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Swedish Patent Litigation in Comparison to European

*By Professor Per-Olof Bjuggren, Professor Bengt Domeij and research assistant Anna Horn**

Introduction

A first large-scale systematic comparison of patent litigation across European jurisdictions was published in 2013 by Cremers et al., with data from Germany, UK (England and Wales), France and the Netherlands.¹ We have developed comparable statistics for Swedish patent cases. The new Swedish data is in this article juxtaposed with the results from the earlier European study.

The present comparison between Sweden and a number of other European patent jurisdictions may be of value to different stakeholders in the Swedish and European patent systems. Parties contemplating patent litigation are often dealing with potential infringements in multiple European jurisdictions and have a choice concerning jurisdiction. Decisions in this regard are influenced by a range of circumstances, such as costs, potential damages, duration of dispute, percentage of successful infringement/invalidity cases, etc. We have with a practice-oriented concern strived to collect previously unavailable data on a number of these considerations, pertaining to the particular Swedish patent jurisdiction. The data might equally be of use from a broader policy-perspective. It might facilitate analysis of potential changes probably brought into play in the near future by establishment of the Unified Patent Court and a possible introduction of a specialized Swedish Patents and Markets Court.

Our general aim has been to address a lack of empirical evidence on patent litigation in Sweden (infringement and invalidity). To fill this void we gauge data on Swedish patent cases initiated (filed) in the period 2000–2008. We have endeavored to cover all such cases filed at the Stockholm District court (the exclusive jurisdiction in Sweden for patent invalidity and infringement cases) dur-

* Per-Olof Bjuggren, Professor of Economics at Jönköping International Business School and also working at the Ratio Institut. Bengt Domeij, Professor in Private law, Uppsala University. Anna Horn, student at the Law faculty of Stockholm University. We are all very thankful for the support received from VINNOVA, the Ratio institute and the Romanusfonden that has enabled us to perform the work resulting in the present article. A special thanks to Erik Tengbjörk who downloaded the Amadeus data and patent data for firm size and technology classifications.

¹ K. Cremers, et al., Patent Litigation in Europe, Zentrum für Europäische Wirtschaftsforschung, Discussion Paper No. 13-072, available at <ftp://ftp.zew.de/pub/zew-docs/dp/dp13072.pdf> (9 September 2015).

ing said period. Appeals to Svea Court of Appeal and The Swedish Supreme Court have also been collected and examined. The cases have often been decided after 2008. The years 2000–2008 were chosen for two reasons: in order to cover the same time period as the study performed by Cremers et al. and also in order to allow the cases selected to have been adjudicated by the time of data collection.

Summary of Findings

We find substantial differences across jurisdictions, not least in terms of number of cases and case durations. Germany hears by far the largest number of cases in absolute terms, but also when taking country GDP into account. German courts had almost 73 percent of all the patent cases in Germany, France, the Netherlands, UK and Sweden, in the period 2000–2008. Swedish courts had a total of 123 initiated cases in the period, amounting to 2,5 percent of the total case load in the five countries.

The annual number of patent cases (infringement and invalidity) has been fairly constant in Sweden in the period (usually between 10 and 15 cases filed annually). The annual cases filed in the studied European jurisdictions, however, evidenced an increase over the period: total annual cases filed in 2000–2003 were between 367 to 646 cases, while the annual filings in the period 2004–2008 were between 754 and 893 cases. Thus, the proportion of Swedish cases relative to other jurisdictions was reduced over the period. The increase is almost completely accounted for by more German cases.

Patent cases decided by a first judgment on the merits, took considerably longer in Sweden compared to the major European patent jurisdictions of Germany, UK, the Netherlands and France. The median duration before reaching a final judgement in an infringement case was 35.5 months in Sweden, compared to 9.2 months in Germany, 11.0 months in UK, 9.8 months in the Netherlands and 19.8 months in France. A much speedier Swedish procedural alternative is the interim or interlocutory decision, which was on median delivered after 3.0 months. No numbers for interlocutory decisions were available from the other European jurisdictions. Cremers et al. does not compute this number, because the authors hold that interlocutory rulings are too few in their jurisdictions to be significant. It is stated by Cremers et al. that the speed is such in e.g. Germany that interim rulings are typically not needed.²

Revocation cases were either adjudicated within the same time frame or somewhat longer. A first ruling in a revocation case was as a median reached within 15.0 months in Germany, 11.2 months in UK, 19.8 months in France and 11.4 months in the Netherlands. In Sweden the median duration between a filing of a revocation case and the first ruling on the merits was 37.5 months.

² Cremers et al., p. 15, states concerning German litigation the following: “Preliminary proceedings for asserting claims for injunctive relief are very rare in patent cases and not necessary under normal circumstances due to the speed of the normal infringement proceedings.”

The percentage of cases that proceeded to a judgment on the merits was calculated (the case not being settled before a final judgment). The numbers differ considerably between the jurisdictions. In Germany and Sweden approximately a third of the initiated cases were concluded with a judgment on the merits. Two thirds of the cases were settled before a ruling was handed down. In UK, however, about two thirds of the cases ended with a ruling on the merits (no settlement). In France and the Netherlands the proportion of cases ruled on by the court were even higher. It is not evident why the proportion of settled cases is so much lower in UK, France and the Netherlands, compared to Sweden and Germany.

The outcomes of patent cases involving both infringement and revocation have been computed. In Germany infringement and revocation litigation are bifurcated and in that jurisdiction the outcome of infringement and revocation cases was calculated independently. In Germany infringements were established in two thirds of the infringement cases that were finally adjudicated. A finding of infringement was also more common than a finding of non-infringement in the UK; however a revocation of the patent was the most common outcome of a cumulated case in the UK. The most common outcome of an infringement or a cumulated case in Sweden was that the patent was not infringed, but it was not revoked. Patent holders succeeded in 12 Swedish infringement and cumulated infringement and revocation cases (12 findings of infringements and patent held valid), while the defendant won in 33 cases (24 finding of non-infringement plus 9 revocations).

Appeals were most common in the UK. Almost half of the first instance UK rulings were ruled on also by the appellate court. In Sweden about a third of the first instance rulings were also ruled on by the appellate court. In Germany only between 10 and 15 percent of the first instance rulings were also decided by appellate German courts. The chances of a successful appeal were similar in Germany, UK and Sweden. Between 10 and 35 percentages of the appeals led to the first instance ruling being substantially overturned by the appellate court.

The litigated patents were issued by either the national patent office or by the EPO. The percentage of litigated patents originating from the national patent office was in the UK 16 percent, followed by the Netherlands 26 percent, Sweden 41 percent, Germany 58 percent and France 59 percent. Thus, only in France and Germany a majority of the litigated patents originated from the national patent offices. In Sweden, UK and the Netherlands most of the litigated patents had been issued by the EPO.

The share of domestic claimants and defendants was particularly large in Sweden, especially compared to the UK and the Netherlands. In Sweden more than 70 percent of the litigants stated a national address. In the Netherlands and UK that number was less than 40 percent. In France and Germany litigants stating a national address (as opposed to a foreign address) ranged between 50 and 60 percent.

Cremers et al. did not compute recovered litigation costs. We decided to collect this information. An infringement case had a mean litigation cost for the

successful party (recovered costs) of SEK 1,000,000 in Stockholm District Court and SEK 720,000 in Svea Court of Appeal. The recovered litigation cost for the successful party was substantially higher in revocation cases: a mean of SEK 1,834,000 in Stockholm District Court and SEK 1,080,000 in Svea Court of Appeal.

We also collected information on damages awarded and penalties set for possible future breaches of an injunction (Cremers et al. did not). Two large damages were awarded in Swedish cases: SEK 21 and 30 million. The three additional damages awarded were SEK 1,750,000, 1,260,000 and 200,000. Penalties for future breaches of an injunction were set at a mean value of SEK 2 million.

Finally, we collected information from external databases concerning the litigants' characteristics. Only in Sweden did more than 60 percent of litigants have more than 250 employees (and thereby qualified as large corporations). In UK around 50 percent of the patent litigations were deemed large corporations. In Germany, France and the Netherlands, the proportion of large corporations by the same metrics were around 20 to 30 percent. The over-representation of large corporations in Swedish and UK patent litigation can primarily be explained by a large proportion of chemical/pharmaceutical patent cases. Chemistry patents were more frequent in Swedish and UK litigation, while mechanical engineering patents were more frequent in Germany, France and the Netherlands.

The data we have collected and analyzed point at a number of differences in litigation patterns between Sweden and the four larger European jurisdictions, some of which challenge conventional wisdom. Hopefully the data can add to the policy debate presently ongoing concerning the future of patent litigation in Sweden and Europe. From a Swedish perspective the most pressing policy concern seem to be the time duration of infringement and invalidity cases, which is substantially longer in Sweden than other jurisdictions. The proposed new Patents and Markets Court is intended to address this problem.

The remainder of this paper is organized as follows: Section 3 contains a review of the enforcement systems in Germany, UK and in Sweden. Section 4 describes our method of collecting Swedish litigation data and the construction of the dataset used in our analysis. Section 5 contains the comparison of litigation in Sweden and across four major European jurisdictions. Section 6 offers some concluding thoughts.

Background – Patent Litigation in Germany, UK and Sweden

In Germany twelve regional courts, Landgericht (LG), are competent to hear patent infringement cases, but Düsseldorf, Mannheim and Munich are the chambers that predominantly hear patent-related cases.³ The claimant is relatively free to choose the LG since he can choose the jurisdiction of the defendant or the jurisdiction where (part of) the potential act of infringement, such as an offer of the allegedly infringing embodiment, takes place. The parties are

³ K. Cremers, et al., footnote 1, p. 12.

usually allowed to put forward two writs each only and technical expert opinions are ordered only in exceptional cases. The procedure is characterized by an early hearing, rigid deadlines and the option for mediation. Oral hearings often last for only 2–4 hours. Hearings start with an introduction of the presiding judge who gives the court's preliminary opinion based on the writs exchanged before the hearing. Thereafter the presiding judge leads the lawyers with specific questions regarding open issues.⁴ Claims for interlocutory injunctions are very rare in German patent cases due to the speed of the normal infringement proceedings.

Appeals against the decisions of the LGs are heard by the higher regional courts (Oberlandesgericht – OLG). There is no need for an express leave to appeal. Against the decisions of the higher regional courts, a second appeal can be brought before the Federal Court of Justice (Bundesgerichtshof – BGH). Leave for the second appeal can be granted by either the OLG or the BGH.

The LGs have no jurisdiction to decide on the validity of a patent – neither in the form of a defense against a patentee's claims for patent infringement nor in the form of a declaratory judgment of invalidity. The infringement court, though, has the discretion to stay the proceedings until parallel invalidity proceedings before the EPO, Deutsches Patent- und Markenamt or the Bundespatentgericht have been terminated (this is referred to as bifurcation of the infringement and the validity proceedings).

In all proceedings before the German courts, the court and attorney fees are calculated according to a formula based on the estimated value of the dispute. The attorney fees do not represent the true legal costs but only a lower bound to which the attorney is entitled. Clients and their attorneys often agree to payment schemes based on an hourly rate which leads to attorney costs well above the legal fees. As a result, the costs are often not fully shifted to the loser. Practitioners estimate the average litigation costs to range between Euro 40,000 and Euro 100,000 per party.⁵

Patent litigation is quite different in the UK (England and Wales). The Patents Court is a specialized court of the High Court and hear the overwhelming majority of patent cases at first instance. The court is made up of a single judge who possesses IP-specific expertise. Appeals are made to the Court of Appeal, where the case is heard by a three-person panel which is generally not entirely composed of IP specialists (although it usually contains at least one IP specialist). Leave to appeal must be granted by the Patents Court or by the Court of Appeal itself. The decision of the Court of Appeal can be challenged at the UK Supreme Court (formerly the House of Lords). Once again, leave must be

⁴ J. Herr and M. Grunwald (2012), Speedy patent infringement proceedings in Germany: pros and cons of the go-to courts, *Journal of Intellectual Property Law & Practice* (2012) 7(1): pp. 44–47.

⁵ CMS (2013): *International Patent Litigation Guide* p. 47, May 2013, available at: <http://www.cmslegal.com/patentswithoutborders/patentlitigationwithoutborders/pages/default.aspx> (last visited 22.09.2013), and Bardehle (2013): *Patent Infringement Proceedings* p. 12, available at: <http://www.bardehle.com/fileadmin/contentdocuments/broschures/> (last visited 22.09.2013).

given for appeal. The courts have jurisdiction to determine both infringement and validity.

At an English and Wales trial both parties present their full case, relying on evidence by witnesses and experts who are cross-examined by both parties. Practitioners estimate that Patent Court trials can last between two days and several weeks, depending on the complexity of the case and the amount of witnesses/experts cross-examined.⁶ In appropriate cases, the court may order disclosure of internal documents, the preparation of a product or process description, inspection of factory processes, provision of samples or ingredients and experiments (to be repeated in the presence of the other party). Practitioners estimate the costs of a case which reaches trial to be at £1.5 million for each side.⁷ The main reasons for the high costs are the disclosure requirement, the length of trial, the requirements for the carrying out of experiments and the cross-examination of expert witnesses. The loser pays system applies – the company which loses must pay not only its own costs, but also the costs of the other side.

Sweden has a centralized system of patent litigation. All patent matters are brought before the Stockholm District Court.⁸ An appeal may be taken to the Svea Court of appeal, if leave is granted by the appellate court. Invalidity is dealt with by said two courts either simultaneously with an infringement proceeding or as a sole revocation proceeding. Judges have either a technical or a legal education. In Stockholm District Court, the court consists of at least two judges with a legal education and two with a technical.⁹ Svea Court of Appeal consists of three judges with a legal background and two with a technical.¹⁰ Technically competent judges participate in the court deliberations on equal terms.¹¹ Appeal decisions may, with leave to appeal, be subject to final judgment at the Swedish Supreme Court.

The procedure is governed by the Swedish Code for Civil Procedures.¹² The three fundamental principles of orality, immediacy and concentration apply. Statements made by the parties at the main hearing must be oral. The principle of immediacy entails that the court's ruling may only be based upon the case material put forward by the parties during the main hearing. Finally, according to the principle of concentration the proceedings must be concluded at one hearing or at several hearings within a limited period of time. This is to guarantee that the court's ruling will be based upon the best possible evidence. Swe-

⁶ CMS (2013): International Patent Litigation Guide p. 96, May 2013, available at: <http://www.cmslegal.com/patentswithoutborders/patentlitigationwithoutborders/pages/default.aspx> (last visited 22.09.2013); Hogan Lovells (2013): Patent Litigation Guide, section "UK", available at: <http://limegreenip.hoganlovells.com/patents/patentlitigation/Pages/default.aspx> (last visited 22.09.2013).

⁷ Freshfields (2011), A Guide to patent litigation in England and Wales p. 8, available at: <http://www.lexology.com/library/detail.aspx?g=6bd0f5bc-df2c-4578-8102-02c6d3c9946f> (last visited 22.09.2013).

⁸ 65 § the Swedish Patent Act.

⁹ 66 § the Swedish Patent Act.

¹⁰ 67 § the Swedish Patent Act.

¹¹ Proposal for a Swedish patent act 1966:40 p. 236 and proposal 1985/86:86 p. 24.

¹² Rättegångsbalken (SFS 1942:740).

den does not have a disclosure/discovery system comparable to that in the United Kingdom. Instead, the fact-finding for an action is normally handled by the claimant's legal counsel. The cost is shifted to the losing party. In most cases the prevailing party will recover all or a substantial part of its costs.

To summarize and briefly highlight some of the differences that exist between the jurisdictions, the most obvious difference being that the German system is bifurcated whereby infringement and validity are handled separately at different courts. Another major difference between the legal systems is that in Germany several regional courts are competent to hear patent cases; by contrast Sweden and UK make use of centralized systems for patent litigation.

Finally, a few words concerning future developments. The EU unitary patent package was adopted in 2012 as an enhanced cooperation between 25 Member States (all EU Member States except Italy and Spain; subsequently Italy has indicated an interest in participating). It consists of two Regulations and an international Court Agreement.¹³ It laid the grounds for unitary patent protection in the contracting Member States. The Member States are now in the process of ratifying the Agreement on a Unified Patent Court (UPC), which amounts to setting up a single and specialized patent jurisdiction. In Sweden the government in the summer of 2015 also presented a proposal for a specialized Patents and Market Court intended to come into force on the 1st of September 2016.¹⁴ The new court, and an associated appeal court, is designed to increase the effectiveness and quality of Swedish intellectual property and market law litigation.

Data Collection

Data was collected by examining all infringement and invalidity patent court cases filed between the years 2000 and 2008 at Stockholm District Court. Litigation regarding license or ownership was excluded, in line with the Cremers et al. study. The main challenge in our data collection was to achieve international comparability while still accounting for the legal differences across jurisdictions. The data collection time period was the same as in the Cremers et al. study and provided us with recent cases while avoiding cases still pending. Practically all the cases filed with Stockholm District Court in the period 2000–2008 had been finally adjudicated by the time of our data collection. We started the data collection in the summer of 2014 and finished the collection in the spring of 2015.¹⁵ The data collection was greatly facilitated by Stockholm District Court being the exclusive fora in Sweden for patent infringement and invalidity case, as opposed to how the data was collected in Germany (at a number of regional courts).

¹³ Regulation 1257/2012, implementing enhanced cooperation in the area of the creation of unitary patent protection, 31 December 2012. Regulation 1260/2012, implementing enhanced cooperation in the area of the creation of unitary patent protection with regard to the applicable translation arrangements, 31 December 2012.

¹⁴ Lagrådsremiss, Patent- och marknadsdomstol, submitted 11 June 2015.

¹⁵ Anna Horn was hired as a research-assistant at Ratio to collect and digitize the information for each case.

The information obtained from the cases was inserted into a standardized template. The template was made up of categories such as date of filing, dates of oral procedures and the date of the end of litigation. It also included information about the litigating parties, their name, address and legal representatives. Furthermore, the patents involved were identified by patent numbers and technical field. The template also contained information about case outcome, recovered litigation costs, any preliminary injunctions, damages claimed and awarded.

Stockholm District Court had electronic search facilities enabling us to identify cases related to patent infringement or invalidity. However, only physical access to the actual court files was available to us, which made the data collection process quite time consuming.¹⁶ Hence, to identify all the case-related information of relevance we had to physically access each case to manually find the data in files consisting of 100 up to 1000 pages. One additional difficulty surfaced: cases adjudicated or settled nine years ago or more were erased from the electronic court records and they could therefore not be easily located. To possibly compensate for this void (cases initiated 2000 or later and finally adjudicated in 2005 or earlier) we added to the searches in the court records, cases recorded by the Swedish journal *Patenteye*. By combining the court records with the cases mentioned in the *Patenteye* journal we endeavoured to collect all cases for the specific time period. In the second stage of the data collection, appealed cases were followed-up. We collected data from each relevant case file at the Svea Court of Appeal and in a few cases also at the Swedish Supreme Court.

We believe that our dataset is representative of infringement and invalidity patent disputes litigated at Swedish courts and initiated between 2000 and 2008. The main obstacle has been, as already mentioned, to compensate for cases missing from the electronic court records due to them having been adjudicated or settled nine years ago or earlier. Thus, a possible under-representation exists of cases settled or adjudicated 2000 to 2005. However, searching *Patenteye*'s compilation of patent disputes resulted in an increase of cases in the final dataset. Although our dataset does most likely not contain all Swedish infringement and invalidity patent cases initiated between 2000 and 2008, the dataset contains a large enough and representative enough number of cases, for us to believe that the results we present would not be affected significantly by any unidentified cases. Except for the possible underrepresentation of cases concluded between 2000 and 2005, we do not expect there to be any biases or skewness in the results due to the selection of the data.

To achieve the desired compatibility across European jurisdictions, we counted in the following manner. Invalidity and infringement cases cumulated in the Swedish system, was counted as only one case in our study (disregarding that they have separate case numbers). The same method was used by Cremers et al. To achieve comparable data, we therefore consider an infringement and

¹⁶ Cremers et al. (page 36) used the same process of physical access to court records of patent cases in Germany (the relevant information on the cases is stored in paper format in the court dockets), but in the UK the cases were available electronically for remote access.

invalidity litigation, concerning the same patents and between the same parties, as one case. Moreover, cases that were tried together by the court and involved the same patent or patents but involved more than two parties were also counted as one case. Hence, disputes consolidated and heard together amount to one case in our data, as they also were in the Cremers et al. study.

Similar to Cremer et al. we also matched the court records with detailed information of the parties with AMADEUS (Europe) to get information about the firm size of claimants/defendants. In cases where the litigating firm was part of a corporate group it was the size of the group that was decisive. We also used the patent code obtained for the court records to classify the technology classes of litigated patents. Information of technology classes was obtained from the Swedish patent database available at the home page of the Swedish Patent and Registration Office. The same technology classes as Cremer et al. were used.

Comparison of Patent Litigation in UK, Germany, France, the Netherlands and Sweden

This section presents the results of our analysis. We compare patent cases across Germany, UK, France, the Netherlands and Sweden. In some tables we only compare Germany, UK and Sweden and, furthermore, some tables only contain Swedish data. We separate the tables into, on the one hand, case related data and, on the other, litigant-/patent-related data.

Case-Related Data

Table 1 shows the total number of patent cases filed for all five jurisdictions over the period 2000–2008. Consolidated infringement and invalidity cases were sorted by the last date of filing of claim. Statistics for France, the Netherlands, the United Kingdom and Germany are from the Cremers et al. study.

Table 1: Total numbers of patent cases filed

Year claim filed	Jurisdiction					SE % of total	Total
	DE	FR	NL	UK*	SE		
2000	366	106	42	19	13	2.4%	546
2001	446	126	40	22	12	1.9%	646
2002	169	125	31	24	18	4.9%	367
2003	470	85	19	28	12	2.0%	614
2004	637	120	45	27	16	1.9%	845
2005	640	118	40	28	14	1.6%	840
2006	542	129	35	40	8	1.1%	754
2007	705	106	36	31	15	1.7%	893
2008	612	87	38	37	15	1.9%	789
Total	4587	1002	326	256	123	2.5%	6294

* England and Wales.

In Germany infringement and revocation claims are not cumulated, but handled in different court systems. However, to enable a cross-European comparison, we used the data compiled in the Cremer et al. study for Germany that combined cases so as to achieve comparable numbers. The high number of cases for Germany is therefore not explained by bifurcation.

One can see that German courts hear by far the largest number of patent cases in the European jurisdictions. Cremers et al. report that the majority of German infringement cases were heard by the regional court in Düsseldorf (3,138 cases). The authors suggest that Düsseldorf is the jurisdiction with the largest number of patent cases in Europe. In comparison the number of patent cases in the UK was low, only some 5 percent of the German number. The case count in the Netherlands was slightly larger than in the UK. A large number of patent cases was reported from France. The annual number of patent cases (infringement and invalidity) has been fairly constant in Sweden in the period 2000 to 2008 (usually between 10 and 15 cases filed annually).

The annual number of cases filed in the studied European jurisdictions evidence an increase over the period: total annual cases filed in 2000–2003 were between 367 to 646 cases, while the annual filings in the period 2004–2008 were between 754 and 893 cases. Sweden had about 2.5 percent of the total number of cases. The proportion of Swedish cases relative to other jurisdictions was reduced over the period. The effect is almost completely accounted for by the increase in the number of German cases.

Table 2: case duration:

Jurisdiction	Claim	Final judgment reached		Duration in months from filing to judgement	
		# Cases	% of all cases	Mean	Median
DE	Infringement	1,982	37.5%	11.5	9.2
	Revocation	1,107	37.2%	18.2	15.0
UK*	Infringement	68	62.4%	11.7	11.0
	Revocation	59	72.8%	10.8	11.2
FR	Infringement	704	83.7%	23.5	19.8
	Revocation	56	82.4%	19.4	19.8
NL	Infringement	254	97.3%	13.9	9.8
	Revocation	40	49.4%	17.2	11.4
SE	Infringement inter-locutory decision	28	**	4.5	3.0
	Infringement final judgement	36	31.5%	35.4	35.5
	Revocation	25	34.7%	38.3	37.5

* England and Wales.

** Data missing.

Table 2 cross-tabulates claims and percentage of cases ending with a court decision. We distinguish between infringement and invalidity claims. In the UK, interestingly, a larger share of revocation and infringement cases is litigated through to judgment, compared to Germany and Sweden. In France and the Netherlands, the court decides a very high proportion of cases. However, Creemers et al. point out that the data for France and the Netherlands should be interpreted with caution. It is likely that some settled cases are missing from the data, which would help explain the unrealistically large share of adjudicated cases. Sweden has the lowest proportion of adjudicated cases (largest proportion of settled cases), although the difference to Germany is not very large.

Table 2 also shows the time period between the filing of a claim and a final judgement (in Sweden and all countries) or an interlocutory decision (Sweden). The figures suggest that the median duration of an infringement case is shortest in Germany (9.2 months), followed by the Netherlands (9.8 months), and the UK (11 months). Infringement cases take considerably longer in France (19.8 months) and again longer in Sweden (35.5 months). Invalidity actions take a bit longer to decide in all jurisdictions, in Germany (15 months), but almost the same as infringement cases in the UK (11.2 months) and the Netherlands (11.4 months). Again, invalidity cases in France take significantly longer (19.8 months) than in the aforementioned jurisdiction. The same again goes for Sweden. Swedish invalidity cases take in the median 37.5 months, the longest duration of any proceeding in the data set. Duration of interlocutory infringement claims are presented in our table only for Sweden. This is the speediest procedure of all taking in median 3 months.

If a Swedish case had both an interlocutory decision and a final judgement, the time period for each judgement is included (double entry). In Sweden the number of interlocutory cases and the difference in time duration between the filing of claim and an interlocutory decision compared to a final judgement was so large that we consider it useful to present interlocutory rulings separately.

Table 3: Final outcome out of the total number of filed cases

Country	Final outcome					Settled
	Infringed	Not infringed	Interlocutory injunction granted***	Interlocutory injunction denied***	Revoked	
	#	#	#	#	#	#
DE	1,165	521			296	2,434
FR*	47	630			27	137
NL*	94	137			23	7
UK**	16	11			28	36
SE	12	24	10	18	9.5	43.5

* Data not available or incomplete for NL and FR.

** England and Wales.

*** data missing for Germany, France, Netherlands and the United Kingdom.

Table 3 demonstrates the outcome in infringement cases and infringement cases with cumulated revocation claims, except for Germany where there is no cumulation (bifurcation) and the numbers for the outcome in infringement and revocation litigation are no linked (independent). Thus, each case (except in Germany) is classified in Table 3 according to its main outcome (chosen from four alternatives: infringement, not infringement, patent revoked or settlement).

There are some striking differences in the numbers. Findings of infringement are more than double the numbers of findings of non-infringement in Germany (irrespective of any revocation). The only other jurisdiction where the infringements outnumber the findings of non-infringements is UK, but in that jurisdiction the revocations is the most frequent outcome of all. In the UK, the large share of revoked patents stands out. In Sweden a finding of non-infringement and the patent held valid, is the most frequent outcome of cumulated infringement and the patent held valid, is the most frequent outcome of cumulated infringement and invalidity cases.

The statistics in Table 3 depict the outcome in the final instance. However, if the parties settled in a court of appeal we included the outcome at the district court in the dataset, assuming that the settlement was dependent on the earlier judgment. Cases on only revocation were excluded from the dataset. Due to the prevalence of interlocutory injunction in Sweden the outcome of these cases are reported too. If a Swedish case reached an interlocutory decision followed by a settlement, we chose to not count the settlement, assuming that the settlement was largely determined by the outcome in the interlocutory ruling. Joined cases consisting of several parties where some parties settled while some continued to a final judgment were counted as half settled and half revoked, half infringed and half not infringed, depending on the final outcome.

Table 4: Appeals – share and outcome

Country	Claim	1 st instance		2 nd instance		3 rd Instance	
		Judgment	Cases	1 st instance	Over-turned	Cases	2 nd instance
		#	#	%	%	#	%
DE	Infringement	1982	298	15.0%	11.1%	13	4.40%
	Revocation	1107	114	10.3%	29.8%		
UK*	Infringement	69	32	46.4%	18.8%	3	9.40%
	Revocation	59	27	45.8%	29.6%	4	14.80%
SE	Infringement in- terlocutory deci- sion	28	14	50.0%	35.7%	1	7.10%
	Infringement final judgement	36	9	25.0%	11.1%	1	11.0%
	Revocation	25	9	36.0%	55.5%		

* England and Wales.

Table 4 looks at appeals. Data on appeals are only available in the Cremers et al. study for UK and Germany. We show the share of cases that was adjudicated by an appellate court, calculated from the total rulings by the first and the second instances. Moreover, the table shows the percentage of cases that have been overturned in the second instance.

Table 4 shows that only a fraction of infringement (15 percent) and revocation (10 percent) decisions are ruled on by appellate courts in Germany. In the UK, the share of first instance rulings adjudicated by the Court of Appeal is around 46 percent for both infringement and revocation decisions. Sweden lies in between with a share of 27 percent of infringement and 36 percent of revocation judgments by Stockholm District Court, being adjudicated also in Svea Court of Appeal.

Quite striking in Table 4 is the differences between the share of rulings that are overturned by the appellate courts in infringement and in revocation cases. The frequency of overturned judgments in the appellate courts is substantially higher for revocation cases (DE 30 percent, UK 30 percent and SE 55 percent) compared to infringement cases (DE 11 percent, UK 19 percent and SE 11 percent). It seems to be easier to have a revocation case overturned on appeal than to have an infringement determination overturned.

Claims for interlocutory injunctions are included in the Swedish data. Interlocutory cases are almost as many as the full rulings on the merits in Sweden during 2000–2008 (28 interlocutory infringement case compared to 36 final rulings on infringement). If a case reached both an interlocutory decision and a final judgement both judgements are included in the table.

Table 5: Litigated patents

Country	Domestic	EPO
	%	%
SE	40.9%	59.1%
DE	57.6%	42.4%
FR	58.8%	38.7% (2.5% other cases)
NL	25.8%	72.6% (1.6% other cases)
UK*	16.2%	80.6% (3.2% other cases)

* England and Wales.

Table 5 lists the share of litigated patents according to the patent office that published/granted the patent right. Domestic patents account for 58 percent in Germany and France but only 16 percent in the UK and 26 percent in the Netherlands. Sweden was in between with a share of domestic patents accounting for 41 percent of the litigated patents.

Table 6: Recovered Swedish litigation cost for successful party

Claim	Stockholm District Court		Svea Court of Appeal		Swedish Supreme Court	
	Mean	Median	Mean	Median	Mean	Median
Infringement (SEK)	1,001,000	589,000	722,000	456,000	535,000	535,000
Revocation (SEK)	1,834,000	1,170,000	1,081,000	120,000		

Table 6 shows the recovered litigation costs in SEK for the successful party, to whom the court obliged the losing party to pay. Hence, the table does not show the losing party's own litigation cost.

In some cases the successful party consisted of more than one party. Our table does not consider the number of parties on the winning side. It is the sum of all recovered litigation costs that is being indicated. Thus, the table present the litigation cost that the losing side was obligated to pay regardless of how many parties either side was made up of.

Cremers et al. did not collect data on litigation costs. However, the authors refer to other sources that indicate an average litigation cost in Germany of 40,000 to 100,000 euros per party and in the UK estimated litigation costs for each side of £1.5 million.

Tables 7 and 8 break down the Swedish infringement cases into declaratory and damages claims. Table 7 demonstrates the number of cases for a declaration of infringement. Further the table shows how many cases that reached a final judgment. Finally, the table presents the amount of successful claims (a declaratory finding of infringement). The percentage of final judgements is calculated on the total number of claims. The percentage of successful claims is based on the number of final judgements.

Table 7: Declaratory infringement judgments

	Claims	Final judgement reached		Successful claims	
	#	#	%	#	%
Declaratory infringement claims	46	16	34.8%	6	37.5%

Two thirds of the declaratory infringement cases are settled before a final ruling is reached. Of the cases adjudicated by the court, slightly more than a third leads to a finding of infringement, i.e. almost two thirds of the declaratory infringement cases lead to a finding of non-infringement.

Table 8 presents the number of cases for determination of infringement and damages. Moreover, the table depicts the number of final judgements as well as successful claims. Lastly, awarded damages in SEK are presented with mean and median values.

Table 8: Damage claims and damages awarded to successful patent holder

	Claims		Final judgement reached		Successful claims		Damage awarded (SEK)	
	#	#	%	#	%	Mean	Median	
Determination of infringement and determination of damage	59	20	33.9%	5	25.0%	10,867,000	1,752,000	

The table presents the amount of damages the defendant had to pay to the claimant. The damage awarded in the five Swedish cases filed in 2000 to 2008 are in Swedish Krona 30,001,000, 21,121,000, 1,752,000, 1,260,000 and 200,000. The table does not consider how many parties have been obligated by the court to pay damages to the counter-party or parties.

The numbers in Table 3, on the one hand, and the numbers in Tables 7 and 8, on the other, for infringement cases do not added up. Table 3 shows that 12 cases resulted in a finding of infringement. Table 7 and 8 together show that 11 cases led to a finding of infringement (declaratory or damages). The reason for the difference is that one claim regarding determination of infringement and damage led to an intermediate judgment that only establish infringement, which was followed by a settlement. We excluded said judgment from Table 8.

In claims for injunction, the patent holder may ask the court to also set a penalty for any future breach of the injunction. Table 9 depicts the amounts that have been set by the courts for future breaches of an injunction.

Table 9: Penalty for future breach of injunction

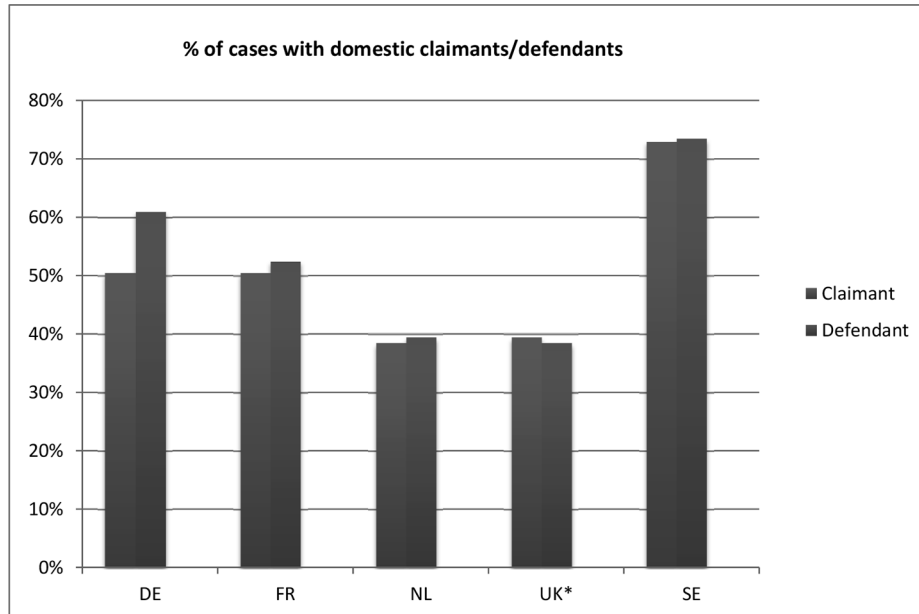
Penalty for future breach of injunction (SEK)	
Mean	Median
1,989,000	1,000,000

Table 9 shows the penalties in SEK the defendant in an infringement case would be obligated to pay in the event of a future breach of injunction. The mean and median values are based on 10 cases.

Characteristics of Litigating Parties and Patents

The remaining tables and figures are related to the characteristics of the litigants. The parties' identities were derived from the court records. Thereafter additional information concerning the parties involved was collected from public databases.

Figure 1 shows the share of domestic and foreign parties involved in the litigations. The nationalities of the litigating parties were decided by observing the companies' stated address in the court records.

Figure 1: Nationality of claimants/defendants

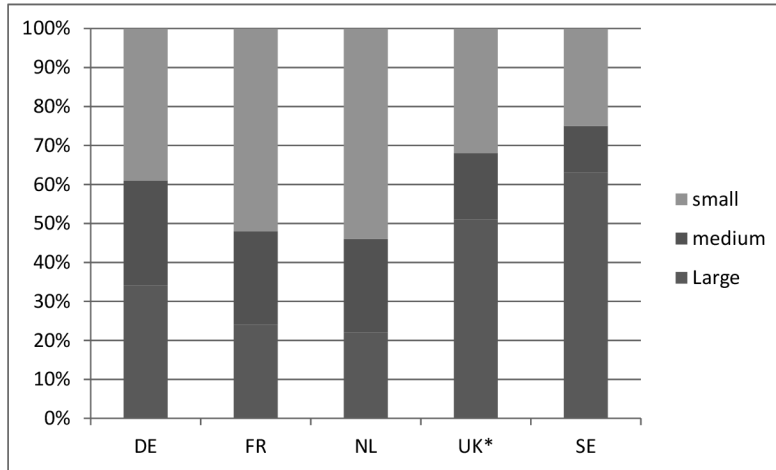
* England and Wales.

We distinguish between domestic and foreign litigants. The figure shows that half of all cases involve only domestic claimants in Germany and France. The share of cases with only domestic claimants drops below 40 percent for the UK and the Netherlands. The data look similar for defendants, with the exception of Germany where the share of cases with only domestic defendants exceeds 60 percent. The data for Sweden has a higher proportion of domestic claimants/defendants. It may be due, though, to differences in the method of calculation. The Swedish data does not depict case with only Swedish litigants. In cases with both domestic and foreign parties we counted the parties, with two litigants on one side, each as half instead of one for each side. Consequently, if a consolidated case consisted of one foreign and one domestic party we included the case in the dataset as half a domestic claimant and half a foreign claimant, while Creemers et al. counted a case as domestic only if it consisted solely of domestically incorporated companies.

Figure 2 shows the size of the firms involved in patent cases. A breakdown into three different size classes has been made. The European Commission (EC) definition of small, medium and large enterprises has been used. The number of employees is the primary measure that determines to which class an enterprise belongs. Small firms have less than 50 employees, medium sized firms less than 250 employees while large firms have 250 or more employees. Using the European Commission definition Sweden is the country with the highest percentage of large firms involved in legal patent cases closely followed by UK. In France and the Netherlands it is primarily small firms which are claimants/defendants

in patent cases. The largest percentage of medium sized firms is found in Germany.

Figure 2: Size of claimants/defendants



* England and Wales.

Thus, the greatest share of litigants in UK and Sweden fall into the “large” category. This reflects the fact that disproportionately many pharmaceutical companies litigate in UK and Sweden. Litigation in UK is expensive and therefore presumably only warranted for high value patents. Litigation costs are, of course, not as high in Sweden as in the UK, but the costs are relatively high in relation to the Swedish market size (Swedish GDP). In all other jurisdictions, small and medium size companies represent the largest share of litigants. In France and the Netherlands, the share of small companies even outstrips the combined share of medium-sized and large companies.

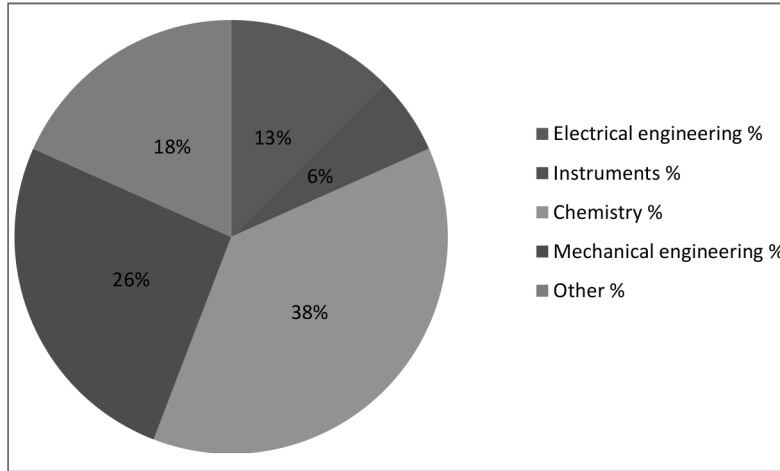
In Table 10 and Figure 3, a breakdown of the litigated patents into broad technology classes has been made.

Table 10: Technology classes of litigated patents

	Share of technology (based on IPCs)				
	DE	FR	NL	UK**	SE
Electrical engineering	15%	18%	9%	26%	13%
Instruments	14%	13%	14%	15%	6%
Chemistry	19%	22%	26%	31%	38%
Mechanical engineering	33%	29%	38%	19%	26%
Other*	19%	18%	13%	9%	18%

* Contains furniture and games, other consumer goods, and civil engineering.

** England and Wales.

Figure 3: Technology classes of litigated patents in Sweden

A few things stand out. First, the share of pharmaceutical companies in UK and Sweden of more than 30 percent exceeds the share of pharmaceutical companies involved in patent litigation in other jurisdiction. This confirms the widely held view that the UK is an important venue for pharmaceutical patent litigation in Europe. This is probably partly explained by strong, ongoing disclosure requirements and the important role attributed to expert witnesses in High Court proceedings. In Sweden the largest share of litigation also involves chemistry/pharmaceutical patents, similar to the situation in UK. The prevalence of pharmaceutical litigation in Sweden might be related to the relatively high litigation costs in relation to market size. Furthermore, it is quite common in the pharmaceutical industry to have parallel litigation in several European jurisdictions, thus involving also smaller jurisdictions. In Germany, in contrast, companies are concentrated in manufacturing, notably the machinery and engine industry, which comprises a wide range of engineering-based industries. In the Netherlands, the share of companies in the services industry (especially finance, insurance, and real estate) stands out.

Conclusions

The prime motivator of our Swedish data collection was to take advantage of the opportunity for a pan-European comparison that opened up with the publication of the Cremers et al. study. Comparability of litigation data across jurisdictions proved, however, to be a major challenge. Nevertheless, we believe that our data is reliable enough to allow some conclusions.

Germany stands out as the European venue for patent litigation par excellence. Almost 73 percent of the patent cases in the studied jurisdictions and in the period 2000–2008 were initiated in Germany. Swedish courts had a total of 123 initiated cases in the period, amounting to 2.5 percent of the total case load

in the five countries. It seems that the Swedish portion of European patent cases was stagnating or shrinking during the period.

The time duration for final judgment on the merits in Swedish patents cases is 3 years on average, compared to 2 years in France and approximately one year in Germany, the Netherlands and UK. Proceedings for interim/interlocutory injunctions in patent infringement cases are today a major feature of Swedish patent litigation (on average available in 3 months), presumably due to the extended duration of litigating a patent case in a full trial. The creation of the proposed new Swedish Patents and Market Court is intended to speed up the procedure and such a development appears to be vital for the future of Swedish patent litigation. Perhaps, though, Swedish procedural rules still will make it difficult to reach durations comparable to those in Germany, the Netherlands and UK.

Patent litigation in Germany in terms of quality, frequency and costs can be compared to a Volkswagen; in the UK it is a Rolls-Royce. It is difficult to say the brand in Sweden, but it seems to be losing market share. It is perhaps not quite yet a SAAB. With the new Patents and Markets Court, in a year or two, it will hopefully be a Volvo.