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Christopher A. Cotropia,* Cecil D. Quillen, Jr.,** and Ogden H. Webster***

Introduction

Sitting at the heart of the United States patent system is the United States Patent and Trademark Office (“USPTO”). Accordingly, how well the USPTO does its job greatly impacts the health of the patent system. To measure this impact, many focus on the USPTO’s performance in two areas: (a) issuing “quality” patents—patents whose claims meet the standards for patent protection; and (b) issuing these quality patents in a timely and efficient manner.

This Article reports data and analyses to facilitate answering these questions. The reported data was obtained from two sources. The first is the Workload Tables from the USPTO annual reports, called the “USPTO Performance and Accountability Reports,” provided to the President, Congress, and public. The second is data received from the USPTO in response to Freedom of Information Act (“FOIA”) requests. From these two data sources, information such as the number of applications filed per year, the type of applications being filed and prosecuted, the pendency of these applications, and their disposition, including the number of them issued as patents, was obtained or determined. This Article is a continuation of the work of two of the authors

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** Research Fellow, Intellectual Property Institute, University of Richmond School of Law and former General Counsel of Eastman Kodak Company.
*** Former Assistant General Counsel of Eastman Kodak Company.


This Article presents data and analyses for the period from 1996 to 2012 in three parts—the number, types and disposition of patent applications being examined by the USPTO (the USPTO’s “input”); the number of applications allowed and patents issued by the USPTO (the USPTO’s “output”); and the number of pending applications and the average pendency for an application (the “difference” or commonly referred to as the USPTO’s “backlog”). Corresponding data and analyses for earlier periods can be found in the previously mentioned *Federal Circuit Bar Journal* articles.

I. USPTO’s Input – Applications Being Filed

Figure 1 reports the number of utility, plant, and reissue (“UPR”) patent applications filed for each year from 1996 to 2012. This data is calculated from the Summary of Patent Examining Activities from the Workload Tables of the Performance and Accountability Reports for 2012 and earlier years.5 Nearly identical values are reported in the FOIA Responses.6

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5 See infra tbl.1.

6 See infra tbl.2.
The number of applications filed increased by 179% from 1996 to 2012 (from 191,016 to 533,390 applications). Since 1996, the number of applications filed has decreased in only two years—from 2002 to 2003 (a negligible decrease from 333,688 to 333,452 applications) and 2008 to 2009 (a similarly negligible decrease from 468,669 to 460,924 applications).

Figure 2, below, shows the number of applications filed for a given year in three categories, Original Applications and Divisionals, Refiled Continuing Applications, and Total Applications filed. The FOIA information obtained from the USPTO enables the determination of whether the reported filed application is an Original Application—an application being filed with the USPTO for the first time. An application can also be identified as a divisional of a previously filed application. An application can also be what we define as a “Refiled Continuing Application” in that the filing is continuing from a previously filed application. These definitions were employed in the earlier studies published in The Federal Circuit Bar Journal. Refiled Continuing Applications include Continuations, File Wrapper Continuations (“FWCs”), Continued Prosecution Applications (“CPAs”), Requests for Continued

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7 See supra fig.1; infra tbl.1.
8 See id.
10 See M.P.E.P. § 201.06, at 200–21.
11 See Quillen IV, supra note 4, at 387 n.29 (“The term ‘Refiled Continuing Applications’ . . . refers to continuations, requests for continued examination, and continuations-in-part.”).
12 See Quillen II, supra note 4, at 52; Quillen IV, supra note 3, at 387–89.
Examination ("RCEs"), and Continuation-In-Part Applications ("CIPs").
Rule 129 filings are included in the count of Continuation applications.

Figure 2 provides a more complete picture of the continuing rise of applications. The number of Original and Divisionals Applications filed, a little over 300,000 in 2007, has remained essentially steady ever since. In contrast, the number of Refiled Continuing Applications filed per year has risen dramatically, jumping from 135,796 in 2007 to 229,998 in 2012, a 69% increase, and 480% from 1996 to 2012 (from 39,646 to 229,998).

The Refiled Continuing Applications line in Figure 2 is further broken down in Figure 3 below which reports the number of Continuations, RCEs, FWCs, CPAs, and CIPs in a given year from 1996 to 2012, as well as the total number of Refiled Continuing Applications for those years.

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13 See Quillen II, supra note 4, at 52.
14 Id.
15 See supra fig.2.
16 See id.
Looking more closely at the data in Figure 3, almost all of the increase in Refiled Continuing Applications until 2010 is attributable to RCEs, which first became available in 2000. Continuations increased from 7,570 to 59,819 over the seventeen year period shown. CIPs increased from 10,633 to 12,260 over this period. In contrast, RCEs (and their predecessor CPAs and FWCs) have increased from 16,427 FWCs in 1996 to 157,908 RCEs in 2012 (an increase of 861%). RCEs were essentially level after 2010, but the total number of Refiled Continuing Applications continued to grow because of the growth of Continuation Applications after 2009. For 2012, RCEs made up 69% of all Refiled Continuing Applications and 30% of all applications filed. Refiled Continuing Applications comprised 43% of all filed applications in 2012.

Another interesting comparison is of the ratio of FWCs or CPAs to all filed applications for a given year compared to the ratio of RCEs (the successor to CPAs and FWCs) to all filed applications for a given year. The result shows that RCEs make up a much larger percentage of applications filed than CPAs or FWCs ever did. For example, FWCs made up 90% of all applications filed in 1998 and CPAs made up 10% of all applications filed in 1999. In contrast, RCEs made up 30% of all applications filed in 2012. Even adding other continuing applications filed in 1999 to CPAs, such as Continuations

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17 See supra fig.3; infra tbl.2.
18 See id.
19 See id.
20 See id.
21 See infra tbl.3.
22 See id.
23 See id.
and CIPs, they still made up a smaller percentage of all applications (19%) compared to RCEs in recent years.\textsuperscript{24}

Figure 4 shows the composition of Application Disposals for 1996–2012. They have consistently grown since 1996, except for the 2003–2005 period, reaching 379,051 in 2012.\textsuperscript{25} However the growth in Application Disposals since 2009 has been entirely caused by Application Allowances that grew from 189,120 in 2009 to 281,609 in 2012, while Applications Abandoned Without Refiling fell from 136,542 in 2009 to 97,442 in 2012.\textsuperscript{26}

Figure 5 below shows the disposition of Abandoned Applications. The total number of Abandoned Applications peaked in 2010 and then declined slightly in 2011 and 2012.\textsuperscript{27} From 1996 to 2009 the number of Abandoned Applications that were Refiled and those that were Not Refiled closely tracked each other.\textsuperscript{28} But after 2009 the number Refiled applications continued to grow to above 150,000 in 2012 while the number that were Not Refiled declined to fewer than 100,000.\textsuperscript{29}

\textsuperscript{24} See id.
\textsuperscript{25} See id.
\textsuperscript{26} See infra tbls.1 & 2.
\textsuperscript{27} See infra fig.5; infra tbl.2.
\textsuperscript{28} See id.
\textsuperscript{29} See id.
II. USPTO Output – Applications Being Allowed and Patents Being Issued

Data regarding Application Allowances and Patent Issuance was obtained from the Workload Tables from USPTO’s Annual Performance Reports. Figure 6 below reports these data indicating both the number of applications allowed in a given year and the number of patents issued in a given year.

Since 1996, there have been two periods of notable increase in the number of patent applications allowed and patents issued. From 1996 through 2001,
the number of patents issued increased 62% (from 105,529 to 170,638 issued patents), and from 2008 to 2012, the number of patents issued increased 59% (from 156,540 to 248,305 issued patents).\(^{31}\) In contrast, from 2001 to 2008, the number of patents issued actually decreased by 8% (from 170,638 to 156,540 issued patents), and the number of applications allowed decreased from 166,868 to 162,872.\(^{32}\)

Figure 7 below reports Application Allowance Rates under various circumstances from 1996 to 2012. The Uncorrected UPR Allowance Rate and the UPR Allowance Rate Corrected for RCEs, CPAs, and FWCs correspond to Monthly Allowance Rates reported on the USPTO’s Data Visualization Center on the USPTO’s website.\(^{33}\) The Uncorrected UPR Allowance Rate also closely corresponds to the Grant Rate reported by the USPTO on the Five IP Offices website and the Trilateral Co-operation Website.\(^{34}\) The Allowance Rate Based on Net Disposals is calculated using data from the FOIA Response and represents the lower bound for USPTO Allowance Rates.\(^{35}\) The other two lines report UPR Allowance Rates corrected for RCEs, CPAs, FWCs, and Continuations, and for all Refiled Continuing Applications (including CIPs). Allowance Rates peaked in 2000, declined until 2009, and then turned up sharply, reaching 89% in 2012 when corrected for all Refiled Continuing Application.\(^{36}\)

\(^{31}\) See supra fig.6; infra tbl.1.

\(^{32}\) See id.


\(^{35}\) See FOIA Request, supra note 3 at 2.

\(^{36}\) See infra fig.7.
III. The Difference—the Backlog

Data from the USPTO’s annual reports and the FOIA requests provided insight into the difference between the input and output of the USPTO over time—otherwise referred to as the backlog. Figure 8 reports the number of applications pending in a given year and the number of those applications awaiting an action by the examiner as reported in the Workload Tables from the USPTO Performance and Accountability Reports.

Starting in 1997, the Total Applications Backlog begins to increase, with the percentage increase from 1997 to 2008 being 339% (from 275,295 to 1,208,076 applications). Since 2008 the backlog has remained essentially

57 See infra fig. 1; infra tbl. 1.
58 See id.
level, decreasing by about 4% (from 1,208,076 to 1,157,147 applications). The Backlog of Applications Awaiting Examination has dropped by 18% since 2008 (from 771,529 to 633,812).

The average length of pendency per application from the USPTO Workload Tables is reported in Figure 9. The average number of months per application as reported in the USPTO’s annual report is shown. The average pendency has increased from just over twenty months in 1996 to just over thirty-five months in 2010. Pendency, although, has recently started to go, with an average pendency of 32.4 months for 2012. Other pendency data is reported on the USPTO’s Data Visualization Center.

Conclusion

The data and analyses show a couple of things. The Total Backlog has remained essentially level since 2008, and the backlog of Applications Awaiting Examination has declined even though applications are increasing. However, a growing percentage of these “applications” are Refiled Continuing Applications taking another turn in examination in the USPTO. RCEs make up the greatest portion of these Refiled Continuing Applications with Continuations appearing to tick up only recently, perhaps to fill the void left by the leveling off of RCE filings, shown in Figure 3. Finally, we are experiencing a return to rising allowance rates of the late 1990s, which presumably is facilitating the drop in backlog at the USPTO.

The data above is provided for the reader to make his or her own conclusions as to the current state of USPTO performance as it affects the U.S. patent system. Our modest hope is that this information will bring awareness to the current state of play at the USPTO and in the U.S. patent system in general and help answer, empirically, questions surrounding the health of the U.S. patent system and the performance of the USPTO.

See id.
See id.
See supra fig.9; infra tbl.1.
See id.
See supra note 33.
| APPENDIX A |

## TABLE I - USPTO ANNUAL REPORT DATA

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PATENT APPLICATIONS AND THE PERFORMANCE OF THE USPTO
Table 2: USPTO FVHA Data

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APPENDIX B
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**TABLE 2: CALCULATIONS**

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**APPENDIX C**