

# A Study of the Role and Impact of Special Masters in Patent Cases

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This report<sup>1</sup> is in response to a request from the Federal Judicial Center to perform a study of the use of special masters in patent litigation.<sup>2</sup> The analysis is based on 116 patent cases terminated in 2005 and 2006 that were identified by the Federal Judicial Center as having involved special masters.<sup>3</sup> Most of the cases were filed between 1995 and 2005, although three cases were filed before this period.<sup>4</sup> Half of all the cases were filed between 2003 and 2005, so the sample largely reflects recent experience in patent cases.<sup>5</sup>

Throughout the report we will be comparing the cases in the special masters sample with the “universe” of patent cases as defined by our previous work, which studied in-depth the docket reports of patent cases filed in 1995, 1997, and 2000.<sup>6</sup> While the period covered in our previous work is not precisely the same as that in the special masters sample, the two time periods are contemporaneous enough to make the comparisons valid. Our previous studies were based on a sample of cases at the time the complaint was filed, whereas the special masters sample is based on a sample of cases at the time the cases were terminated. We will also be comparing the sample with data gathered as part of a second ongoing study of judicial experience and appeals, covering the period from 1995 to 2003.<sup>7</sup>

The two groups of cases are also geographically comparable. The cases in the special masters sample were drawn from thirty-one judicial districts. While over half of the districts were not represented, such a result is to be expected when the sample contains only 2% of the patent cases terminated in 2005–2006. Moreover, the distribution across judicial districts generally reflects the total population of

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1. The excellent research assistance by Amberlee Cook is gratefully acknowledged.

2. Proposed federal legislation has called for such a study. Section 16 of H.R. 1260, introduced March 3, 2009, calls for a study to determine whether “the use of special masters has been beneficial in patent litigation and what, if any, program should be undertaken to facilitate the use by the judiciary of special masters in patent litigation.” Similar calls for study of the role of special masters in patent litigation were included in legislation introduced in previous years.

3. Staff at the Federal Judicial Center first identified the 5,550 patent cases terminated in the federal district courts in 2005 and 2006, using the Federal Judicial Center’s Federal Court Cases Integrated Data Base (*available at* <http://www.icpsr.umich.edu/cocoon/ICPSR/STUDY/04685.xml> and <http://www.icpsr.umich.edu/cocoon/ICPSR/STUDY/04382.xml>). Staff then searched the docket sheets for the phrase “special master.” This approach yielded 116 patent cases with 1,532 docket entries that included the phrase. These docket sheets were downloaded from the Public Access to Court Electronic Records (PACER) service center (at <http://www.pacer.psc.uscourts.gov>) and examined for related activity.

4. One case was filed in each of the years 1988, 1991, and 1993.

5. However, fifteen cases in one district have the same plaintiff.

6. See Jay P. Kesan & Gwendolyn G. Ball, *How are Patent Cases Resolved? An Empirical Examination of the Adjudication and Settlement of Patent Disputes*, 84 Wash. U. L. Rev. 237 (2006).

7. Gwendolyn G. Ball & Jay P. Kesan, *Is There a Case for a Specialized Patent Trial Court? An Empirical Analysis* (2008) (unpublished working paper, on file with the authors).

patent cases. As with the total population of patent cases, the distribution of cases in the sample is highly skewed, with a high proportion of cases observed in a small number of districts. In the special masters sample, the ten districts with the highest number of cases accounted for 48% of the cases with special masters, while in our previous study we found that the top ten districts accounted for 45% of all patent cases filed between 1995 and 2003.<sup>8</sup> Moreover, the ten districts with the greatest number of patent cases terminated in the special masters sample<sup>9</sup> were largely the same as the ten districts with the greatest number of patent filings in the 1995 to 2000 population. Nonetheless, there are some minor deviations in the special masters sample from the geographic distribution of the population of cases. For example, while only 4% of the patent cases filed between 1995 and 2003 were filed in the Northern District of Georgia, 10% of the cases in the special masters sample were drawn from that district.

## I. Incidence of Use of Special Masters

Given the scope of this study—which focuses on a sample of patent cases previously identified as involving special masters—it is impossible for us to independently evaluate the proportion of patent cases in which a master is appointed. However, for context, it is worth citing a previous study by Thomas Willging and his colleagues at the Federal Judicial Center; the study sought to find all federal cases using a special master.<sup>10</sup> The researchers did a textual search of the dockets of over 400,000 civil and criminal cases terminating in 1997 and 1998, and found that appointment of a special master was formally considered in the case docket in 0.27% of all cases across all fields. However, the study also reported that appointment of a special master was formally contemplated in 2.7% of all patent cases.<sup>11</sup> While a master may not have been appointed in all these cases, so long as the “non-appointment” rate in patent cases is not ten times more than the rate for all cases, the actual usage rate of special masters is higher for patent cases. In short, the Willging study, which undertook a broader review of all cases involving special masters over a time period overlapping with our own work, did find that special mas-

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8. *Id.*

9. Those ten districts are Central California, Northern California, Northern Illinois, Southern New York, Delaware, New Jersey, Massachusetts, Minnesota, Eastern Michigan, and Southern California.

10. See Thomas E. Willging et al., *Special Masters’ Incidence and Activity: Report to the Judicial Conference’s Advisory Committee on Civil Rules and Its Subcommittee on Special Masters* (Federal Judicial Center 2000) (available at [http://www.fjc.gov/public/pdf.nsf/lookup/SpecMast.pdf/\\$file/SpecMast.pdf](http://www.fjc.gov/public/pdf.nsf/lookup/SpecMast.pdf/$file/SpecMast.pdf)).

11. *Id.* at 15.

ters' use was contemplated in a much higher proportion in patent cases compared to criminal and civil cases across all fields.

## II. Compliance with Rule 53(b) in Appointing Special Masters

Federal Rule of Civil Procedure 53(b) describes the procedure for appointment of a special master. It specifies the important features of the order of appointment, as follows:

The appointing order must direct the master to proceed with all reasonable diligence and must state:

- A) the master's duties, including any investigation or enforcement duties, and any limits on the master's authority under Rule 53(c);
- B) the circumstances, if any, in which the master may communicate *ex parte* with the court or a party;
- C) the nature of the materials to be preserved and filed as the record of the master's activities;
- D) the time limits, method of filing the record, other procedures, and standards for reviewing the master's orders, findings, and recommendations; and
- E) the basis, terms, and procedure for fixing the master's compensation under Rule 53(g).<sup>12</sup>

The actual order of appointment was available for fifty-six of the cases in the sample. These orders largely follow the outline specified in Rule 53(b), but compliance is not total. All fifty-six orders specified the duties to be followed by the master; forty-seven (84%) specified the basis of the master's compensation. Compliance with the other requirements was somewhat lower. Thirty-eight (68%) specified the rules for *ex parte* communication. Twenty-two (39%) described the procedure for reviewing the master's work. Finally, only fifteen (27%) described the materials to be retained as a record of the master's work. The low rate of compliance with requirement C may become more of a concern as more documents are available to the public online.

## III. Who Serves As a Special Master?

Since special masters are intended to serve as experts advising the courts in patent cases, it was important to identify the average profile of the individuals who serve

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12. Fed. R. Civ. P. 53(b)(2).

this role. The individual serving as special master could be identified in eighty-five cases, nearly three-quarters of the cases in the sample. In these cases, forty-four individuals served as special masters, suggesting that certain individuals tend to serve as special master in a number of cases. In fact, eight individuals served in two cases each, three individuals served in three cases each, one in six cases, one in eight cases, and one in fifteen cases.<sup>13</sup> Thus, in our sample, one individual served in 17% of the cases where the individual could be identified, and in 13% of all the cases in the sample. These results suggest that while most individuals serve as special masters on an occasional basis, it is an important line of work for others.

### *A. Education of Special Masters*

As expected, nearly all of the special masters in the sample were attorneys. Only one individual was not a lawyer, although that person was a technical specialist in analyzing patents and their marketability. The law school attended by the special master could be identified for thirty-nine of the fifty-four individuals. On the whole, these individuals attended fairly prestigious institutions. The average ranking of these schools was 20.7; 30% were graduates of “top ten” law schools.<sup>14</sup>

In general, these individuals also had strong academic technical training. Undergraduate majors could be identified for thirty-seven of the individuals. Of these, thirty-four had undergraduate degrees in a technical major, such as engineering, computer science or a scientific field. Thus, almost 80% of the identified masters had earned an undergraduate degree in a technical field. Fifteen special masters had graduate degrees in addition to their law degrees. Of these, four had LL.M.s, and eight had technical graduate degrees. The remaining graduate degrees were in other fields (e.g., applied economics). Thus, the special masters identified in the sample had strong technical as well as legal training.

### *B. Professional Expertise of Special Masters*

As might be expected, special masters in patent cases were primarily individuals who specialize in patent law. Twenty-five of the forty-four individuals specifically list patent law among their areas of specialization on their resumes and an additional eight list intellectual property among a number of fields in which they prac-

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13. For the individual who served as a special master in fifteen cases, all those cases were in the same district and had the same plaintiff suing a series of defendants, so in some sense the cases may reflect one assignment.

14. We used the 2007 *U.S. News and World Report* ranking of law schools. Although, obviously, these individuals graduated some time ago, a time series of rankings was not easy to construct. However, there has probably been little substantial movement in and out of the top of the rankings, so we do not believe there would be a major change with historical figures.

tice. Of these eight, six individuals listed a background in alternative dispute resolution in addition to intellectual property or patents. Seven of the forty-four individuals did not consider themselves as specializing in any field related to intellectual property, although two of them did consider themselves to be alternative dispute resolution specialists. As mentioned above, one special master was not a lawyer, though he had a technical background used to evaluate the value of patents.

### *C. Professional Experience of Special Masters*

On the whole, the individuals employed as special masters form a highly experienced group. In the sample, the average special master had been out of law school upwards of thirty years at the time that the he or she worked on was filed.<sup>15</sup> Eleven of the individuals are partners at large law firms, and two of them head the intellectual property department at their firm. Thirteen are partners at smaller firms that can be considered “patent boutiques.” Nine of the special masters are in independent practice, and four of the nine are retired from larger firms. Three were full-time professors.

In addition to their current employment, these individuals have other credentials demonstrating the type of experience that would be useful in the role of a special master: six are retired judges; twenty have published articles on patent law; six have taught Practising Law Institute courses in patent law; six clerked on the court of appeals for the Federal Circuit; and fifteen teach as adjuncts in universities in addition to their private practice.

Thus, special masters demonstrated a high level of training and expertise in patent law, as well as substantial professional experience.

## IV. What Did the Special Master Do in the Sample of Patent Cases?

To determine the actual area of responsibility of the special master, the docket report for each of the cases in the identified sample was examined to determine whether or not a special master was ever appointed, the content of the appointing order, and what the master actually did if he or she was appointed.

According to the dockets of the 116 cases in the sample, a special master was never appointed in twenty-seven of the cases. In six of these, a master was to be appointed, but the case settled or was transferred before the appointment could be made. In four cases, there was discussion of appointing a master, but one or more of the parties objected and none was ever appointed. In three cases, one or more of

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15. Several individuals did not list the date of their law school degree on their c.v.

the parties moved for the appointment of a master, but the motion was denied. There is no information on why a master was not appointed in the remaining fourteen cases.

In addition, there was one case in which a master was appointed but the case settled before he could complete the work. In three other cases, a master was appointed but there is no further record of what the master did. Thus, in a total of thirty-one out of the 116 cases in the special masters sample, either no special master was ever appointed or the special master was appointed but his or her work had no impact on the case.

Thus, our analysis of the actual work performed by the masters is based on eighty-five cases in which the master was actually appointed and the work was performed.

### *A. Issues Covered*

We examined the docket reports to determine what work was actually done by the special masters in the eighty-five cases where a master was appointed and where there is a record of performed work. It should be noted that this analysis focuses on what was actually done, rather than what was cited in the order of appointment or at the time of appointment. The orders of appointment were not available for all cases, so they could not serve as the basis for determining the actual assignment of the special masters. Thus, our evaluation is based on information provided in the case docket—for example, records of hearings presided over by the special master, and reports submitted, evaluated, and accepted.

Based on this information, the issues addressed by the special master in the eighty-five cases are recorded in Table 3.<sup>16</sup> The vast majority of special masters' work was on discovery issues or claim construction. In 40% of the cases, the special master worked on claim construction; in 32% of the cases, the master worked on issues related to discovery, such as evaluating whether evidence should be considered privileged. In 8%–12% of the cases, the special master worked on infringement or invalidity issues in the context of summary judgment motions. In a small number of cases, the master worked on issues such as sanctions against the parties, settlement negotiations, and fees and damages.

### *B. Functions Performed*

We examined the docket reports to determine, within the context of the issues covered, the precise power granted to the master and the function performed.

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16. The total in this table is more than eighty-five because it is not uncommon for a special master to be assigned work in more than one area.



Again, we focused on actual activities reported in the dockets rather than those cited in the original order of appointment. The results are given in Table 4.

The most common function performed by special masters was the writing of a report or recommendation. To a large extent, this was the result of the heavy use of masters in the claim construction and discovery process. In twenty-nine of the fifty-nine cases in which the masters provided reports, the reports made recommendations regarding claim construction. In twenty cases, special masters wrote reports making recommendations about how to handle discovery issues. In eleven cases, masters wrote reports or recommendations on summary judgment motions for infringement or invalidity. In one case, the report regarded the progress of settlement negotiations. The remaining reports made recommendations on miscellaneous issues.

Special masters presided over hearings for largely the same reasons: claim construction and discovery. In twenty-three cases, the special master presided over a Markman hearing on claim construction. In eight cases, the master presided over hearings related to discovery issues. Two cases used the master to preside over hearings on summary judgment motions for infringement and invalidity and another on a summary judgment motion regarding inventorship. In one case, the master presided over a settlement conference.

Special masters who managed scheduling worked exclusively on two issues: the briefing schedules for claim construction and the briefing schedules for discovery.

Finally, in eighteen cases the master was appointed to advise the court without reference to specific functions. However, it should be noted that fifteen of those were related cases in the same district with the same plaintiff (though multiple defendants), and the plaintiff used the same master to advise on unspecified “technical issues.” Thus, in the vast majority of cases, the role of the master was well defined.<sup>17</sup>

### *C. Conclusions on Issues and Activities*

Special masters are appointed in patent cases largely to assist the court with two issues: the discovery process and claim construction. Thus, the special masters are being used in areas where their technical skills and training will allow them to

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17. Although the orders of appointment were not available for all cases, we did compare the content of the available orders with the work actually performed. Only three of the fifty-six available orders omitted a function that the special master appeared to perform based on the docket. About 15% of the orders included broad charges to perform whatever other tasks later were found to be necessary. But the vast majority of orders outlined exactly the task or tasks observed in the docket. Thus, the orders of appointment seem to be used as an accurate and comprehensive description of the special master’s role in the case.

evaluate evidence, to determine how it should be collected, or to determine how patent claims should be construed. The functions performed tended to follow these themes, with most of the masters producing reports or recommendations on claim construction or discovery issues. When they presided over hearings, it was usually a Markman hearing. When they performed scheduling functions, it was usually for discovery or for the submission of claim construction briefs.

## V. Impact of Special Masters on Patent Cases

In assessing the impact of special masters on patent cases, several questions need to be answered. First, did the master help the court resolve the case more efficiently, making better use of the court's time and reducing the resources the parties expended to resolve their dispute? Second, did the court find the work of the special master to be useful? And finally, did the special master aid the court in producing more "accurate" decisions as measured by the reversal rate at the Court of Appeals for the Federal Circuit?

In presenting this analysis, we must mention one important caveat. While it is possible to compare the resources expended and the accuracy of outcomes of the special masters sample with our larger group of analyzed cases, it is impossible to completely assign causality. For example, if the cases in the special masters sample last longer than the average patent case, we cannot say that this is proof that the master had no positive impact. If the case was highly complicated, it might have had an even longer duration in the absence of the special master. And as we will demonstrate, there is evidence that special masters are utilized in cases that are already longstanding and complex at the time the special masters are appointed. At best, we can draw inferences based on certain information in the docket reports that suggest that the work of the special masters was useful.<sup>18</sup>

### *A. Time and Resources in Cases with Special Masters*

The cases in which special masters were employed were among the lengthiest observed among all patent cases. The average length of the cases in the special masters sample was 1,321 days; 50% of the cases were over 980 days in length. For comparison, in our study of the outcome and duration of patent cases filed in 1995, 1997, and 2000, we found that the average case lasted 444 days and that 50% of all cases terminated in less than 300 days.<sup>19</sup> Thus, both the average and median case

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18. The Federal Judicial Center's study was better able to attack these issues by surveying a sample of judges in cases where special masters were employed. See Willging et al., *supra* note 8, at 21. Such an exercise, while highly useful in addressing these issues, was beyond the scope of this study.

19. See Kesan & Ball, *supra* note 4, at 282.

length among cases in the special masters sample were three times the duration of cases we found in a sample of patent cases from three recent years.

The resolution of cases with special masters supports the conclusion that these are the most complicated, longest-running patent cases. Among the cases in the sample, thirty, or over 25% of the cases, were terminated through judgments rather than settlements. Of these, ten (9%) were the result of jury trials, six (5%) were the result of bench trials, and fourteen (13%) resulted from motions for summary judgment. For comparison, in our study of the 1995, 1997, and 2000 patent cases, cases that largely occurred during the same period as this study, just under 12% of all patent cases were resolved through judgments. Of these, 7.4% were resolved through judgments on motions for summary judgment, 3% were the result of jury verdicts, and 1% were the result of bench trials.<sup>20</sup> These results suggest that the cases employing special masters were much less likely to settle and much more likely to go to trial than the general patent case. Thus, the disputes in cases in which special masters were employed seem to involve disputes that the parties are willing to continue litigating and for which they are unable to find a negotiated solution.

Once again, we cannot say with any statistical certainty that the presence of a special master in a case reduced resource expenditures below what they would have been without a master. However, it appears that, in most cases, the special master was appointed after the parties realized that the case was highly complex and the issues difficult to resolve between the parties. On average, the cases in the special masters sample had already been ongoing for 1,100 days when the special masters were appointed; 50% of all cases in the sample had been ongoing for at least 475 days when the masters were appointed. Thus, over half of the patent cases had already lasted longer than the total duration of the average patent case when the master was appointed. This result suggests that at the time the master was appointed, the court and the parties had already realized that the case was a highly complicated one and that expert help was warranted.

### *B. Value of Special Master's Work to the Court*

To the extent that we were able to determine from the dockets, the court found the work of the special master to be useful. In twenty-two of the cases, the dockets state that the reports and recommendations of the special masters were adopted without change. In five cases, the recommendations were adopted with modifications. In only one case was the report rejected.<sup>21</sup> Thus, the dockets imply that from

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20. *Id.* at 273–74.

21. Of course, one or both of the parties may have disputed some or all of the findings of the master in pursuit of a favorable ruling.

the perspective of the judges presiding over the cases, the special masters fulfilled their job descriptions and produced work that was useful to the courts.

### *C. Appeals of Cases Involving Special Masters*

In an ongoing study,<sup>22</sup> we are exploring factors that lead to appeals in patent cases. Among other facts, we have found that approximately 1,700 appeals were filed in the 17,500 patent cases filed between 1995 and 2003. In other words, about 10% of all patent cases are appealed on some issue. In the special masters sample, appeals were filed in fifteen cases, or slightly less than 14%. Among the eighty-three cases in the sample in which special masters were actually appointed, eight cases were appealed. Thus, the appeal rate among cases with special masters is nearly identical to that of all patent cases as a whole.

The outcome of those appeals is also worth examining. The trial court's decision was at least partially reversed in one third of all appealed cases in the special masters sample. The same was true among cases where the master was actually appointed; trial court decisions in three of the eight appealed cases, or 38%, were at least partially reversed. This result, again, was nearly identical to that of the total population, where, among patent cases filed between 1995 and 2003, approximately 40% of all appeals resulted in at least a partial reversal of a trial court ruling.<sup>23</sup> Once again, the difference between the reversal rate in appeals in the special master's area of expertise and that for the general appeal in a patent case was not statistically significant given our sample.<sup>24</sup> However, we prefer to be cautious in interpreting this result, since the number of cases (eight) in the sub-sample of appealed cases with a special master may be too small to derive any meaningful conclusions. Moreover, it is even more difficult to link the outcomes on appeal to the work performed by the special masters. There were only three appealed cases in the special masters sample in which the issue appealed fell within the scope of the work of the special master. In two of those cases, the trial court's ruling was at least partially reversed on appeal. But it is impossible to tell from either the docket or the appellate opinion to what extent the work of the special master was overturned.

As noted previously, cases in which special masters are appointed tend to last longer than the average case, arguably because they are more complex. Thus, the appeal and reversal rates in complex (employing long duration—greater than 1,000 days—as a proxy for complex) patent cases might be a better comparison than the

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22. See Ball & Kesan, *supra* note 5.

23. That is, the difference between the proportions of the reversal rates was not statistically significant.

24. We could not reject the hypothesis that the rate of reversal is the same for the total population and the sub-sample of cases where the area of the special master's work was reviewed.

rates for the total population of all patent cases. In our ongoing work on appeals in patent cases,<sup>25</sup> we found that appeals were filed in approximately 20% of the patent cases with a duration of 1,000 days or more.<sup>26</sup> Thus, the appeal rate in cases with special masters was only half that of other long-duration (1,000 days or more) patent cases. The reversal rate as a percentage of appeals was the same for all long-duration cases as for those with special masters—approximately 40% of all appeals resulted in at least a partial reversal of the original ruling. Thus, appeals are less likely in cases with special masters than in complex cases generally, but once an appeal is filed, it is no more or less likely to lead to a reversal.

However, it is also possible to measure the probability that any ruling in a case will be overturned. Out of the 1,560 cases that lasted more than 1,000 days, 183 cases had appeals in which the trial court's ruling was ultimately reversed. Thus, the reversal rate in long-duration patent cases is 11.7%. However, out of the eighty-three cases with special masters, three had appeals resulting in reversals of the trial court's ruling. Thus, the reversal rate was 3.6% among the eighty-three cases in which a special master was appointed.<sup>27</sup> These results would suggest that the average case with a special master is both less likely to have a ruling appealed and less likely to have a ruling reversed than the "average" complex patent case.

Thus, to the extent that it is possible to evaluate the quality of the work of the special masters, it appears that the work produced is both useful and accurate. Recommendations of special masters, especially in the crucial area of claim construction, were almost universally accepted, and their reports were nearly always adopted by the courts. The appeal and reversal rate among cases with special masters is largely the same as in the general population. However, the appeal rate among cases with special masters is half that of other long-duration (i.e., complex) patent cases. Thus, a ruling in the average case with a special master is less likely to be reversed than a ruling in other complex patent cases. We conclude, solely based on the information in the case dockets, that the work of special masters in patent cases kept the appeal rate and the reversal rate within the normal range for all patent cases and may have reduced these rates in comparison to complex, long-duration patent cases.

Finally, given the high level of involvement of special masters in claim construction and the general acceptance of their recommendations, we examined whether these reports held up on appeal. Our study of appeals in patent cases<sup>28</sup> found that the district court's claim construction decision was reviewed on appeal

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25. See Ball & Kesan, *supra* note 5.

26. One thousand days is approximately the median duration for cases in which special masters were appointed.

27. The difference was significant at the 1% level.

28. Ball & Kesan, *supra* note 5.

in 1.4% of all patent cases filed between 1995 and 2005. Of these, about half of the appealed claim interpretations were found to be at least partially in error. Among complex (i.e., duration greater than 1,000 days) patent cases, the district court's claim construction decision was reviewed on appeal in 5% of the cases. In these cases, 54% of the appealed claim interpretations were at least partially reversed. Claim construction was reviewed on appeal in 2.9% of all the patent cases in which the special master was heavily involved in formulating that decision. Hence, with respect to claim construction, the appeal rate among patent cases involving a special master is lower than the appeal rate in complex patent cases (2.9% versus 5%). Our sample set is too small to meaningfully comment on the reversal rate with respect to claim construction in special master cases compared to other complex patent cases. Of the thirty-four cases in which special masters worked on claim construction, only once was that ruling reviewed on appeal, and in that case it was found to be partially in error.

## VI. Executive Summary/Conclusion

1. The individuals appointed as special masters are, on the whole, highly qualified with substantial legal experience and strong professional credentials. They are almost exclusively specialists in patent law.
2. The orders appointing special masters universally specify the scope of work of the master and usually describe how he or she will be compensated. However, the orders are less compliant with the other requirements of Federal Rule of Civil Procedure 53(b).
3. Special masters tend to be appointed in the most complex (i.e., long duration) of patent cases. These cases are the least likely to be resolved through a negotiated settlement and are among the most expensive and long-lived cases. Masters tend to be appointed after the case has already endured longer than the average case, suggesting that the court and parties have recognized the complexity of the issues at hand and seek expert help.
4. Special masters are most likely to be employed to oversee the discovery process or to conduct claim construction. They usually write a report recommending how to handle these issues. Sometimes they preside over the *Markman* hearing.
5. The reports and recommendations produced by the special masters are nearly always adopted by the court, usually with no modification.
6. The appeal rate among cases in which special masters were employed was comparable to that of the total population of patent cases, as was the reversal rate.

7. Since special masters are most often appointed in complex, long-duration patent cases, it is meaningful to compare the appeal rate and the reversal rate of special-master-appointed patent cases with other complex patent cases. The appeal rate among cases in which special masters were employed was half that of other complex patent cases. The reversal rate is also lower for patent cases with special masters when compared to the reversal rate for all complex patent cases.
8. The most common area in which special masters worked—claim construction—is less likely to be the subject of an appeal when compared to the appeal rate for claim construction in all complex patent cases.

## Appendix: Tables

Table 1: Filing Years of Patent Cases with Special Masters Terminated in 2005–2006

Year	Cases in which a master was contemplated	Cases in which a master was actually appointed	
		Number	Percentage
1988	1	1	1.15
1991	1	1	1.15
1993	1	1	1.15
1995	2	0	0.00
1997	4	3	3.45
1998	3	3	3.45
1999	7	7	8.05
2000	6	4	4.60
2001	11	8	9.20
2002	21	14	16.09
2003	35	28	32.18
2004	21	15	17.24
2005	3	2	2.30
<b>Total</b>	<b>116</b>	<b>85</b>	<b>100.00</b>



Table 2: Districts of Patent Cases with Special Masters Terminated in 2005–2006

District	Cases in which a master was contemplated	Master contemplated and actually appointed	
		Number	Percentage
D. Ariz.	3	1	1.18%
C.D. Cal. <sup>29</sup>	20	19	22.35%
E.D. Cal.	1	0	0.00%
N.D. Cal.	6	5	5.88%
S.D. Cal.	1	0	0.00%
D. Colo.	1	0	0.00%
D. Conn.	1	1	1.18%
D.D.C.	3	2	2.35%
D. Del.	10	8	9.41%
S.D. Fla.	2	1	1.18%
N.D. Ga.	12	10	11.76%
N.D. Ill.	4	2	2.35%
W.D. Ky.	1	1	1.18%
D. Mass.	4	2	2.35%
E.D. Mich.	7	7	8.24%
D.N.J.	1	1	1.18%
E.D.N.Y.	2	2	2.35%
N.D.N.Y.	1	0	0.00%
S.D.N.Y. <sup>30</sup>	4	3	3.53%
M.D.N.C.	1	0	0.00%
S.D. Ohio <sup>31</sup>	2	2	2.35%

*Continued on next page*

29. It should be noted that seventeen of these cases involved the same judge, plaintiff, and special master with the same duties but with different defendants.

30. One case terminated before the special master did anything.

31. Case dismissed before the special master did anything.

Table 2 (continued)

District	Cases in which a master was contemplated	Master contemplated and actually appointed	
		Number	Percentage
D. Or.	6	6	7.06%
W.D. Pa.	2	2	2.35%
M.D. Tenn.	1	1	1.18%
E.D. Tex.	5	2	2.35%
N.D. Tex.	5	2	2.35%
S.D. Tex.	3	0	0.00%
W.D. Tex.	1	1	1.18%
E.D. Va.	1	1	1.18%
E.D. Wash.	1	1	1.18%
W.D. Wash.	2	0	0.00%
S.D. W.Va.	1	1	1.18%
E.D. Wisc.	1	1	1.18%
<b>Total</b>	<b>116</b>	<b>85</b>	<b>100.00%</b>

Table 3: Issues Addressed by Special Masters in Patent Cases Terminated in 2005–2006

Issue	Number	Percentage of cases <sup>32</sup>
Discovery	27	35.53
Claim construction	34	40.96
Infringement	10	12.05
Invalidity	7	8.43
Enforceability/inequitable conduct	4	4.82
Trade secrets	1	1.20
Sanctions against parties	3	3.61
Fees and damages	2	2.41
Settlement negotiations	1	1.20
Inventorship	1	1.20
<b>Total</b>	<b>90</b>	

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32. As a percentage of the eighty-five cases where the work of the special master could be identified. This will sum to more than 100% since masters often worked on multiple issues.

Table 4: Functions Performed by Special Masters in Patent Cases Terminated in 2005–2006

Power	Number	Percentage of cases in which special master was authorized to perform this function <sup>33</sup>
Managed schedule	14	16.87
Wrote report/ recommendation	59	71.08
Drafted orders/ opinions	8	9.64
Evaluated motions	1	1.2
Conducted hearings	31	37.35
Evaluated and analyzed evidence	1	1.20
General advice	18	21.69

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33. As a percentage of the eighty-five cases where the work of the special master could be identified. This will sum to more than 100% since masters often worked on multiple issues.