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Patent fees for a sustainable EU patent system

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A B S T R A C T

This paper puts forward a sustainable fee structure for the EU Patent (COMPAT). The proposal includes pre-grant and post-grant fees and illustrates the differences between Euro-direct applications and PCT applications. The break-even analysis shows that the COMPAT would make the European patent system more attractive with significantly lower relative costs. At the same time, the new schedule provides a financially sustainable model for the system by preserving relatively high absolute fees and allowing for a fee reduction for small innovative firms and public research organizations.

1. Introduction

After several decades of European construction, including the creation of the EURO zone, the setting up of the Schengen agreement, the creation of the European Court of Justice and the creation of the single market, one may fairly wonder why inventors cannot protect their inventions for the entire EU territory with a single EU Patent (COMPAT, this term is used in the remainder of this paper for the EU patent project).

Up to now, as of April 2011, one patent centrally granted by the EPO can only be enforced in a given country if it is validated in that country. In other words, the legal validity can only be achieved at the country level. Applicants must translate the patent, pay validation fees and renewal fees. The main consequence of this fragmentation is to reduce the effectiveness, accessibility and the attractiveness of the system, particularly through its prohibitive costs and the economic incongruities it generates (cf. [1] and [2]). In this respect, our recent work [3] shows that these two failures could vanish with the implementation of the COMPAT.

The first four months of the year 2011 were encouraging, with a series of good news regarding the construction of an EU-wide patent system. The EU Competitiveness Council at the Ministerial level, and the European parliament both democratically endorsed the enhanced cooperation project submitted at the end of the Belgian Presidency. The enhanced cooperation concerns the willingness of 25 out of the 27 EU member states to create a unitary patent system (Spain and Italy have refused because their languages are not part of the required claims translation requirements). When effective, the new EU patent will be automatically valid in 25 countries, hence reducing the relative cost, complexity and uncertainty associated with the current system.

A key dimension not addressed so far in public debates is related to the fees structure of the forthcoming system (as already pointed out by Lévêque and Ménière [4], for instance), and their budgetary impact on the EPO. The main objective of this paper is precisely to suggest a sustainable fee structure for the COMPAT, which would make the European patent system more attractive for applicants and would guarantee its financial sustainability. In particular, this proposal includes pre-grant and post-grant (or renewal) fees and takes into account the differences between Euro-direct applications and PCT applications.

The paper is structured as follows. The next section performs a break-even analysis of the current system and investigates the extent to which the fee income generated by the current European patents compensates for the cost of performing search and examinations services. Section 3 briefly summarizes the economic literature on optimal level of fees and their impact. The proposition for a new fee structure is presented in Section 4, with its costs consequences for the patent system as a whole. Section 5 suggests and simulates the effects of cost reduction schedule for Small and Medium Enterprises (SMEs). Concluding remarks are presented in Section 6.

2. Current fee schedule: break-even analysis of European patents

Before proposing a new fee structure for the COMPAT, it is necessary to carefully understand to what extent the current fee schedule in Europe contributes to covering the costs of performing

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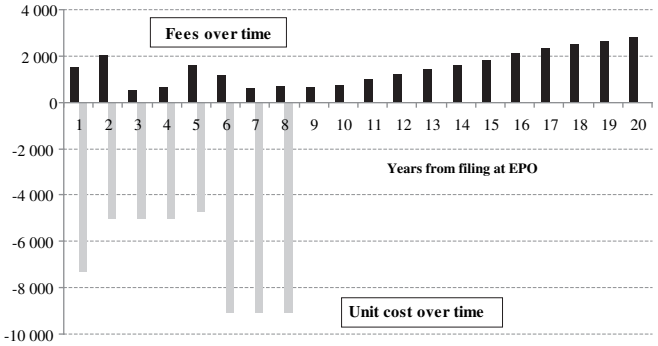

Fig. 1. Absolute income/cost of a Euro-direct patent validated in 6 countries and renewed for 20 years in 6 countries (in EUR). Source: The EPO provided information on unit costs (gray bars). Own computation was performed from raw data on fees (black bars). We assume an average (between paper and online version) filing fee [141€, based on the share of each type of filing in 2008], the average number of claims per patent [9% of filed patents paid on average 5 × 200€ as claims fee, 0.1% of filed patents paid on average 154 × 500€ as claim fee]; Renewal fees are split between the EPO and NPO's [50%–50%], from year 6 onwards. The unit costs include handling, search, communications, examination, handling of grant. Cf. Table 2 for the timing of each stage in the process.

search and examination services at the European Patent Office (EPO). One should keep in mind that – in the current system – the pre-grant fees are received by the EPO, whereas post-grant fees are collected by national patent offices (NPOs) that are members of the European Patent Convention (EPC). Half of these national post-grant fees are then redistributed to the EPO.

This incomes/costs analysis is performed for the two main routes used to file at the EPO: Euro-direct applications and PCT applications. The former consists of priority filings directly filed at the EPO, or second filings filed at the EPO at most one year after the priority filing in a national patent office. Euro-PCT are applications that are filed at the WIPO under the PCT (Patent Cooperation Treaty) route, which provides applicants a 30 months period to decide on a potential application in other patent offices worldwide. PCT international applications lead to the publication of a search report and non-binding opinion on patentability. Then after 30 months the applicant decides whether or not to file for an effective application at the EPO, in which case the file is called a "PCT-Regional application", which then falls under the usual examination process at the EPO.

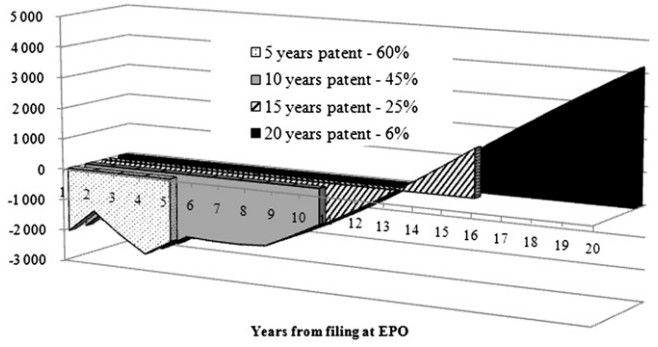

Fig. 2. Net Cumulated loss/income of Euro-Direct applications (in EUR). Source: own computation. Working hypotheses include probability of opposition and appeal and a discount factor equal to 5%. On average, 6% of granted patents are subject to an opposition, which takes 3 years for the EPO to decide on the case (internal cost was split on years 6–8). The number of appeal is 60% of the number of opposition cases. Since several decisions can be appealed, the related incomes/costs are split on the first 8 years. For the national renewal fees, it is assumed that an average European patent is validated in 6 countries on year 5, in 4 countries on year 15 and 2 countries on year 20 (cf. [5]). A linear evolution is assumed between these 3 time references.

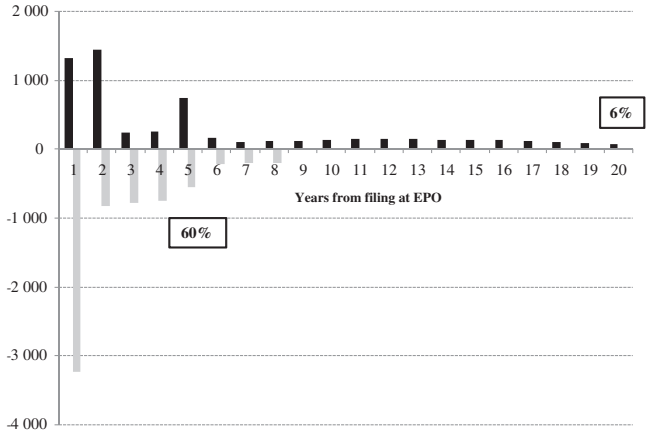

Fig. 3. Effective income/cost of an average Euro-direct application (in EUR). Source: The pre-grant maintenances rates are computed from the data on withdrawals at each stage of the grant process [source: EPO, year 2000 as a reference], see Lazaridis and van Pottelsberghe [7] for an analysis of patent withdrawal/refusal at each stage of the granting process. The post-grant maintenance rates and the national renewal fees' income are those presented in [3]. 60% of the applications are still in the process after five years, and 6% of the applications are still in force after 20 years.

2.1. Analysis for Euro-direct applications

Fig. 1 shows the total fees and unit costs that an average European patent would generate for 20 years of protection, including an appeal and an opposition. The patent is supposed to be granted at year 6 and to be validated in 6 countries (which is the average observed over the past 10 years; cf. [5]). This 'absolute' representation reflects the amounts the EPO would receive/have to bear during the entire lifetime of a Euro-direct patent. It is important to keep in mind that these 'absolute' figures do not reflect the probabilities of survival, or the probabilities of opposition or appeal.

The unit costs essentially occur from year 1 to year 8 in the life of a patent. The peak observed from years 6 to 8 are the even split of opposition costs. The fee income follows the official fee schedule of the EPO, with filing fees, application fees, internal renewal fees, grant fees. Of the renewal fees generated by the national patent offices, 50% goes back to the EPO. The upward renewal fees trend reflects the fact that national renewal fees increase over time. The income/cost structure presented in Fig. 1 occurs only for a small share of patents (those that are subject to opposition and appeal and renewed for up to 20 years in 6 countries). The patents which fall in the public domain earlier would logically have a different income (or cost) profile, and hence different net flows.

The net income flows (fee receipts minus unit cost) can be simply computed according to the survival years of patents[2] (cf. Fig. 2). For instance, a patent withdrawn after five years is associated with a net cumulated cost of 2000 EUR for the EPO (in other words, the cumulated income does not compensate for the cumulated unit cost). A patent upheld for 10 years induces a net cumulated cost for the EPO of about 1000 EUR. Patents do not start generating net income when being renewed at least until the 13th year. A patent upheld for 20 years would generate a net cumulated income of about 4000 EUR. Only 25% of total applications are upheld for 15 years, and this percentage falls to 6% for 20 years patents. It clearly shows that a minority of patents, those that survive more than 13 years, and especially the 6% that are renewed up to the 20th year, compensate

[2] Empirical analysis of survival rates and their determinants are performed by van Zeebroeck [6] and Danguy and van Pottelsberghe [3].