Economic Consequences of the Unitary Patent

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KEYWORDS: Intellectual property, Unitary patent, European patent

1 Introduction

The year 2023 will most likely be remembered in the future history of the European patent system, similarly to 1978, that marked the creation of the European Patent and the Patent Cooperation Treaty, or similarly to 1883 with the Paris Convention. Called for long the Community Patent, it has been renamed "Unitary patent" (UP), or patent with a unitary effect. Its raison d'être is to cope with the many weaknesses (see van Pottelsberghe, 2009) of the European Patent (EP) system, which reduced the effectiveness of the European patent policy in stimulating innovation.

Indeed, up to June 2023, the EP system was weakened by much higher costs than in the USA, Japan or China. And beyond costs, the fragmented EP system, whereby a patent granted by a central office (the EPO), and then enforced independently in each desired state of the EPC, induces several incongruities, like incoherence of parallel litigations, uncertainty, huge litigation costs, and a high degree of complexity (see Mejer and van Pottelsberghe, 2011).

The claimed promises of the patent with unitary effect is that, once granted by the EPO, it would be enforced automatically in all signatory state (currently 24 states of the European Union), and any litigation would be tackled centrally in one of the three centralized litigation court. In that respect, its implementation will greatly contribute to enhance the integration of the European market, especially for innovation and knowledge diffusion. And patenting should become more accessible or attractive to small innovative technology-based firms and universities. The project was nearly achieved back in 2020 but was abruptly stopped with the Brexit. The terms of the withdrawal of the United Kingdom from the European Union implied a complete exit from the Unitary Patent project[1]. Hence, Brexit further delayed the Unitary Patent implementation and its very design. Indeed, before Brexit it was agreed that one of the three centralized litigation courts would be located in London. And the pros and cons of the system were based on economies of scale, whereby the new system would be attractive if many countries would join it, especially the largest economies of the European Union.

It took so long to implement – the project has been envisaged already in 1978 – because several important stakeholders would resist it. These barriers to change where related to National Patent Offices fearing to loose renewal fees income and power, large firms being worry of a go/no go decision for the whole European market, patent professionals losing business opportunities (less translations, no more national renewal fees to be paid, no more parallel litigations), and even the EPO being worried to lose an important source of income.[2] Since Brexit, a new location has been envisioned in Italy, and the process of setting it up has been pursued, with a key milestone achieved in early 2023 by the German

[1] https://www.unified-patent-court.org/about

[2] The agreement underlying the European Patent (EP) is that the renewal fees paid each year in each country to maintain a European patent in force in the national jurisdiction are split in two parts, 50% remaining in the national patent office and 50% going back to the European Patent Office. These patent-based incomes contribute up to 25% of the EPO yearly budget, and sometimes much more for national patent offices, hence a legitimate resistance to change.

Federal Constitutional Court. This being said several important questions remain. Will the Unitary Patent, without the UK, still be attractive? how does it affect its relative cost for users? What are the budgetary consequences for national patent offices and for the EPO? This last question is of importance, as policy makers in Europe would support a patent system that would be at zero additional costs for government. Put it another way, the system has to be self-sustainable.

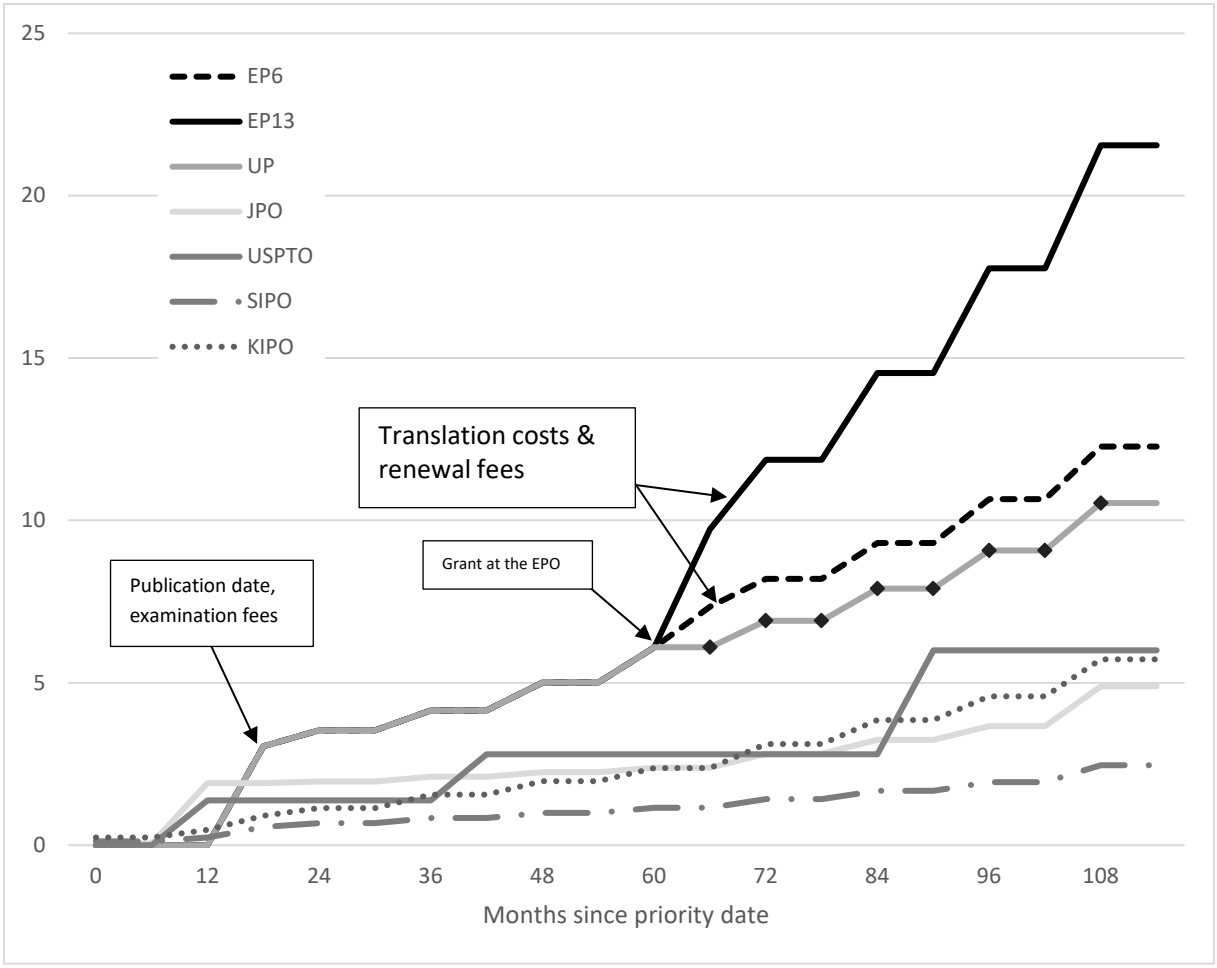
The objective of this paper is to provide answers to these questions on the budgetary and cost consequences of the forthcoming patent with unitary effect. The research methodology is based on several simulations and quantitative analyses. The first one aims at assessing the user cost of the forthcoming unitary patent, in both absolute and relative terms. The second one will assess the impact of these costs and other factors on the renewal (say survival rate) of the patents with unitary effect. The third one evaluates the impact of these maintenance rate on the revenues of the EPO and national patent offices, in order to assess the self-sustainable condition.

The paper is structured as follows. The next section provides stylized facts on the cost consequences of the Unitary Patent for patent applicants. Section 3 is devoted to the state of the art on the factors that drive renewal decisions, or that drive the maintenance rate of a patent. Section 4 implements the econometric estimates of the maintenance rate model and simulate the budgetary consequences for national patent offices. Results are presented and interpreted in Section 5. Section 6 concludes our analysis.

2 Stylized Facts

Fig.1. displays a foretaste of the cumulated patent costs structures in the major economies over a 10-year patent life. It shows that protecting a European patent for 10 years in 13 (6) countries will cost more than 22,000 (12,500) EUR of fees, whereas the UP costs about 10,000 EUR, an amount close to the cost of maintaining a patent in four countries. The effect of the UP is clearly illustrated at the date of grant, as prior to this date the costs are the same. Cumulated fees are increasing over time for all patent offices, witnessing a low incentive to let the patent fall in the public domain every additional year of protection.

Fig.1. Ten-year cumulated patent fees for a European Patent (validated in 6 and 13 countries) and a Unitary patent compared with the USA and three Asian countries



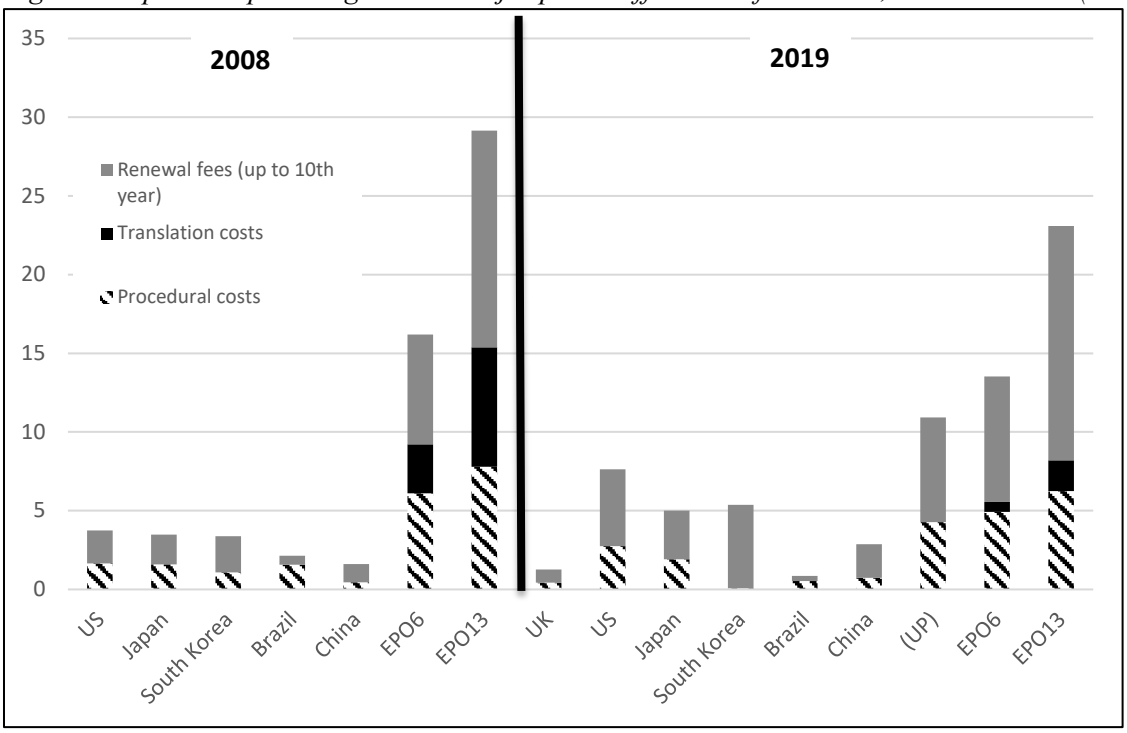
Source: Own calculations adapted from Mejer and van Pottelsberghe (2011); cumulated costs (in Euro) from application to grant and renewal in 6 or 13 EU countries (for the EPO), with the unitary patent system (UP), in the USPTO (USA), KIPO (South Korea), JPO (Japan), and SIPO (China)
Note: The United State Patent and Trademark Office collects renewal fees only on the 3.5 year, the 7.5 year and the 11.5 year

Fig.2. provide a cross country comparison of cumulated patent fees for ten years of protection, in 2008 and 2019. Cumulated fees include application and examination fees, translation costs if any, and renewal fees. It illustrates the very high cost of a European patent, which currently reaches three to four times the cost of a patent in the US and more than ten times the cost of a patent in major Asian economies or Brazil. All patent offices but the Brazil patent office have increased their fees over time. In absolute term and compared to a protection in 6 (13) countries, applicants would 'spare' 3,000 (12,000) EUR thanks to the use of the UP. The UP allows to reduce the total cumulated cost of patent in Europe, but is still much more expensive than patents in all major patent offices, including China, Japan, South Korea or the USA.

The absolute cost of a UP is lower than the current EP, but still much higher than in all other large economies. The picture is actually more mitigated when relative terms are used. Indeed, a patent confer protection for a given market, hence the cost should be weighted with respect to the size of the country. This is performed in Fig. 3, which illustrates the cost of patents relative to the market size, or the size of capita. South Korea which is among the cheapest in absolute terms, has now the highest relative fees, due to its relatively small market. The unitary patent becomes cheaper in relative terms than the Japanese patent, but still a bit more expensive than the US Patent and Trademark Office (USPTO) system. In

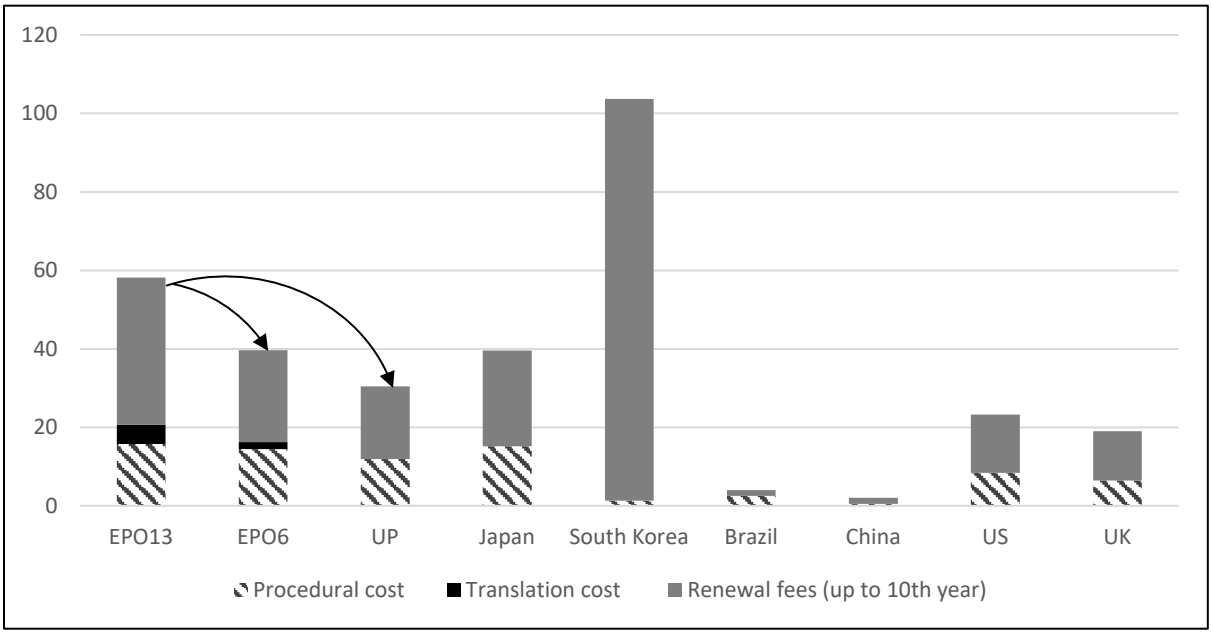
other words, in terms of costs, the setting up of the UP would drastically improve the attractiveness of the European patent market.

Fig. 2. Comparative patenting costs in major patent offices and for the UP, 2008 and 2019 (000's €).



Data Source: own computations made from NPO's raw data available on their website and adapted from Mejer and van Pottelsberghe (2008).
Note: EPO6 refers to the 6 most designated countries at the European Patent Office (EPO). EPO13 refers to the 13 most designated countries at the European Patent Office (EPO). UP refers to the Unitary patent that will be implemented in the 24 member states.

Fig. 3. Relative patent costs in major patent offices (cumulated cost per million capita, €, 2019).



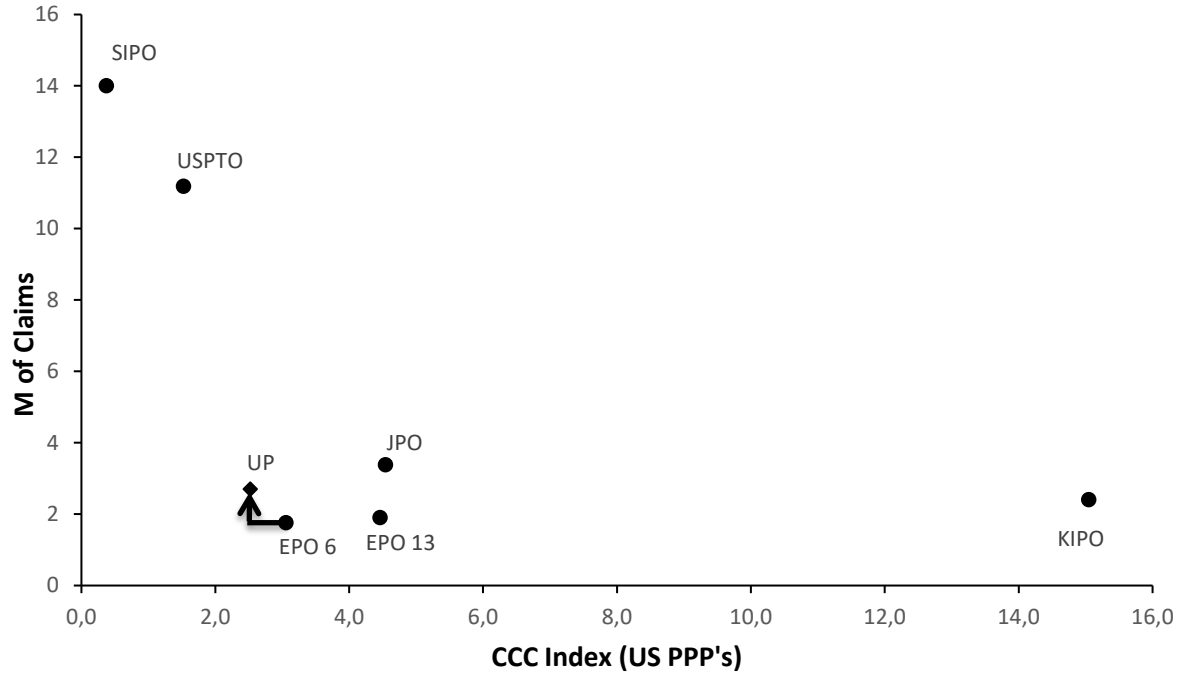
Data source: own calculation based on methodology of Van Pottelsberghe and Meyer (2008))

Relative costs are lower thanks to the UP, then the subsequent question is related to the impact of this fall in relative prices on the demand for patents. In order to gauge this impact, we have computed the cost per claim per capita and relied on estimated price elasticities of the demand for patent. The cost

per claim per capita is used to control for the fact that some systems induce the filing of patents with many claims (like in the USA), whereas other system induce the filing of more 'smaller' patents, i.e., with a small number of claims. This impact is illustrated in Fig. 4.

The cost per claim per capita (CCC) index would place the Unitary Patent (UP) system (2.5) between the USA (1.5) and the EPO6 (3.1). Fig. 4. implies that the demand for patents (measured with the millions of claims filed) in 2019 seems to be negatively related to the relative fees, along a traditional demand curve. In their survey of the literature de Rassenfosse and Van Pottelsberghe (2012) provide evidence of a fee elasticity of the demand for patents to be around -0,3. This means that implementation of the unitary patent, with its induced 45% decrease in relative price would generate a 14% increase in the demand for patents at the EPO (illustrated by the arrow in Fig. 4).

Fig. 4. The Unitary patent impact on Europe's attractiveness.



Data source: own simulation based on methodology by Danguy and Van Pottelsberghe (2011)

3 Literature Review

De Rassenfosse and Van Pottelsberghe (2013) provide a first in-depth literature survey on the role of fees in patent systems. They highlighted the difference between the levels of filing fees and renewal fees. These latter are higher than filing fees and increase at a faster rate than the patent's age. This effect is stronger with late renewal fees (from the 11th to the 20th year). Their findings converged with the conclusions of many scholars on the relationship between the cost of a patent, a country's market size, and the demand for patents.

Van Pottelsberghe and François (2009) deduced that the cost of patent systems is difficult to compute especially in the fragmented European patent system. Once a patent is filled and granted at the European level by the EPO, it has to be validated, translated and maintained at a national level. These heavy administrative procedures induce additional costs for the applicant. The drawback of this fragmentation reduces its competitiveness, attractiveness and perceived effectiveness compared to other offices such

as the US Patent and Trademark Office (USPTO) and the Japanese Patent Office (JPO). (Danguy and Van Pottelsberghe, 2011, 2014).

There is no existing study discussing the budgetary impact of the withdrawal of a country that has participated to the formulation of a European policy, including the UPC Agreement. However, there is a stream of research that addresses the legal consequences of Brexit on the UPC Agreement. First, as underlined by Arena (2017), there is a difference between the withdrawal of a country from a union such as the European Union and the exit of a state from an international organization. In both cases, the state is part of the union or the agreement and must justify its withdrawal according to the terms of the relationships. Second, as introduced before, UPCA protocol placed UK on the foothills since with France and Germany, they are hosting The Court of First Instance. Fallah et al. (2021) discussed this matter and provided an answer to the question on the consequences of Brexit on the Protocol of the UPCA. They argue that UK "backing out" of the UPCA is not at odds with the international treaty law, the Vienna Convention on the Law of Treaties ('VCLT'). Brexit was possible because at the time UK left the agreement, the UPCA has not officially entered into effect. Thus, UK couldn't be bound by the treaty since it had no legal force. Nevertheless, there is a need for reforms of Art. 7(2) of the UPCA protocol.

Therefore, the relevance of the present paper is underlined by two factors. The first one is its very objective, to provide new independent estimates of the impact of the unitary patent on each member state. The second factor is related to the objective of assessing the budgetary implications of the unitary patent on both national patent offices and on the European patent office.

4 Data and Methodology

Using recent data found for the year 2018 (there is a strong timeliness effect with patent data) from national patent offices, the World Bank database, OECD database and the statistic report will be necessary to determine the new cost structure of the renewal fees. The empirical analysis below follows the methodology developed by Danguy and Van Pottelsberghe (2011). It is assumed that both the European Patent and the Unitary Patent (UP) will coexist in the new European patent system. This leads us to perform an analysis of the renewal fee income that these two systems will generate. The two formulas used to measure the value of the revenue stream of the European Patent (VEP) and the Unitary Patent (VUP), are respectively:

$$\text{VEP} = \sum_{i=1}^{24} \sum_{t=6}^{20} \pi_i (1 - \delta_{it}) F_{it} \quad (1)$$

$$\text{VUP} = \sum_{t=6}^{20} (1 - \delta_t^{UP}) F_t^{UP} \quad (2)$$

Where the member states of the UPC agreement i =1,…24, and patent age t = 6,…, 20. In Eq.(1), π_i denotes the validation rate of a country i. In both Eq.(1) and (2) $(1-\delta_{it})$ designates the annual frequency during which a patent is renewed in a country, i.e. the maintenance rate of a country i for each year until the 20th year of the patent lifetime. And F_{it} stands for the renewal fees schedule in each country and over the patent lifetime.

$$(1-\delta_{it}) = C + \beta\, GDP_i + \theta\, NPOAGE_i + \gamma\, \text{IEI}_i + \sigma\, PATAGE_t + \alpha\, FEES_{it} + \varepsilon_{it} \quad (3)$$

Eq. (3) reflects the relationship between the maintenance rate on the left side and the Gross Domestic Product (GDP) in 2018, the age of membership at the European Patent Convention in 2018 (NPOAGE), the Intellectual property enforcement index (IEI) and the age of a patent (PATAGE) and the renewal fees over time on the right side (FEES). The original maintenance model described by Danguy and Van Pottelsberghe (2011) is adapted by replacing the Intellectual Property Index by the IP enforcement index (IEI). This index, updated in 2015 by Walter G. Park, is a component of the so-called Ginarte and Park index. Eq.(2) relies on the maintenance rate estimated through Eq.(3), hence leading to an estimate of the renewal fee revenue stream generated by the UP.

Table 1 provides a summary statistic of the variables used to build the database. This updated version applies the model for a slightly higher number than Danguy and Van Pottelsberghe (2014). The sample of 32 countries was chosen over a larger sample because of data availability (there are currently 39 countries within the EPC).

Table1. Summary statistics

VARIABLES	***MEAN***	***STANDARD DEVIATION***	***MIN.***	***MAX.***	***# OF OBSERVATIONS***
MAINTENANCE RATE (IN %)	*60*	*28*	*5*	*100*	*429*
GDP (IN BILLION €)	*2,06*	*4,26*	*0,02*	*18.42*	*480*
NPOAGE	*28*	*12*	*10*	*40*	*480*
IEI	*0,81*	*0,18*	*0,33*	*1*	*480*
PATAGE	*13*	*4*	*6*	*20*	*480*
FEES (€)	*487*	*479*	*66*	*6520*	*468*

Data source: World Bank database, OECD database, bulk data produced by the EPO and NPOs, IP5 statistical tables. See Table A and B in Annex for detailed data.

5 Results and Analysis

Table 2. displays the estimated parameters of Eq.(3), the "maintenance rate" model. The Hausman Test opts for the random effect model, as opposed to the fixed effect model. The broad observations of earlier estimates (Danguy and van Pottelsberghe, 2014) remain stable over time. Time invariant variables such as a country's GDP, strength of enforcement and the age of the patent all play a significant and positive role. The larger the country, and the stronger its enforcement rules, the longer the maintenance of a patent. Renewal fees have a negative impact on the maintenance rate, as expected. A country's length of membership in the EPC plays a small negative and significant impact, which is counter intuitive, and probably due to the presence of many countries with a long history of EPC membership. The higher the age of the patent, the lower the maintenance rate, witnessing the impact of technology life cycles, whereby new technologies make older ones more obsolete.

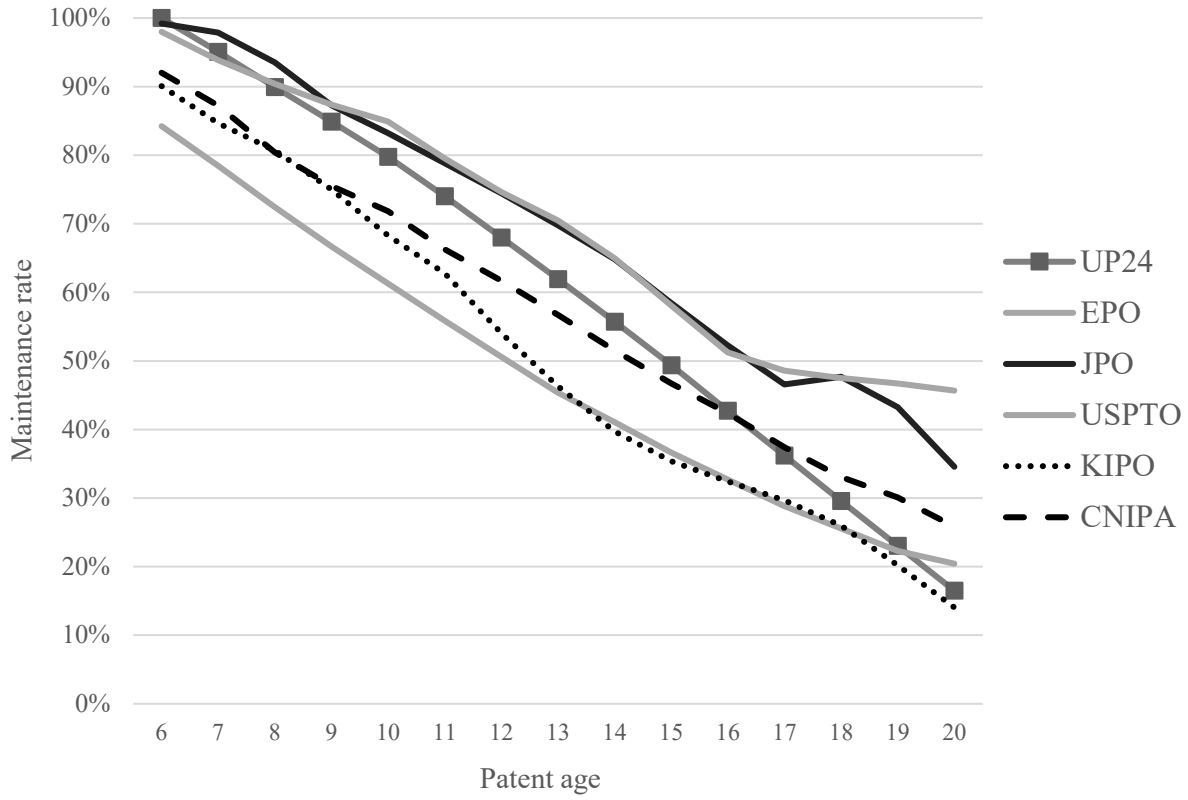
Table 2. Results of the maintenance rate econometric model.

Dependent variable: MAINTENANCE RATES			
Variables	Danguy and van Pottelsberghe (2014)	Present study	*Interpretation*
GDP	0.066 ***	0.020 ***	*Market attractiveness*
	(0.004)	(0.007)	
FEES	-0.150 ***	-0.066 ***	*Cost of patenting*
	(0.024)	(0.012)	
NPOAGE	0.005 ***	-0.011 ***	*Learning effect*
	(0.001)	(0.003)	
PATAGE	-0.013 ***	-0.039 ***	*Technology life cycle*
	(0.002)	(0.001)	
IEI	0.032 *	0.287 *	*IP Enforcement Index*
	(0.020)	(0.166)	
Constant	0.165 **	1.179 ***	
	(0.084)	(0.125)	
Observations	438	417	
Number of countries	30	32	
Adjusted R-squared (%)	67.0	65.1	

Notes: The econometric model build with updated data consists of a balanced panel with robust standard errors (in parentheses); ***, **, * designate significance levels at respectively 1%, 5%, and 10%. The dependent variable is the maintenance rate (found in EPO statistics and IP5 offices 2019 report); GDP is in '000 billion € (World Bank data); Renewal fees are mentioned under the label « Fees » and are in '000 € (EPO statistics, NPO's offices see Annex Table A); The age of membership corresponds to the number of years that a country has spent in the EPC; The age of a patent is the duration of a patent lifetime since its 6th year of maintenance; Enforcement is equivalent to the value of enforcement component in 2015 from Park's data updated of Park (2008).

The parameters presented in Table 2 are used to simulate the maintenance rates of the unitary patent. Fig. 5 shows the results of the econometric maintenance rate model by normalizing the simulations to 100% at the 6th year – the average age of a patent at the time of grant by the EPO. In addition, this figure exhibits how the UP's maintenance rates compares with the 4 other biggest patent offices in the world, i.e. the other members of the IP5, which includes the EPO, the USPTO, the JPO, the CNIPA and the KIPO.

Fig.5. Maintenance rates of patent of the IP5 – UP simulated maintenance rates.

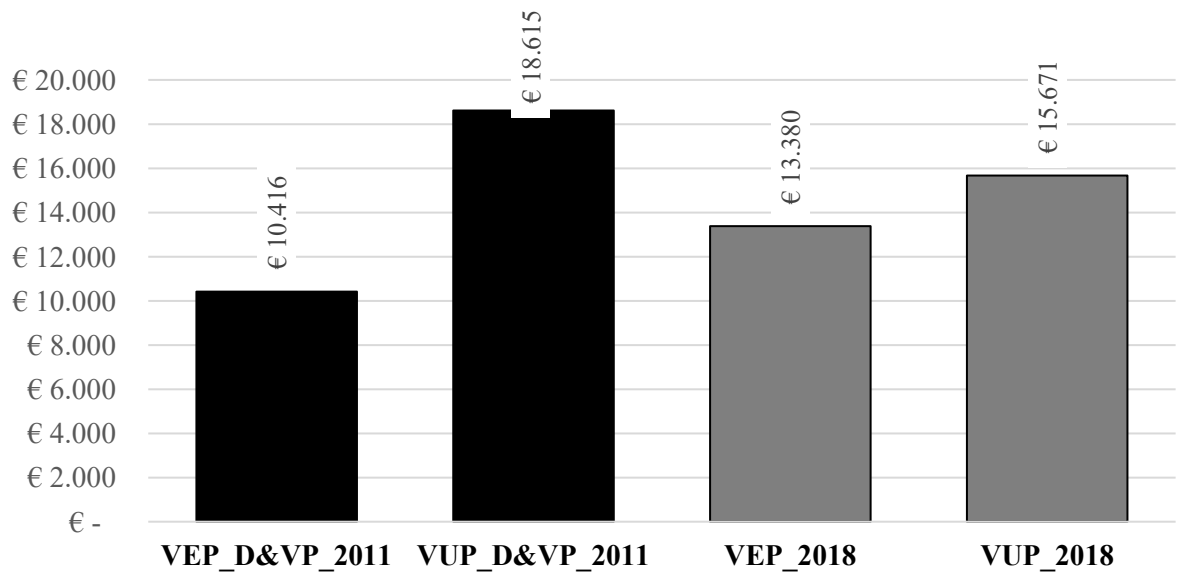


Source: own calculations, based on the methodology of Danguy and Van Pottelsberghe (2014) and IP5 statistical tables.

The unitary patent would have a maintenance rate substantially higher than the one observed for the average EP patents, possibly due to the stronger attractiveness of the market, and acceptable relative costs. This being said, the USPTO and the JPO display the highest maintenance rate, still higher than the UP patent. South Korea has the smallest one, all over the life of a patent, most[2]

Fig.6. shows the increase in the renewal fees income generated by an average EP patent and an average UP patent covering 24 EU member states, for 2018 and for 2009 (available in Danguy and Van Pottelsberghe, 2011). The net present value of the average UP patent (see equation (1)) has decreased by about €1900. This is mainly due to a decrease in the estimated maintenance rates for the market covered by the unitary patent.

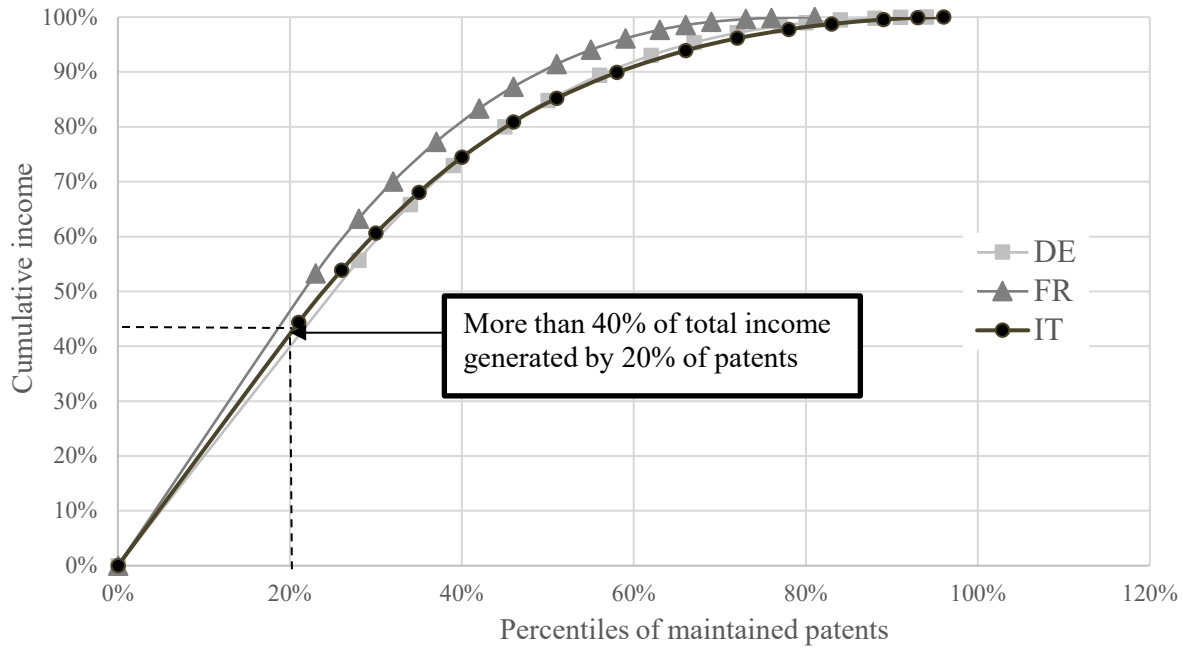
Fig.6. Simulated total renewal fees income comparison between the EP and the UP.



Note: For VEP and VUP, own calculation based on equations (1) and (2) with the data of the 24 member states, the simulated maintenance rates (see annex Table B) and the official UP fees schedule (see annex Table C).

These findings raise the question on the value of the total EP fee income after the implementation of the UP package. Fig. 7. displays the allocation of the actual EP renewal fees income. In other words, it reflects the shares of total income that these countries own in predetermined percentiles of maintained patents. A decrease in EP fee income is expected and is measured by computing the cumulative fee income of the three most important EU member states in terms of market shares, namely Germany (DE), France (FR) and Italy (IT). Hence, more than 40 percent of total renewal fee income are generated by 20 percent of patents maintained for 20 years in Germany.

Fig.7. Shares of total renewal fees income given total percentage of EP patents.



Note: The cumulative income corresponds to the total renewal fees income produced by patents.

A break-even analysis is needed to identify the conditions under which the total renewal fees income gathered by patent offices under the UP system ($\widehat{VUP}$) is at least equal to the one produced by the EP ($\widehat{VEP}$) in the current situation, so as to secure the budgetary income of national patent offices. The break-even point is reached when the share of UP increases since the average UP is expected to produce more income than the average EP if the UP system takes all the shares of patent granted by the EPO. Moreover, as the level of UP fees increases with the number of UP granted per inventor, the UP income tends to also increase. Table 3 shows that, if 20 percent of the total number of granted patents are attributed to the UP, the average UP will generate €23,941 because of the high value patents that aim at the whole market. The outstanding EP will produce around €10,640 each. The story changes when 80 percent of the total number of granted patents are unitary patents. In fact, the average UP will generate about €16,000 per patent, whereas the average EP would generate a net present value of €2,660.

Table 3. Current average EP income and break-even UP.

European patent		Unitary patent	
$\widehat{VEP}$	SH_{EP}	SH_{UP}	BE_{UP}
€ **13 301**	100%	0%	
€ **11 970**	90%	10%	€ 25 271
€ **10 640**	80%	20%	€ 23 941
€ **9 310**	70%	30%	€ 22 611
€ **7 980**	60%	40%	€ 21 281
€ **6 650**	50%	50%	€ 19 951
€ **5 320**	40%	60%	€ 18 621
€ **3 990**	30%	70%	€ 17 291
€ **2 660**	20%	80%	€ 15 961
€ **1 330**	10%	90%	€ 14 631
€ **-**	0%	100%	€ 13 301

Note : $\widehat{VEP}$ are calculated based on the repartition of EP renewal fees income in Germany in regard of the percentiles of patents maintained (such as in Figure 9).

We analyzed the budgetary consequences of the introduction of the UP for the EPO and each EU member states of the unitary patent system. This analysis was at the center of the negotiations for the UP renewal fees structure. It is interesting to have a look at the scenario after the decision was made on the official renewal fees schedule. Using the GDP distribution key (see Annex Table D.), the total renewal fees income per patent for UP offices were computed.

As of today, the negotiations regarding proposed distribution key (which percentage of the UP renewal fee income is allocated to each patent office) were completed but unfortunately the information is confidential. We therefore relied on the distribution key published by the European Commission in 2008 and adapted it to the current member states of the UP system. The results are presented in Table 4. The first line gives the renewal fee income per patent when all patents enforced in the country are EP patents. The subsequent lines show the evolution of this income as the percentage of UP patent increases. For the EPO the revenues per patent are higher, hence there should be no worry of reduced budget (especially given the fact that the demand for patent would actually increase). The offices which lose some revenue per patent are those with relatively high domestic renewal fees and include Denmark, Portugal, Hungary, Greece, Slovenia and Bulgaria, Cyprus, Estonia and Malta. For these offices, the way to compensate would actually be to increase domestic fees.

In a nutshell, the unitary patent would not jeopardize the EPO budget, and would only affect a small series of small countries, for which their share of the income generated by the unitary patent might be smaller than with the EP system.

Table 4. EPO and NPO's simulations with the GDP distribution key

Total renewal fees income per average patent for patent offices with UP (€)

SH EP	SH UP	EPO	DE	FR	NL	SE	BE	AT	IT	DK	IE	FI	CZ	PT	HU	GR	LU	RO	SK	SI	BG	CY	EE	LT	LV	MT
100%	0%	6650	1546	526	331	93	184	232	350	196	51	67	93	497	444	528	16	101	77	141	453	534	79	8	7	96
90%	10%	6895	1665	708	358	124	203	233	519	***189***	79	79	114	***435***	***388***	***456***	19	133	78	***122***	***382***	***436***	***68***	16	11	***80***
80%	20%	7105	1769	870	382	152	220	234	668	***182***	103	90	134	***379***	***337***	***392***	22	162	78	***104***	***318***	***348***	***59***	22	14	***65***
70%	30%	7279	1857	1010	402	176	235	235	798	***176***	124	99	151	***330***	***292***	***335***	25	187	79	***89***	***261***	***270***	***50***	28	18	***52***
60%	40%	7417	1930	1129	419	197	247	235	909	***171***	142	107	165	***287***	***253***	***286***	27	208	79	***75***	***212***	***203***	***43***	33	20	***41***
50%	50%	7519	1988	1227	432	214	257	235	1000	***166***	157	113	176	***250***	***220***	***244***	29	225	79	***64***	***170***	***146***	***36***	38	22	***32***
40%	60%	7586	2031	1304	442	227	264	234	1072	***161***	169	118	185	***220***	***192***	***209***	30	238	79	***54***	***135***	***99***	***31***	41	24	***24***
30%	70%	7616	2058	1360	449	237	269	233	1125	***157***	178	121	192	***196***	***171***	***181***	31	248	79	***47***	***108***	***63***	***27***	43	26	***18***
20%	80%	7612	2070	1395	452	243	272	***231***	1159	***154***	183	123	196	***178***	***154***	***161***	32	254	78	***41***	***89***	***37***	***24***	45	26	***13***
10%	90%	7571	2068	1409	451	246	272	***229***	1173	***151***	185	124	197	***166***	***144***	***148***	32	257	78	***38***	***77***	***21***	***22***	46	27	***11***
0%	100%	7835	2142	1466	468	255	282	236	1221	***156***	193	128	205	***168***	***146***	***149***	33	267	80	***38***	***75***	***17***	***22***	48	28	***10***

6 Concluding remarks

The analysis presented in this paper provides evidence on the potential economic impact of the Unitary patent. This new system will induce a new perspective on patenting cost for innovators, and a modified stream of revenue for the national patent offices and for the EPO. The first part of the paper simulates a drop of relative fees of about 30%, which makes the European system on par with the Japanese patent system, cheaper than the South Korean system, and still more expensive than the Chinese or the US system. The unitary patent would have a maintenance rate substantially higher than the one for the average EP patents, possibly due to the stronger attractiveness of the market and its responsiveness to the change in relative fees.

Regarding the impact on the revenue stream of patent offices – their budget has always been at the core of the policy debate – the simulations presented in this paper suggest the revenue streams generated by the new system will be higher than the revenue stream of the previous system, except for a few countries. Indeed, a limited series of smaller countries will see their revenues reduced. In other words, European members states will probably be better off after the implementation of the UPCA. Their revenues streams are actually expected to significantly increase after the transition to the UP system.

The new European patent system will positively impact the demand for European patents. However, a 100% change from the current patent system is not yet conceivable. The transition should first be implemented through a hybrid system where 80% of the shares are allocated to the EP while 20% become UP. The story changes when 80 percent of the total number of granted patents are unitary patents. In fact, the average UP will generate about €16,000 per patent, whereas the average EP would generate a net present value of €2,660 under the new system.

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Annex

Table A. Renewal fees of 24 member states of the UPC Agreement

Patent office	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DE	130	180	240	290	350	470	620	760	910	1060	1230	1410	1590	1760	1940
FR	76	96	136	180	220	260	300	350	400	450	510	570	640	720	790
NL	185	220	280	340	400	500	600	700	800	900	1000	1100	1200	1300	1400
SE	425	208	313	417	522	626	731	835	940	1044	1148	1253	1357	1566	1775
BE	181	200	229	258	286	325	363	401	439	477	515	554	592	630	668
AT	334	110	135	165	185	215	240	275	320	360	400	450	500	555	600
IT	455	214	241	275	308	342	375	409	442	482	522	563	603	643	683
DK	700	250	300	350	400	450	500	550	600	650	700	750	800	850	900
IE	134	150	176	194	220	242	265	285	311	335	356	382	408	438	468
FI	440	100	115	140	190	240	300	400	500	600	700	800	900	1000	1100
CZ	185	105	158	315	368	368	421	473	526	578	578	683	683	736	736
PT	484	265	265	265	530	530	530	795	795	795	1060	1060	1060	1060	1060
HU	66	82	99	115	131	148	165	180	198	213	230	246	262	281	300
GR	340	220	240	260	280	300	320	340	370	400	500	500	500	500	500
LU	150	78	78	117	156	234	312	389	467	545	623	701	779	857	935
RO	130	120	170	200	230	310	410	530	600	650	650	650	650	650	650
SK	232	133	149	166	199	232	266	299	332	365	398	465	531	597	664
SI	200	120	140	160	180	200	240	280	320	360	420	480	540	600	660
BG	253	112	138	194	256	307	358	409	460	511	562	614	665	767	869
CY	165	135	155	180	205	245	285	320	360	405	450	495	540	585	630
EE	150	60	70	80	110	154	200	234	274	310	390	510	654	870	1101
LT	367	162	185	208	231	289	289	289	289	289	347	347	347	347	347
LV	210	180	220	270	320	320	320	320	320	320	420	420	420	420	420
MT	70	82	93	105	116	128	140	141	163	174	186	198	210	221	233

Source : NPO's databases

Table B. Maintenance Rates (in %)

Patent office	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Austria	94	58	53	48	45	41	39	37	33	30	28	25	21	18	17
Belgium	49	44	42	39	37	35	33	31	29	26	25	23	20	17	16
Bulgaria	99	98	97	95	93	90	86	81	77	72	52	48	-	-	-
Canada	71	63	55	49	44	39	35	31	28	25	22	19	17	14	12
China	92	87	80	76	72	66	62	57	52	47	42	37	33	30	26
Czech Republic	98	96	93	89	84	79	73	66	60	54	49	48	-	-	-
Denmark	98	96	93	89	85	80	74	67	62	56	49	44	38	30	26
Finland	97	93	91	86	82	76	70	65	61	53	47	41	36	29	26
France	81	76	73	69	65	62	59	55	51	46	42	37	32	28	24
Germany	94	91	88	85	81	77	73	68	63	57	51	45	39	34	28
Greece	98	97	94	88	85	80	75	70	64	58	51	44	37	30	27
Hungary	99	99	98	97	96	93	89	85	79	73	67	-	-	-	-
Iceland	100	100	100	100	99	99	99	98	92	95	-	-	-	-	-
Ireland	37	28	24	20	18	18	17	16	15	14	13	12	11	10	11
Italy	97	94	90	85	80	74	68	61	53	47	42	36	31	26	23
Japan	99	98	94	87	83	79	74	70	65	58	52	47	48	43	35
Lithuania	99	99	98	96	95	90	86	81	77	86	-	-	-	-	-
Luxembourg	34	29	29	27	23	19	15	14	12	10	9	8	7	5	6
Malta	63	55	55	54	54	55	56	-	-	-	-	-	-	-	-
Netherlands	94	92	89	84	23	79	74	68	62	56	50	43	38	33	27
Norway	97	94	91	89	84	79	-	-	-	-	-	-	-	-	-
Poland	99	96	94	88	85	79	73	68	62	57	-	-	-	-	-
Portugal	99	99	98	95	93	88	83	76	68	61	51	33	20	12	14
Romania	90	75	73	72	72	70	69	66	62	58	55	-	-	-	-
Slovakia	99	98	97	94	91	86	81	74	70	64	56	56	-	-	-
South Korea	90	85	81	75	68	63	54	46	40	35	32	30	26	20	14
Spain	98	95	91	87	82	76	70	65	58	51	46	40	35	29	26
Sweden	96	92	88	84	80	72	66	69	54	48	42	37	32	26	23
Switzerland	43	35	31	27	25	24	22	21	19	19	19	18	17	16	16
Turkey	100	100	99	99	97	94	91	87	82	77	71	65	60	-	-
United Kingdom	77	72	68	65	62	59	56	53	49	44	40	36	31	26	23
United State of America	98	94	90	87	85	80	75	70	65	58	51	48	46	47	49
Simulated UP	100	95	90	85	80	75	70	65	59	54	48	43	38	32	27

Source: EPO database and IP5 statistical report

Table C. Renewal fees schedule of the unitary patent

Patent age	Fees (in €)
2	35
3	105
4	145
5	315
6	475
7	630
8	815
9	990
10	1 175
11	1 460
12	1 775
13	2 105
14	2 455
15	2 830
16	3 240
17	3 640
18	4 055
19	4 455
20	4 855

Source: EPO database

Table D. Distribution key

Patent office	EP	Unitary patent	
		GDP	Policy Proposal
DE	27%	28%	32%
FR	10%	19%	13%
NL	5%	6%	9%
AT	4%	3%	7%
SE	2%	3%	4%
BE	3%	4%	3%
DK	3%	2%	3%
FI	2%	2%	2%
IE	1%	2%	2%
GR	1%	2%	2%
PT	4%	2%	2%
HU	6%	2%	1%
LU	1%	0%	1%
RO	2%	3%	1%
CZ	2%	3%	1%
IT	6%	16%	11%
SK	2%	1%	1%
CY	8%	0%	1%
BG	4%	1%	1%
EE	2%	0%	1%
SI	2%	0%	1%
LT	1%	1%	1%
LV	1%	0%	1%
MT	1%	0%	1%

Source: EP and GDP distribution keys are computed from NPO's and World Bank databases, European Commission (DG Internal Market, doc 8928/08)

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