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Patent Applications and the Performance of the U.S. Patent and Trademark Office

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.¹

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.² The second is data received from the USPTO in response to Freedom of Information Act (“FOIA”) requests.³ 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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¹ See, e.g., Paul H. Jehsen et. al., *Disharmony in International Patent Office Decisions*, 15 FED. CIR. B. J. 679 (2006); Bruce A. Kaser, *Patent Application Recycling*, 88 J. PAT. & TRADEMARK OFF. SOC’Y 427 (2006); OECD, PATENTS AND INNOVATION: TRENDS AND POLICY CHALLENGES 2004.

² USPTO Annual Reports and Performance and Accountability Reports for 1993–2012 are available from the USPTO website. See USPTO ANNUAL REPORTS (Dec. 31, 2012, 12:03 PM), available at www.uspto.gov/about/stratplan/ar/index.jsp (last visited July 4, 2013).

³ See Letter from Kathryn Siehndel, USPTO FOIA Officer, U.S. Patent & Trademark Office, to author Quillen dated December 18, 2012 and January 29, 2013 (referencing “Freedom of Information Act (FOIA) Request No. F-13-0043 and F-13-00069”) (on file with author) [hereinafter FOIA Request].

(Cecil Quillen and Ogden Webster) reporting on earlier versions of this data set and published in four previous articles in *The Federal Circuit Bar Journal* in 2001, 2002, 2006, and 2009.⁴

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.

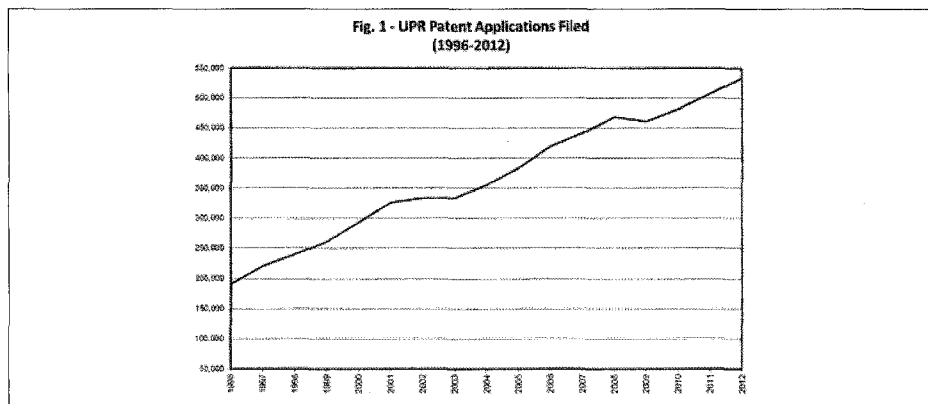
I. USPTO’s Input – Applications Being Filed

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

⁴ See Cecil D. Quillen, Jr. & Ogden H. Webster, *Continuing Patent Applications and Performance of the U.S. Patent and Trademark Office*, 11 Fed. Cir. B.J. 1 (2001) [hereinafter Quillen I]; Cecil D. Quillen, Jr. et al., *Continuing Patent Applications and Performance of the U.S. Patent and Trademark Office—Extended*, 12 Fed. Cir. B.J. 35 (2002) [hereinafter Quillen II]; Cecil D. Quillen, Jr. & Ogden H. Webster, *Continuing Patent Applications and Performance of the U.S. Patent and Trademark Office—Updated*, 15 Fed. Cir. B.J. 635 (2006) [hereinafter Quillen III]; Cecil D. Quillen, Jr. & Ogden H. Webster, *Continuing Patent Applications and Performance of the U.S. Patent and Trademark Office—One More Time*, 18 Fed. Cir. B.J. 379 (2009) [hereinafter Quillen IV]. See Quillen IV, at 380–83 and accompanying notes, for an overview of these previous Articles.

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).⁷ 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).⁸

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.⁹ An application can also be identified as a divisional of a previously filed application.¹⁰ An application can also be what we define as a “Refiled Continuing Application” in that the filing is continuing from a previously filed application.¹¹ These definitions were employed in the earlier studies published in *The Federal Circuit Bar Journal*.¹² Refiled Continuing Applications include Continuations, File Wrapper Continuations (“FWCs”), Continued Prosecution Applications (“CPAs”), Requests for Contined

⁷ See *supra* fig.1; *infra* tbl.1.

⁸ See *id.*

⁹ See U.S. PATENT & TRADEMARK OFFICE, U.S. DEP’T OF COMMERCE, MANUAL OF PATENT EXAMINING PROCEDURE § 201.04(a), at 200–14 (7th ed., 5th rev. 2006) [hereinafter M.P.E.P.] (defining “original application” as “an application which is not a reissue application. An original application may be a first filing or a continuing application.”).

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”).¹³ Rule 129 filings are included in the count of Continuation applications.¹⁴

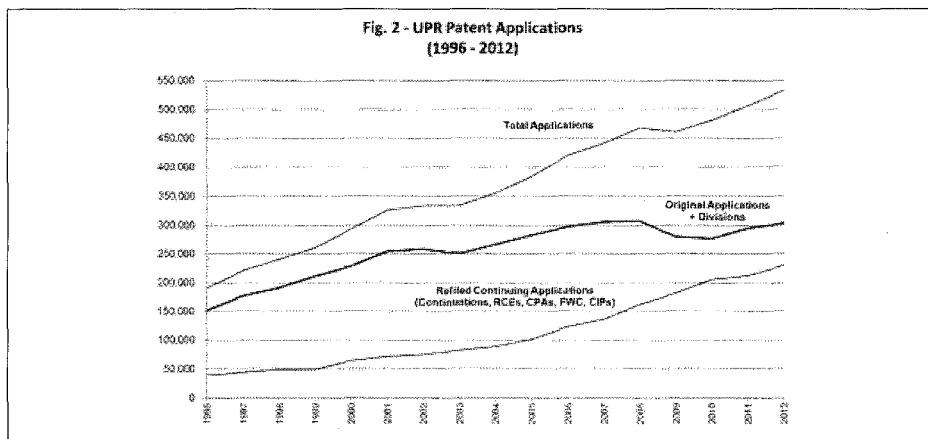


Figure 2 provides a more complete picture of the continuing rise of applications. The number of Original and Divisionals Applications filed, a little over 300,000 in 2007, has remained essentially steady ever since.¹⁵ In contrast, the number of Refiled Continuing Applications filed per year has risen 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).¹⁶

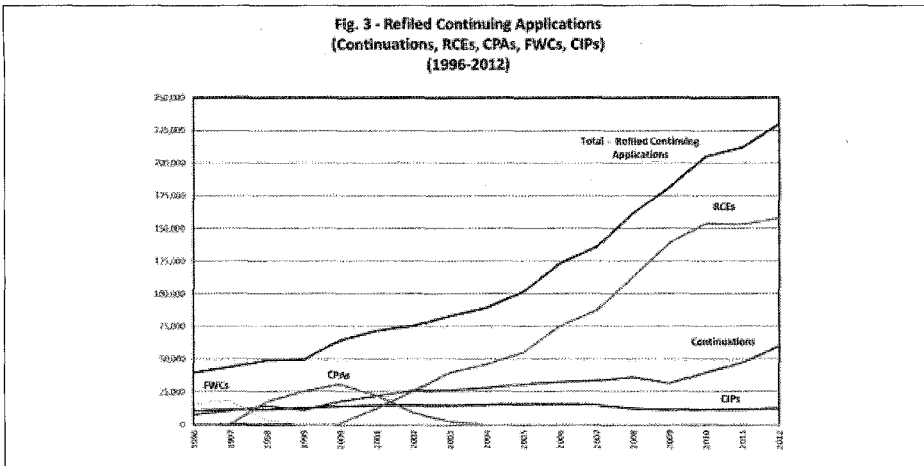
The Refiled Continuing Applications line in Figure 2 is further broken down in Figure 3 below which reports the number of Continuations, RCEs, FWCs, CPAs, and CIPs in a given year from 1996 to 2012, as well as the total number of Refiled Continuing Applications for those years.

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 2000.¹⁷ 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.¹⁸ 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%).¹⁹ 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 2009.²⁰ 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 2012.²¹

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.²² For example, FWCs made up 9% 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 2012.²³ Even adding other continuing applications filed in 1999 to CPAs, such as Continuations

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.²⁴

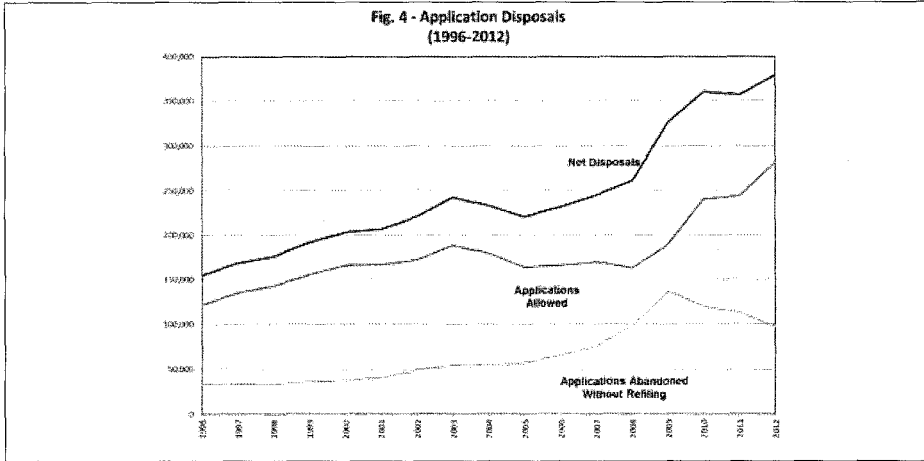


Figure 4 shows the composition of Application Disposals for 1996–2012. They have consistently grown since 1996, except for the 2003–2005 period, reaching 379,051 in 2012.²⁵ However the growth in Application Disposals since 2009 has been entirely caused by Application Allowances that grew from 189,120 in 2009 to 281,609 in 2012, while Applications Abandoned Without Refiling fell from 136,542 in 2009 to 97,442 in 2012.²⁶

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 2012.²⁷ From 1996 to 2009 the number of Abandoned Applications that were Refiled and those that were Not Refiled closely tracked each other.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 100,000.²⁹

²⁴ See *id.*

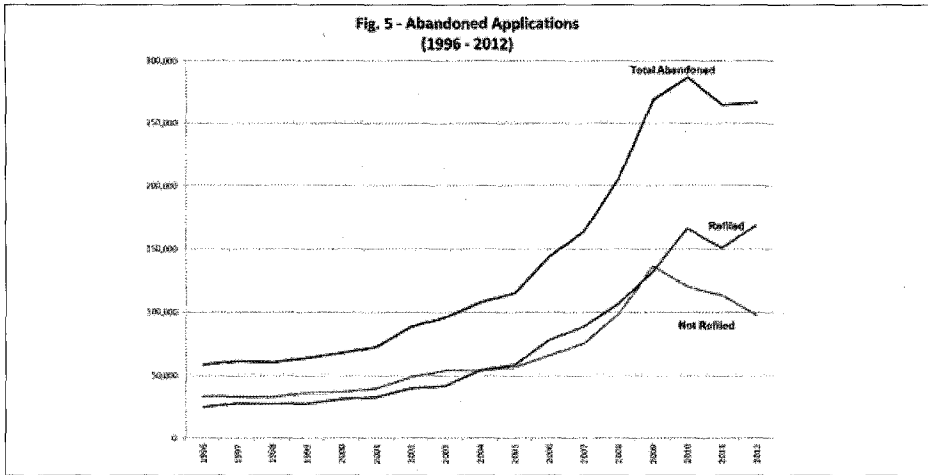
²⁵ See *id.*

²⁶ See *infra* tbls.1 & 2.

²⁷ See *infra* fig.5; *infra* tbl.2.

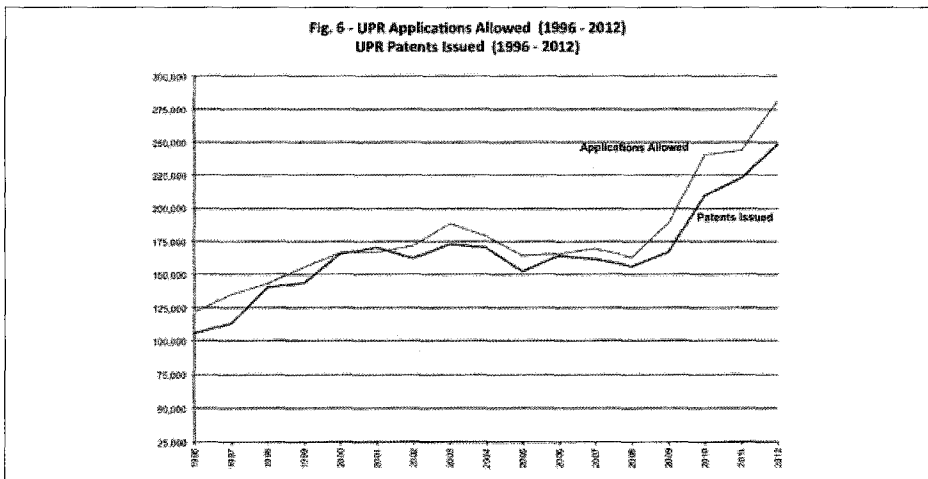
²⁸ See *id.*

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.³⁰ 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.

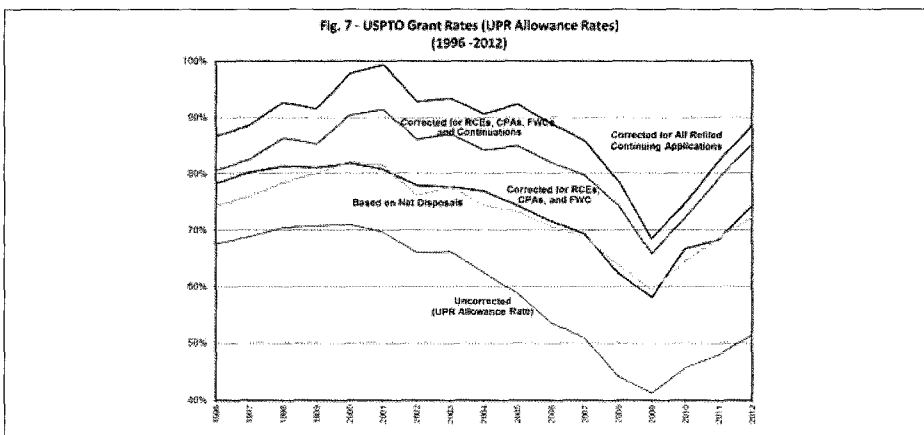


Since 1996, there have been two periods of notable increase in the number of patent applications allowed and patents issued. From 1996 through 2001,

³⁰ See *id.*

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.*

³³ See *Data Visualization Center*, USPTO, <http://www.uspto.gov/about/stratplan/dashboards.jsp> (April 5th, 2013, 11:59 AM).

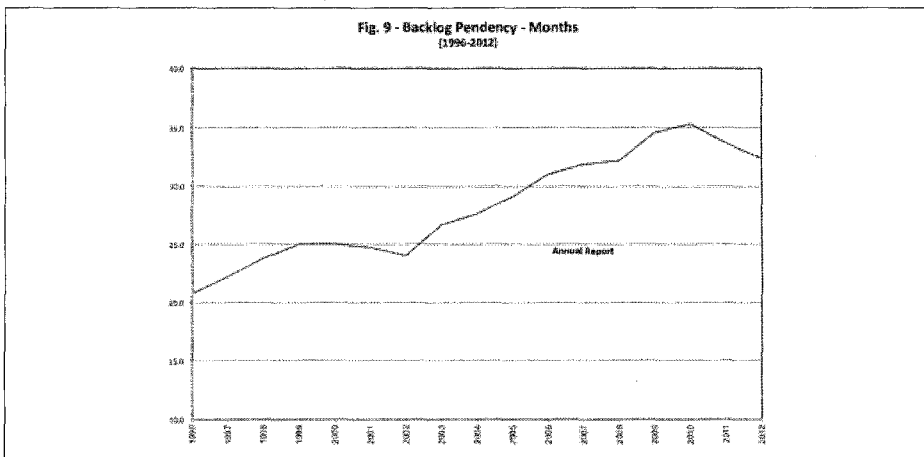
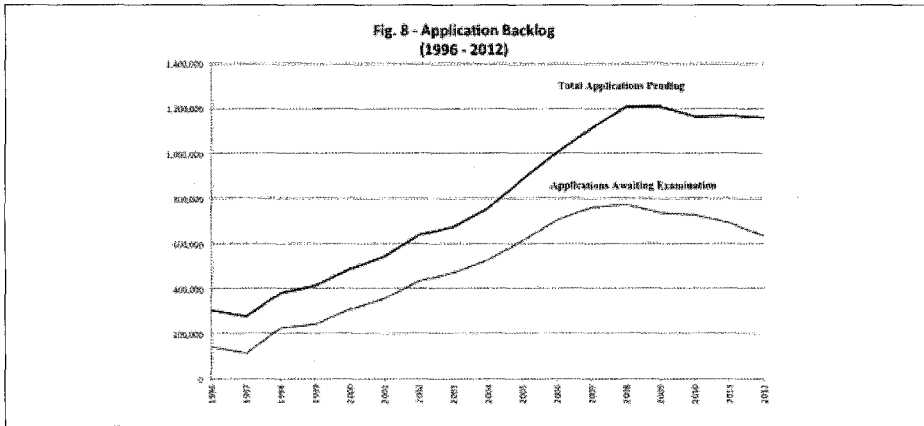
³⁴ See THE TRILATERAL CO-OPERATION, GRANTS BY IPC CODE, available at <http://www.trilateral.net/statistics/grants.html> (last visited July 4, 2013).

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.³⁷ 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).³⁸ Since 2008 the backlog has remained essentially

³⁷ See *infra* fig.1; *infra* tbl.1.

³⁸ See *id.*

level, decreasing by about 4% (from 1,208,076 to 1,157,147 applications).³⁹ The Backlog of Applications Awaiting Examination has dropped by 18% since 2008 (from 771,529 to 633,812).⁴⁰

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 2010.⁴¹ Pendency, although, has recently started to go, with an average pendency of 32.4 months for 2012.⁴² Other pendency data is reported on the USPTO's Data Visualization Center.⁴³

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.

³⁹ *See id.*

⁴⁰ *See id.*

⁴¹ *See supra* fig.9; *infra* tbl.1.

⁴² *See id.*

⁴³ *See supra* note 33.

APPENDIX A

TABLE 1. USPTO ANNUAL REPORT DATA

	1999	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
USPTO Applications Filed	191,116	220,773	240,070	261,041	250,244	320,064	331,089	332,432	335,527	304,229	419,700	461,037	494,009	470,404	471,493	526,924	533,293
USPTO Applications Allowed	121,634	132,246	143,046	155,366	156,539	166,698	171,814	186,263	178,349	164,092	192,823	183,783	182,822	189,130	240,432	244,897	281,609
USPTO Applications Abandoned	66,268	87,307	96,122	104,062	94,695	72,899	88,817	56,136	57,178	114,232	143,707	164,039	209,674	209,674	206,316	206,022	215,412
Revised USPTO Applicant Dispositions (Allowed + Abandoned) (Current)	190,922	199,007	207,147	219,402	214,256	279,434	260,331	234,459	237,177	279,325	309,609	333,812	304,506	407,697	436,776	409,049	466,053
USPTO Patents Issued	105,529	112,845	140,159	143,661	155,500	170,638	162,716	173,045	170,839	152,098	184,135	181,833	155,540	156,707	200,754	224,135	245,805
Applicants Public Use				25,394	109,129	243,007	248,093	281,221				303,184	325,901				
Total Applications (Including Rejected Grants)	303,726	375,205	378,456	444,307	455,170	520,077	548,530	574,591	556,504	655,002	1,029,864	1,112,817	1,246,078	1,207,264	1,452,785	1,459,908	1,657,417
Revised Grants (Current)	5,784	48,425	104,186	35,929	70,292	35,078	64,533	38,181	61,919	124,906	119,882	108,633	96,593	323	44,043	5,177	11,029
Total Average Funding (Annual) Report - Months	20.2	22.2	23.8	25.0	25.6	24.7	24.0	25.7	27.8	29.1	31.1	31.9	32.2	34.6	35.3	33.7	32.4
Net Average Budget/Candidate Month (Total App. Fees)/Average Fee	23.6	19.6	25.8	26.0	26.7	21.9	34.6	33.4	38.9	48.1	52.0	64.5	59.4	44.5	36.8	39.3	36.8

APPENDIX B

Table 2. USPTO FOIA DATA

1998	1097	1808	1930	3005	3003	3044	3004	3007	3006	3007	3006	3010	3013
2010	22077	24059	25104	25343	32691	33668	33462	33527	34123	33970	40137	40863	40193
USPT Applications Filed													
Continuation Applications													
Continuations													
Continued Prosecution Applications (CPAs)													
File Wrapper Contributions (FWCs)													
Rule 135 Contributions													
Combination Applications (Including RCE)													
Requests for Continued Examination (RCE)													
Second to Third Party Applications (STPA)													
Continuation-in-Part Applications (CIPAs)													
Refiled Continuation Applications (Calculated - Combinations + RCEs + CPAs + FWCs + CIPAs)													
Divisional Applications													
Divisional CPAs													
Total Divisional Applications (Calculated)													
Total Continuing Applications (Calculated)													
Applications Abandoned Without Refiling													
Continuing Applications Abandoned Without Refiling													
Total - Applications Abandoned Without Refiling													
Abandoned Applications That Were Refiled as % of Abandoned Applications													
Refiles per Continued Examination (RCE) as % of Total Abandoned (Calculated)													
Refiled Continuing Applications as % of Total Abandoned (Calculated)													
Patents													
USPT Patent Count (Total Issues)													
Patents Wherein Parent Patent Was Granted													
Original USPT Patents													
Percent Where Parent Was Patented (Calculated)													

