reality, in 2008 there were only 5 patent cases in the Patent County Court and 37 in the High Court.⁶¹

Additionally, the argument of duplicated cases is not enough per se because there is no reliable data showing to what extent heterogeneous or opposing judgments actually

⁵³ *Ibid.*, at 15.

⁵⁴ *Ibid.*, at 25, table 4.1.

⁵⁵ Helmers and McDonagh, note 14.

⁵⁶ Harhoff, note 36, at 31.

⁵⁷ Helmers and McDonagh, note 14, section 5.2.1 and fig. 7.

⁵⁸ *Ibid.*, at 12. The most litigated IP area in the UK is trademarks. The annual number of patent cases that the Patent County Court examines is typically less than ten, see *ibid.*, table 1.

⁵⁹ *Ibid.*, at 4.

⁶⁰ Harhoff, note 36, at 41, footnote 69.

⁶¹ Helmers and McDonagh, note 14, tables 1 and 5.

occur.⁶² The cases that are duplicated do not necessarily reach an opposite judicial outcome, since the substantive content of patent law in Europe is already harmonised to a great extent, through the EPO system, TRIPS, scientific conferences, cooperation in educational courses and academic studies, etc.⁶³ The number of duplication cases needs also to be subtracted by the number of the cases that concern patents of companies not based in the EU. Obviously, it cannot seriously be suggested that in order to avoid duplication of cases regarding the patents of US, Japanese and Chinese companies, the states of, say, Ireland, Denmark and Romania should replace their national courts to facilitate the litigation activities of non-EU entities.⁶⁴

Another interesting parameter arises from the report's suggestion that litigation in the courts of Germany, Netherlands, France and UK accounts for around 90% of all patent litigation activity in the EU [of which 50%-70% takes place in Germany]. If we assume that there is a duplication of 230 cases (i.e. an average number of the 149-311 cases suggested by the report), and since 10% of patent litigation takes place in the remaining 23 EU countries, then it is expected that a state from this group of 23 EU states deals, on average, with *just one case per year* that may concern a duplication of a patent case. Considering the annual EPO statistics, which show that more than 50% of patents are granted to non-EU countries, there is a corresponding 50% chance that this one case will not even concern a European patentee.

A core issue with the Ludwig-Maximilian University report is that it appears to provide a cherry-picked selection of statements and data whose value can easily be questioned upon closer examination. Although the EU Commission's tender asked for a cost-benefit analysis, and despite the title of the document that was produced, the report failed to give due weight to the costs that will be incurred from the creation of the UPC. This issue suggests that national states should not rely solely on reports prepared by foreign academic centres which often do not have access to reliable information or do not cross-check with regional data.

4.2 Assessment at national level

4.2.1 The report of the European Scrutiny Committee of the UK Parliament

The European Scrutiny Committee of the UK Parliament published its first report on the UPC in May 2012 criticising the initial 2011 UPC agreement of the EU organs as being both rushed and opaque.⁶⁵ The report also criticised the Polish EU Presidency (June-December 2011) for rushing the negotiations, as well as the UK's participation in these negotiations.⁶⁶ The findings of this report influenced, to some extent, the subsequent stance of the UK Government which achieved some important changes in

⁶² In the *Epilady* case (patent EP0101656), infringement actions taken by the patent-holder were successful in Belgium, Germany, Italy and the Netherlands, but not successful in Austria, France and the United Kingdom. See, Harhoff, note 36, at 15.

⁶³ Drahos, note 21.

⁶⁴ In the UK, "data also reveal [that] the number of foreign litigants by far exceeds domestic parties", Helmers and McDonagh, note 14, at 4.

⁶⁵ European Scrutiny Committee, note 6, at 5.

⁶⁶ *Ibid*, at paras 76-77.

the EU Council's summit in June 2012, namely to remove the CJEU's jurisdiction (referrals are possible) and to get one of the bases of the central division of the UPC's Court of First Instance in London.

The Scrutiny Committee based its conclusions on the evidence submitted by a panel of experts, most of which were representatives of the patent profession. The report found that "the draft agreement on the Unified Patent Court is likely to hinder, rather than help, the enforcement of patents within the European Union. This will particularly be so for SMEs, the main intended beneficiaries."⁶⁷ It reasoned that the "the UPC will be *prohibitively expensive*",⁶⁸ as the structure of UPC involves various judicial forums (local, regional, central, Court of Appeal) which take place abroad and in the foreign language of the patentee (e.g. when the patent is in German).⁶⁹ In addition, it is stressed that there is much room for forum shopping (i.e. choosing the local or regional UPC court) where a claim for infringement and validity of a patent can be examined separately (i.e. bifurcation), as permitted in Germany and Austria.⁷⁰

The main points of this criticism were reiterated by the Scrutiny Committee, a few weeks before the final UPC Agreement at EU level in February 2013, stressing "in particular the effect of bifurcation on forum shopping, the training and quality of UPC judges, the prohibitive expense of using the unitary patent and UPC, particularly for SMEs, and the lack of an up-to-date Commission impact assessment".⁷¹ Despite these conclusions, the Scrutiny Committee decided to clear the subject from its scrutiny.

It should be pointed out that the report of the Scrutiny Committee in May 2012 and its subsequent comments in February 2013 do not constitute impact-assessment studies. Ironically, although the Scrutiny Committee criticised the EU Commission for not offering an updated impact assessment study, the UK Parliament has yet to provide its own impact assessment (i.e. similar to one commissioned by the Polish government). The advice that the patent agents gave before the Scrutiny Committee concerned some practical points which revolve around litigation practices. However, an economic evaluation has not been undertaken thus far as to the exact impact on the national economy and the business of various sectors, despite repetitive requests.⁷² The Scrutiny Committee's finding that the UPC will be prohibitively expensive for SMEs

⁶⁷ *Ibid*, at para. 186.

⁶⁸ *Ibid*, at para 135 and page 41 (paragraph 4 of the conclusions), emphasis added.

⁶⁹ *Ibid*, at paras 102 and 133. See also notes 2 and 3 above.

⁷⁰ *Ibid*, at paras 101-2. The practice of separation of infringement and invalidity proceedings tips the balance in favour of the plaintiffs and puts inexperienced defendant firms at a disadvantage. Direct evidence for this was presented in a recent study that used credit ratings of the plaintiffs and defendants, and hence their future performance, to show that the injunction gap afforded by the bifurcation system favours the patentee claimant. See P. Schliessler, "The effect of patent litigation on firms' credit ratings-evidence for Germany" (2013) *Centre for European Economic Research (ZEW) Discussion Paper* No. 13-015.

⁷¹ House of Commons, European Scrutiny Committee, "Business Failure and Insolvency", 33th Report of Session 2012-13, 6 February 2013, at para. 8.28, available at <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmeuleg/86-xxx/86xxx.pdf>.

⁷² See, e.g., IP Federation, Newsletter: Latest Activities: "Unitary Patent and Unified Patent Court", 13 February 2013: "We are urging the Government to conduct a robust economic impact analysis based on the effect on the UK economy and publish the results for scrutiny before ratifying the Unified Patent Court Agreement", available at http://www.ipfederation.com/activities.php?news_id=67.

may seem an isolated fact, but if combined with the fact that SMEs account for 99% of all UK businesses, it acquires a different dimension.⁷³ Only a comprehensive impact assessment study can connect the dots so as to allow the elected members of the people to take an informed decision.

It should be remembered that in its report of April 2012, the Scrutiny Committee highlighted the policy of the then Parliamentary Under-Secretary at the Department for Business, Innovation and Skills, Baroness Wilcox who said that “there is a very strong commitment from all those involved in negotiations that the patent and court system should be affordable for SMEs” and “you can be sure that the one thing the Department for Business is not going to be doing is wanting to make small and medium-sized businesses disadvantaged”.⁷⁴ This policy has yet to be made clear by her successor, the Viscount Younger of Leckie, a hereditary peer of the House of Lords and newly appointed business Minister. In a recent debate in the House of Lords, the focus was placed on the fact that London would be a base of one of the central divisions of the UPC’s Court of First Instance. It was estimated this would derive benefits of around £2 million per annum over 20 years for London’s economy⁷⁵ – admittedly, a very modest figure considering the size of the capital’s economy and that the UK.

4.2.2 The Deloitte report for the Polish Economy

After the EU Council’s summit in June 2012, the Polish Government commissioned a state-focused study from Deloitte LLP on the potential impact of the European unitary patent system (i.e. European patent with unitary effect and European Unified Patent Court). The ensuing report entitled ‘Analysis of the potential economic impact from the introduction of Unitary Patent Protection in Poland’⁷⁶ (henceforth the Deloitte report), and published in October 2012, evaluated the impact that the unitary patent protection will have on the Polish economy. The study was centred on a cost-benefit analysis comparing two different options: Option 1 (to join the Unitary Patent System (UPS)), and Option 0 (not to join the Unitary Patent System).

⁷³ UK IPO’s report, note 47.

⁷⁴ European Scrutiny Committee, note 6, at para. 135.

⁷⁵ “According to independent estimates, hosting part of the unified patent court in London could also bring a benefit of around £200 million to the UK economy” , Parliamentary Debates, “Intellectual Property Bill [HL]”, Second Reading, moved by Viscount Younger of Leckie, 22 May 2013, col. 851. Cf. “There is, however, clearly confusion between the Government’s press release, which estimated some £200 million of benefits, and the Explanatory Notes, which put them at £2 million per annum over 20 years —yet another demonstration of the benefits of EU membership [sic]”, per Lord Clement-Jones [Liberal Democrat], *ibid* col.856. NB: The overarching Impact Assessment for the whole Bill (containing 23 clauses of which one concerns the UPC) gave a net benefit of £19.61 million over a ten year period, Explanatory Notes, at para. 95. The Bill documents are available at <http://services.parliament.uk/bills/2013-14/intellectualproperty/documents.html>.

⁷⁶ Deloitte Polska, Analysis of the potential economic impact from the introduction of Unitary Patent Protection in Poland (in Polish), October 2012, available at http://www.mg.gov.pl/files/upload/16510/Analiza%20potencjalnych%20skutkow%20jednolitego%20atentu%20europejskiego_final.pdf.

Starting with the benefits, the study examined the anticipated cost-savings from maintaining a unitary patent (as opposed to maintaining various national ones) and the benefits from the larger scope of protection, particularly, savings accruing from litigation and uniform interpretation of patent law across the EU. The study also assumed that Poland would have hosted a local branch of the UPC. It concluded that if the country adopts Option 1 (to join the UPS) the discounted benefits are calculated at €0.7 billion until the year of 2043 compared to €0.4 billion if Option 0 is adopted (i.e. not to join the unitary patent system).

From the angle of the incurring costs, the study considered business costs in relation to new demands in patent management, including checking and complying with ‘non-infringement’ requirements, licensing costs and litigation costs. Translation costs were also taken into account. The cost analysis was based on projected statistics of patents in force and was conducted around three different scenarios regarding the future number of patents that will have been granted to companies based in Poland.

The findings are shown in the following Figure (Figure 3):

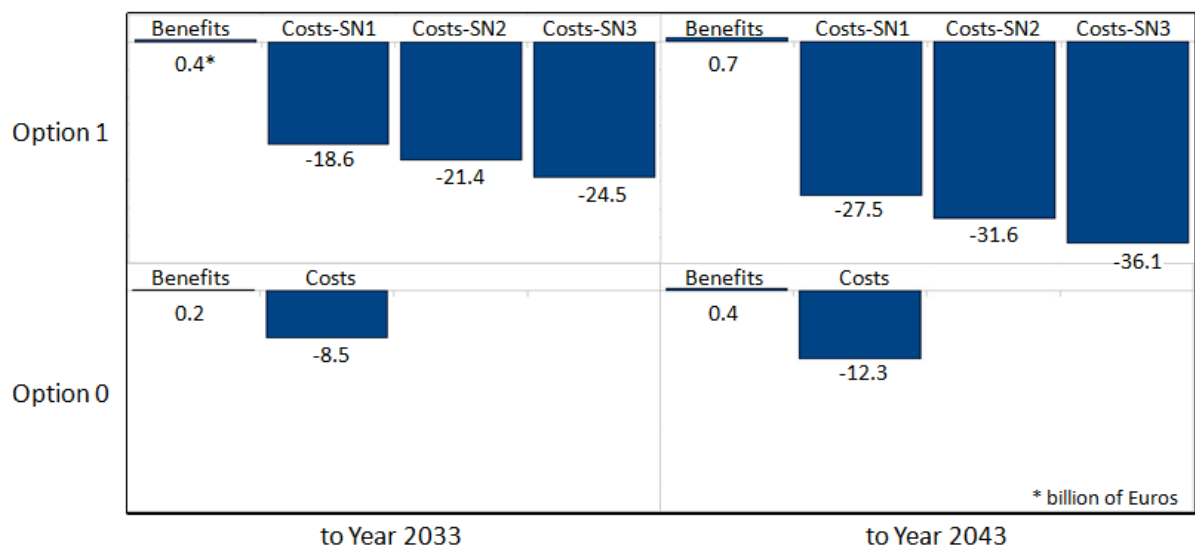


Fig 3. Estimated total discounted benefits and costs over a period of 20 years and 30 years for the Polish economy deriving from two possible options open to the national government: to join the unitary patent system (Option 1) or not join that system (Option 0). The costs are examined in relation to three scenarios (SN) about the future number of patents (SN1= optimistic, SN2= moderate, SN3 pessimistic).

The study took into account the impact of the anticipated influx of patent monopoly rights and the resultant enforcement pursued by foreign businesses, as well as the cost burden in business management that will be required in order to ensure compliance and/or purchase patent licenses. Under the most optimistic scenario, based on an estimation of around 40 thousands European patents being held by Polish businesses until the year of 2043, the total discounted costs would climb to €27.5bn within the period covered until that year.⁷⁷ The costs would be much higher for the moderate and

⁷⁷ The currency used in the Deloitte report is Polish Zloty (PLN). Here, we convert the values in Euros (EUR) using EUR/PLN = 4.10, the monthly average for October 2012, the publication month of the report.

more pessimistic scenarios (SN2, €31.6bn) and (SN3, €36.1bn) respectively, the latter assuming just above 3 thousand European patents in force for Polish businesses (reflecting the current annual rate).⁷⁸

If we compare the two options that are available to the country, Option 1 (to join the unitary patent system) and Option 0 (not to join) in order to calculate the *total net discounted benefits for the period covering 30 years* from adopting the unitary patent system under the moderate scenario (SN2), the following basic equation applies:

$$(\text{benefits of Option 1} - \text{costs Option 1}) - (\text{benefits of Option 0} - \text{costs of Option 0}) = -€19\text{bn}$$

In sum, a total net discounted cost of €19 billion emerges. Thus, on one hand, the discounted costs run into billions of Euros (Fig 3), on the other hand, the discounted benefits amount only to several hundreds of million Euros, even under the best case scenario.⁷⁹

The study shows that there will be a surge of costs resulting from the sudden influx of new foreign patents – European patents in force estimated to be around 1 million in 2043 – which will become enforceable in the country, as the local business will try to ensure that they are not infringing the exclusive rights of others. Indeed, as the costs appear to run into tens of billions of Euros over the next decades, they will amount to a sizable part of the country's economy⁸⁰ and, certainly, will be onerous for local SMEs.

To illustrate these findings from the point of view of a SME, the Deloitte report presents a typical case-study of a small manufacturing company that is threatened with warning letters for an alleged infringement of a patent of large multinationals operating in the same industry sector. The report shows that the costs for advice on patent compliance will run into thousands of Euros, as large databases will have to be checked and professional advice will have to be secured. Under such pressure, it is reasonably contemplated that many SMEs will be forced into licensing agreements with patent owners. Such licenses are typically 3-5% of their total turnover, and for SMEs operating with 8-10% margin, this percentage reflects a serious cost.⁸¹

The sustainability and development prospects of SMEs is vital for the economy of Poland, a country in which 99.8% of the companies concern micro and SMEs, with 96% of them employing up to 9 people. Since SMEs generate almost half of Polish GDP, protection of these companies is of strategic importance for the future development and well-being of that country.⁸²

The important observation is that the ratio of the number of imported patent monopolies to the number of patents in force owned by local economic agents is

⁷⁸ According the annual EPO statistics, note 9, it is the most pessimistic scenario (SN3) that reflects the current number of patents granted to companies based in Poland.

⁷⁹ For the optimistic scenario, the net discounted cost is €14.9bn.

⁸⁰ In 2012, the GDP of Poland was around €395bn.

⁸¹ Deloitte report, note 76, at 63.

⁸² Statistical information is based on the Deloitte report, *ibid*, footnotes 81-83.

critical in estimating the burden of costs of the patent system on the national economy. If this ratio is high then it is straightforward that it is not economically beneficial for a country to join the unitary patent system.

Indeed, using the findings of the Deloitte report as a base estimate, the Polish government decided to walk away from the UPC agreement for which, ironically, it worked hard to promote during its EU Council presidency in 2011.

5. Innovation Union and the protection of SMEs: Policy objectives or advertising slogans?

At a political level within the EU's decision-making process, the rhetoric about the UPC project has also revolved around policy objectives in order to attract wider political and public support. In the current period of prolonged and severe economic crisis, which has affected many EU states, the UPC has been presented as a new institutional solution of the EU's innovation strategy to foster development, growth and economic competitiveness in the EU zone. In addition, the protection of SMEs has been elevated to a paramount policy objective in recognition of the economic and social role that these businesses play in national economies.

However, apart from some general statements, press releases and EU Commission's leaflets, no study has ever been undertaken to show if and how the UPC can achieve these policy objectives. A partial explanation may be the lack of conformity between policy objectives and impact assessment studies, as studies are commissioned and conducted before the policy objectives are discussed and agreed upon. In 2009, the EU Commission published its Ludwig-Maximilian University commissioned report but, as already noted above, SMEs were only given a passing reference in a short paragraph.⁸³

In this section, the discussion moves beyond the political rhetoric to examine the policy objectives that concern innovation and the protection of SMEs. Because these objectives are of crucial importance for the economic development of the states, the examination will not only address benefits but also the costs involved.

5.1 The innovation argument

The UPC has been presented as an important component of the EU Commission's strategy to achieve innovation and growth in the EU. It forms part of the EU Commission's new economic strategy, 'Horizon 2020', and its 'Innovation Union' agenda. In view of the current economic crisis, anything that carries the label 'innovation' and 'growth' looks very attractive and promising. It should be remembered that the EU Commission has produced similar economic strategies and agendas in the past, such as the previous 'Lisbon strategy' with the clear aim (at the time) to make the EU states the most competitive zone in the world by 2010. Because the actual economic situation was (in 2010) and still is diametrically opposite, the current 'Horizon 2020' agenda, which builds on the 'Lisbon strategy', should be approached with considerable caution. Of course, there has been no serious criticism of previous agendas, because, as it is widely argued, the EU is not one state with a functional democracy, in which a genuine and effective institutional political

⁸³ See note 48 above.

opposition exists.⁸⁴ Indeed, such agendas are prepared by some groups within the EU's institutional mechanism and under intense lobbying pressure from large corporations.⁸⁵

The EU innovation strategies are presented with reference to general average statistics for all member states (as if the EU is one state) and all contain good news for the non-expert politician, namely that as patents deal with inventions, they should contribute to innovation.

However, the real innovation intention of the EU strategies can be seen in the writings of various commentators that have influenced these strategies. In a recent article written by Hanns Ullrich from the German Max Planck Institute,⁸⁶ it is made clear that the real issue actually pursued is the expansion of the EU internal market.⁸⁷ It follows, therefore, that the adoption of sexy labels, such as 'Innovation Union', 'growth' 'solutions', etc. are marketing devices chosen to embellish a project that has continuously been rejected by national parliaments in the last 40 years. For that commentator what matters is the EU internal market that ensures/imposes the same 'uniform' rules and standards for the European companies to compete. This straightforward approach of academics should first be congratulated for its directness and honesty, since they do not hide true intentions behind false hopes ('Innovation Union', 'SMEs', 'growth', etc.) but state the objectives as they actually are. This approach, however, remains fundamentally problematic, because, as the statistics show, in section 2.2 above, the patenting activity of companies based in a few EU countries already outperforms the rest of EU countries, added together, if only by reason that they are substantially more numerous in any given sector. It should be seen as inconsistent that innovation can result from 'uniform' patent standards through the UPC mechanism when the innovation capabilities of industrial players and those of member states vary considerably.

Some consideration regarding innovation is given in a subsequent paper from the Max Planck Institute, in which it is recognised that some exceptions and limitations to patents must exist under the UPC system.⁸⁸ Its academic commentators criticise the

⁸⁴ A. Follesdal and S. Hix, "Why there is a democratic deficit in the EU: A response to Majone and Moravcsik" (2006) 44(3) *Journal of Common Market Studies* 533–562.

⁸⁵ M. Marriage, "Fund lobby groups attacked by investors", *Financial Times*, 16 June 2013, available at <http://www.ft.com/cms/s/0/9ad6d4d8-d509-11e2-9302-00144feab7de.html#axzz2XTY9jVOf>; L. Clark, "MEPs copied US lobbyists' Data Protection Regulation amendments verbatim", *Wired*, 14 February 2013, available at <http://www.wired.co.uk/news/archive/2013-02/14/lobbyplag-eu-plagiarises-us-lobbyists?page=all>; Laquadrature's Newsletter, "All-out lobbying in the EP to sell our privacy", 13 Feb 2013, available at <https://www.laquadrature.net/en/all-out-lobbying-in-the-ep-to-sell-our-privacy-act-now>. See also D. Chabanet, "The Regulation of Interest Groups in the EU", *CONNEX Research Group* 4 (2006).

⁸⁶ Henry Carr QC characterised the German institute as "influential", European Scrutiny Committee, note 6, at Ev 52.

⁸⁷ H. Ullrich, 'Harmonizing patent law: the untamable Union Patent', *Max Planck Institute for Intellectual Property and Competition Law Research Paper* No. 12-03, pp.23-24, available at http://www.rzecznikpatentowy.org.pl/nie_dla_pat_jed/SSRN-id2027920.pdf.

⁸⁸ R. Hilty, T. Jaeger, M. Lamping, H. Ullrich, "The Unitary patent package: twelve reasons for concern" *Max Planck Institute for Intellectual Property and Competition Law Research Paper* No. 12-12, available at http://www.ip.mpg.de/files/pdf2/MPI-IP_Twelve-Reasons_2012-10-17.pdf.

lack of clarity regarding the availability of general research exceptions and compulsory licenses under the unitary patent regime which could safeguard against the anti-competitive effects of patent protection. If such exceptions were allowed, it would enable “the use of dependent improvement inventions or in the public interest”.⁸⁹ However, it is also stated that if national states are allowed to grant such exceptions and licenses, it would “quash the unitary effect [of the UPC system], thus running against free trade rules.”⁹⁰ Thus, on the one hand, it is recognised that the patent protection system needs some control in order to guarantee innovation and pursue the public interest. On the other, the national state should not exercise any such control because it will undermine the free trade system, presumably, of the EU’s internal market. This argument obviously does not consider that absolute uniformity does not and will not work due to substantial differences in technological capacity, wealth, and well-being that exist between member states.⁹¹ It transpires, once again, that the paramount objective that is uninhibitedly pursued is the absolute federalisation of free trade conditions of the internal market that trumps the innovation needs of the individual states and the welfare of the people. According to such approaches, even the public interest, a concept directly connected to the people of a state, should not be pursued by individual states, as it conflicts with the sacrosanct free trade system of the EU.

The deliberate effort of some academic, business and political circles in the EU to lock the member states into a trade system in which the rules are 100% uniform should be approached with due caution as the *content* of the rules that are imposed by monopolistic agents (i.e. EPO, UPC) favours the capacities of some sectors in some countries more than others (e.g. imposing the German and French languages on the UPC’s litigation system). Additionally, it should be remembered that, in trade, activities revolve around property, but the determination of patents, as objects of property involves also economic policy considerations based on a constant cost-benefit analysis of the state’s economy to evaluate and re-adjust the applicable rules. Since the EU is not a sovereign state with one economy, such an analysis cannot legitimately be made with reference to general and average ‘European’ statistics and, therefore, the determination of property remains a sovereign right of the member states (as recognised also under Article 345, TFEU).⁹²

5.2 *The protection of SMEs argument*

The protection of SMEs has been presented by the EU institutions as the paramount policy objective underlying the creation of the UPC. The European Scrutiny Committee of the UK Parliament has also confirmed that SMEs are “the main intended beneficiaries” of the UPC system.⁹³ At the European level, the rhetoric about the SMEs was fully expanded by two German MEPs, both of the European

⁸⁹ *Ibid*, at para. 5.

⁹⁰ *Ibid*, at para. 11.

⁹¹ Majone, note 16.

⁹² Article 345, TFEU (ex Article 295, Treaty of the European Community): ‘[t]he Treaties shall in no way prejudice the rules in Member States governing the system of property ownership.’ See also MacQueen *et al*, note 15.

⁹³ European Scrutiny Committee, note 6.

Parliament's Legal Affairs Committee, who pushed the UPC deal between the Council and the EU Parliament, Bernhard Rapkay⁹⁴ and Klaus-Heiner Lehne.⁹⁵ In closing the debate, on the occasion of the plenary (voting) session on the UPC in the European Parliament on 11 December 2012, MEP Rapkay said that

[Today] to take that issue to court you have to go to 25 different countries. Now you will have to deal with one. If people say this is going to make things more expensive for SMEs, that's their own secret maybe, but it's not plausible. Because it is an improvement for SMEs...And I can tell you whoever votes against this package today is playing with fire, and they are playing the big business card and against SMEs [MEP Klaus-Heiner Lehne nodding in approval]. There is no doubt about that.⁹⁶

The main point raised in this passage is that the UPC should be set up, as it will help the SMEs. Since the UPC offers one course of action with a final outcome that can apply across the participating EU member states, it appears at a first glance that the enforcement of SMEs' patents may be less costly. The other point is that those who disagree with this argument play the 'big business card'. The irony is that MEP Klaus-Heiner Lehne, the Chair of the Legal Affairs Committee of the European Parliament and the key Rapporteur of the UPC project is a current employee of a large international law firm.⁹⁷ It should also be noted that the drafting of the UPC's Rules of Procedure that will determine key aspects of patent litigation has been prepared by employees of international law offices that have corporate clients.⁹⁸

Before going on to examine the UPC's impact, some key points of reference should be stated. In the UK, SMEs provide more than half of all UK employment, giving jobs to over thirteen million people. Together they have a combined annual turnover of

⁹⁴ Social-Democratic party of the German Opposition,

⁹⁵ Christian Democratic Union party of the German Government,

⁹⁶ The original passage is in German delivered at 11:23 am at the European Parliament's plenary session of 11 December 2012, "Creation of unitary patent protection - Unitary patent protection - Jurisdictional system for patent...", available at

<http://www.europarl.europa.eu/ep-live/en/plenary/video?debate=1355212939816>.

⁹⁷ Partner at Taylor Wessing LLP, <http://www.taylorwessing.com/lawyers/details/klaus-heiner-lehne-1868.html>. In his 2012 declaration of financial interest, the MEP declared concurrent employment as lawyer (Rechtsanwalt). See also M. Jacoby and G. Simpson, "Politics, business mix freely in Europe Parliament: patent-law reversal shows how members' outside jobs may aid corporate interests", *Wall Street Journal*, 5 July 2005: "In his job with a leading German patent-law firm [Taylor Wessing], Klaus-Heiner Lehne advises corporate clients on European Union policy. In his second job, as a member of the European Parliament, Mr. Lehne also shapes policy: In June, he helped rewrite a patent proposal more to the liking of big software makers." <http://online.wsj.com/article/0,,SB112051964696476902,00.html>. See also D. Chabanet, note 85, "[t]he Commission in particular has always been hostile to all compulsory forms of supervision of interest groups, thus basically neutralising parliamentary efforts already burdened by pronounced inertia.", at 2 and 5.

⁹⁸ The Rules of Procedure (15th draft) have only recently been released for public consultation, available at <http://www.unified-patent-court.org/consultations>. See also D. Levine, "Intellectual Property Law without secrets", in S. Muller, S. Zouridis, M. Frishman and L. Kistemaker, (eds.) *The law of the future and the future of law: Vol II*, (Torkel Opsahl, 2012), 337.

£1,500 billion.⁹⁹ The role of the SMEs should be looked at also far beyond numbers and economic considerations. Their importance has social dimensions, as they embody the local culture, historical continuity and independent innovative entrepreneurialism in daily face-to-face human relationships that mix harmoniously the various sectors of the society.

A very basic point of reference is the definition of SMEs. The EU Commission places the maximum number of employees for a SME at 250.¹⁰⁰ By contrast, the Institut für Mittelstandsforschung (IfM) in Bonn of Germany places it at 500.¹⁰¹ It is not clear which reference point has been adopted for the term SME by the German Rapporteurs in the European Parliament's debate when they advised the MEPs that the UPC will be an improvement for SMEs. If the German definition of SMEs is adopted, then SMEs include also large firms under the standards of other EU states. For the purposes of the current study, the maximum number of employees for a SME is 250.

In order to estimate the litigation costs in relation to SMEs, two types of SMEs should be considered i) SMEs as applicants, initiating the litigation proceedings and ii) SMEs as defendants. In addition, the study about the protection of SMEs cannot solely be confined to the litigation cost, as this cost depends also on the applicable legal principles and standards.¹⁰²

5.2.1 SMEs as applicants (i.e. patentee claimants) in patent litigation

If an SME is the applicant that brings the action in order to enforce its patent, the one action under the UPC route is still very expensive because of the various judicial forums that exist: local, regional, central divisions and a Court of Appeal. In general, as CIPA (the Chartered Institute of Patent Attorneys) has confirmed, only “very few SMEs” actually require protection in all 25 states, which has led to the conclusion that cost savings “would not be as great”.¹⁰³ The statistical information cited by CIPA shows that only 2% of patents are annually validated in all 27 EU Member States and this number concerns the totality of businesses.¹⁰⁴ For the SMEs which do not generally hold many patents, this very small percentage would be much smaller. Therefore, it has not been shown that SMEs are likely to accrue any substantial savings in litigation costs.

Although the benefits for SMEs are very small, the costs should also be considered. For an SME, its local (national) base is of fundamental importance.¹⁰⁵ Therefore, the

⁹⁹ UK IPO, note 47, at 7. In other European countries, the number of SMEs is even higher. In Poland, SMEs exceed 99.8% of all local businesses (96% of which employ up to 9 people), Deloitte report, note 76.

¹⁰⁰ http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm.

¹⁰¹ <http://www.ifm-bonn.org/mittelstandsdefinition/definition-kmu-des-ifm-bonn/>.

¹⁰² For the relationship between the litigation cost and the applicable principles of patent law, see the discussion in section 5.2.2 below and in section 3.2 above.

¹⁰³ European Scrutiny Committee, note 6, at para. 122.

¹⁰⁴ *Ibid.*

¹⁰⁵ Hughes and Mina, note 12, at 2: “Although the mainstream economic rationale for patents is broadly accepted, the role of strong IPs through patents and their effects on the strategy and performance of SMEs is rather controversial.”

main legal action that usually matters is that which takes place at the national level. In the UK, most of claims are resolved in the Patent County Courts which offer fast and affordable resolution of patent disputes. By contrast, under the UPC mechanism, the local SME will have to pursue its action through expensive appeal proceedings, most of which take place abroad (with central divisions and Court of Appeal stages being available to three languages only). As for most SMEs, even the current domestic legal action is considered expensive, it is clear that foreign litigation in multiple forums cannot help SMEs to protect their patents.

5.2.2 SMEs as defendants in patent litigation (i.e. the alleged infringing party)

To the extent that most of patents are owned by large firms and corporations, SMEs are likely to act as defendants in patent litigation.¹⁰⁶ Benefits for SMEs-defendants have not been identified, as the UPC has been designed to serve the interests of patentees only. Therefore, the analysis here focuses on the costs.

Under the UPC system, the applicant has the strategic advantage of forum shopping.¹⁰⁷ For a large number of SMEs this will likely lead to litigation abroad. In this respect, the cost of litigation for SMEs acting as defendants will be prohibitive. Additional costs can accrue because the proceedings at the higher level of appeal and in the central divisions of the UPC will be in the language in which the patent was granted.¹⁰⁸ At present, for example, when a German company sues a UK company for patent infringement, the case is heard in the UK in English. Under the new system, if a German company sues a UK SME, the case can be heard in German and in another state (e.g. in Germany, for local/regional or central division litigations).

If the patent litigation system is federalised under the UPC, then all SMEs in all countries of Europe will be potentially exposed to litigation threats and unfair patent strategies by patentees, the majority of which are large firms and corporations and most of them are not based in the EU. Additional costs will accrue for patent management and legal advice to cover the entire range of patents in Europe with unitary effect. Every UK SME trading, for example, on the internet, or using software, could potentially receive a letter from foreign companies with European patents to answer infringement proceedings for software patents. The opportunities for manipulation and targeted vexatious litigation strategies will be infinite allowing those who can afford litigation costs to use the new centralised system to their advantage in order to extract and force patent license fees or drive competitors out of business (i.e. the patent trolls phenomenon flourishes in centralised systems).¹⁰⁹

¹⁰⁶ Hughes and Mina, *ibid*, “SMEs, which tend to have smaller patent portfolios, are more vulnerable to litigation and tend to be sued by, as opposed to sue, larger firms”, at 28-29 citing Lanjouw and Schankerman, 2004, Ball and Kesan 2009. See also section 2.2 above, at page with note 9.

¹⁰⁷ European Scrutiny Committee, note 6. See also discussion at page with note 70 above.

¹⁰⁸ See notes 2, 3. See also European Scrutiny Committee, note 6, at paras 102 and 133.

¹⁰⁹ F. Marino and T. Nguyen, “Are patent trolls now zeroed in on start-ups?”, *Forbes*, 17 January 2013, available at <http://www.forbes.com/sites/ciocentral/2013/01/17/are-patent-trolls-now-zeroed-in-on-start-ups/>;

C. Chien, “Startups and patent trolls”, *Santa Clara Univ. Legal Studies Research Paper* No. 09-12, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2146251. See also notes 14 and 20.

In this respect, the effectiveness of the patent system should also be considered in relation to its ability to deal with litigation threats and strategies.¹¹⁰ Thus, proceedings in court A might cost a fraction of the proceedings that take place in court B, but court A might be more expensive if it does not offer a robust examination of the patent case. For example, although proceedings before the UK High Court (Patents) are considered expensive, patent suits involving non-practicing entities (patent trolls) have been low.¹¹¹ One reason behind the low incidence of predatory litigation practices in the High Court appears to be the fact that the majority of patent cases originating from patent trolls, and which reached a judgment in the UK, resulted in a ruling invalidating the patent.¹¹² As UK courts discourage predatory litigation, they are more favourable to the needs of SMEs, as these entities are less exposed to litigation threats.¹¹³ In short, the litigation costs cannot be separated from the applicable principles against which the case will be tried.

It can reasonably be asserted that the socio-economic value of a patent system is based on its applicable principles. The main policy objective that has been advertised as the overarching justification for the creation of the UPC is cost reduction for European SMEs. However, a closer examination shows that SMEs in the position of the defendant party will be particularly vulnerable under the proposed system. The Scrutiny Committee has concluded that the UPC will be “prohibitively expensive for SMEs”, and Poland, the only country that has evaluated the economic cost, estimated the costs running into billions of Euros.

6. Conclusion

The UPC concerns the creation of a federal patent system that is set at a new pan-European level of power. Unlike the federal model of the US which the UPC tries to imitate, the European states do not form a federation. As a result, there cannot be a uniform economic policy that will influence the setting of the legal standards of patents, because the economic and technological needs and capacities of the European countries vary considerably. Another important difference is that the UPC will create a centralised institution that escapes the democratic control of the people on whom the legal standards will be imposed. Indeed, a new form of monopolistic source of legal power will be established that has no precedent in the world’s democratic political history.

Operating within the upgraded framework of European patents with unitary effect, the UPC will set ‘uniform, ‘pan-European’, ‘one-size-fits-all’ patent standards. ‘Uniform’, ‘pan-European’ patent standards are already set by the EPO, with the difference that the national judge (and through whom the laws of the legislators of the people) is still able to re-adjust, in appropriate circumstances, the ‘uniform’ patent standards in pursuit of an underlying economic policy that suits the development and capacity needs of the given industry sector concerned. To the extent that the UPC replaces the national courts in the legal disputes relating to patents with unitary effect,

¹¹⁰ See, e.g. Bessen and Meurer, note 19.

¹¹¹ They accounted for less than 6% in the period 2000-2008, see Helmers and McDonagh, note 14.

¹¹² *Ibid.*

¹¹³ See also the more robust legal principles laid down by Lord Justice Jacob in the *Aerotel* case, discussed in section 3.2 above.

the determination of patents as objects of property and the distribution of justice will mainly be made by this new source of legal power. In this respect, crucial issues of property rights and the underlying economic sustainability policies on which the future and well-being of a country depends will be decided by a body of foreign judges.

The justifications of the UPC Agreement at the EU level were based on an argument regarding reduction in litigation costs and protection of SMEs. In the EU Commission's tendered study (i.e. the Ludwig-Maximilian University report), the reduction of cost concerned mainly cases that are currently duplicated in various national courts. However, upon a closer examination of the findings presented, it transpires that duplication is rather rare, and for 23 EU states, the national courts are likely to deal, on average, with *just one* duplicated case per year, for which there is a 50% chance that the patentee will not even be a company based in the EU. The other argument about the protection of SMEs, presented as the main policy objective, has not been subjected to any impact assessment study by the EU organs. The European Scrutiny Committee of the UK Parliament found that the UPC will be 'prohibitively expensive' for SMEs. In Poland, the economic losses for SMEs and the national economy have been estimated in billions of Euros. The factors which are taken into account include:

- a) many judicial forums (local, regional, central) some or all of which take place abroad
- b) foreign language litigation
- c) exposure to hundreds of thousands of foreign patents most of which do not concern companies based in the EU (see patent activity for 2012: only 24.8% of European patents come from 26 EU states and only 8.4% from 22 EU states)
- d) forum shopping strategies (particularly, choosing the local courts of Germany and Austria where infringement and invalidity claims might be tried separately)
- e) ample opportunities for anti-competitive practices through vexatious litigation and expansion of litigation industries (e.g. the 'patent trolls' phenomenon that flourishes under the US federal patent system)
- f) additional cost of patent management (e.g. patent databases searches, lawyers' advice) for pre-emptive compliance or as a response to litigation threats)
- g) the possibility of unfavourable legal principles and standards against which the cases will be tried, since the local SMEs will no longer be protected by the standard-setting framework of national courts

For the large body of SMEs which do not have patents, or patents of strong market relevance, the situation can be illustrated as follows: Under the current regime when a foreign company sues a SME that is based in the UK, the case will be tried in the UK courts and in the English language. Under the UPC, the UK SME might stand as a defendant in a litigation that takes place abroad, in another language and in various judicial forums. The same applies to the majority of SMEs in other EU countries. More seriously, the legal principles against which the case will be examined will no longer be influenced by the adjusting ability of national courts.

In short, the issue of surrendering an important element of national sovereignty that concerns vital economic policies and property rights requires a comprehensive economic study about the effect that the UPC will have on local business and

economy. Irrespective of whether or not the UPC is challenged in national courts (e.g. the state's sovereign ability to determine property rights; the right to fair trial regarding the language issue in patent litigation, etc), or there is a constitutional obligation for a referendum (e.g. Ireland, Denmark), non-expert politicians and lay people cannot rely solely on an outdated study which was of limited scope that the EU Commission has presented to the states nor can they rely solely on the advice of the patent profession which benefits most from the considerable expansion of its business activities. Since the very important issue of national sovereignty in the context of patents is at stake, comprehensive and thorough national economic studies must be prepared in order for the decision-makers to make an informed choice, and the people, who will ultimately come to evaluate this choice, to be able to understand the various parameters involved.