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- ★ *Egyptian Goddess*: Rebooting Design Patents and Resurrecting *Whitman Saddle*
- ★ Patent Law Through Patent Administration: The First Patent Superintendent's Creation of Reissue Practice and Law
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Continuing Patent Applications and Performance of the U.S. Patent and Trademark Office—One More Time

Cecil D. Quillen, Jr. and Ogden H. Webster*

Introduction

This Article is the fourth by the authors reporting the effect of continuing patent applications on performance of the United States Patent and Trademark Office (“USPTO”) and updates our earlier studies through the USPTO’s 2008 fiscal year (“FY”) and through 2007 for the European and Japanese Patent Offices (“EPO” and “JPO,” respectively).¹

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¹ The studies reported in this Article utilize data for the USPTO’s fiscal years 1980–2008 provided by the USPTO in its December 10, 2008 response to Freedom of Information Act (“FOIA”) Request No. F-09-00073, USPTO Annual Report data for 1973–2008, data for 1963–1972 from the U.S. Patent Statistics Report for Calendar Years 1963–2007, data from the Trilateral Statistical Reports for 1996–2007, and data for 1980 and later from the annual reports available on the websites of the EPO and the JPO. *See* Letter from Robert Fawcett, USPTO FOIA Officer, U.S. Patent & Trademark Office, to author (Dec. 10, 2008) (referencing “Freedom of Information Act (FOIA) Request No. F-09-00073”) (on file with author) [hereinafter FOIA Request]; USPTO Annual Reports, <http://www.uspto.gov/web/offices/com/annual/> (last visited Mar. 7, 2009); ELEC. INFO. PRODS. DIV., U.S. PATENT & TRADEMARK OFFICE, U.S. PATENT STATISTICS, CALENDAR YEARS 1963–2008 (2008), *available at* http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.pdf; The Website of the Trilateral Co-operation: Statistics, <http://www.trilateral.net/tsr> (last visited Mar. 7, 2009) [hereinafter Trilateral Statistics Website]. USPTO Annual Reports for 1993–2008 and the U.S. Patent Statistics Report are available from the USPTO website. USPTO Annual Report data for earlier years (1973–1992) was provided to the authors by the USPTO pursuant to earlier

The first of our Articles, published in this journal in August 2001,² determined and reported the number of Original Applications³ filed at the USPTO during FYs 1993–1998, and determined and reported Allowance Percentages⁴ and Grant Rates⁵ for the USPTO for those years. We based these determinations on unpublished data for those years provided by the USPTO pursuant to an information request it treated as a Freedom of Information Act (“FOIA”) request, in conjunction with USPTO Annual Report data for the same years.⁶

Freedom of Information Act requests. The U.S. Patent Statistics Report is on a calendar year basis, not a fiscal year basis, and reissue applications are not included.

² See generally 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).

³ See Quillen & Webster, *supra* note 2, at 1–21. The term “Original Application,” as used in this Article, means a United States patent application that does not claim benefit of the filing date of an earlier filed non-provisional United States patent application. This differs from the USPTO definition, which according to the Manual of Patent Examining Procedure refers “to an application which is not a reissue application. An original application may be a first filing or a continuing application.” 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.]. Continuing applications claim benefit of the filing date of an earlier filed co-pending non-provisional application and comprise continuation and continuation-in-part (“CIP”) applications filed pursuant to 35 U.S.C. § 120 (2006), divisional applications filed pursuant to 35 U.S.C. § 121, and requests for continued examination (“RCEs”) filed pursuant to 35 U.S.C. § 132.

⁴ Quillen & Webster, *supra* note 2, at 9–12. “Allowance Percentage,” as used in this Article, means the number of applications allowed divided by the number of Original Applications, and “Patent Percentage” means the number of patents granted divided by the number of Original Applications. In some of our calculations divisional and CIP applications were treated as if they were Original Applications. For our “refined” calculations, we assumed a two-year prosecution lag for the USPTO, i.e., the number of allowed applications (or issued patents) in a given year was divided by the number of Original Applications (or Original plus divisional applications) filed two years earlier.

⁵ Quillen & Webster, *supra* note 2, at 12–13. “Grant Rate,” as used in this Article, is defined by the Trilateral Co-operation as “the number of applications that were granted during the reporting period, divided by the number of disposals in the reporting period (applications granted plus those abandoned or refused).” TRILATERAL CO-OPERATION, TRILATERAL STATISTICAL REPORT: 2003 EDITION 50 (2003), available at <http://www.trilateral.net/statistics/tsr/2003/TSR.pdf>. The Grant Rate for the USPTO reported on the Trilateral Website is not corrected for continuing applications. The term “patent allowance rate” as used by the USPTO is the same as the uncorrected USPTO Grant Rate reported in the Trilateral Statistical Report. See *id.*

⁶ See Quillen & Webster, *supra* note 2, at 7 n.33. This first Article is, so far as the authors know, the first attempt by anyone to estimate the impact of continuing applications on

We published the second of our Articles in the Federal Circuit Bar Journal in August 2002.⁷ We undertook that article because we had observed that a number of previously published studies of patent-related statistics had found and reported major discontinuities in such statistics that coincided with the advent of the United States Court of Appeals for the Federal Circuit (“Federal Circuit”), and attributed those discontinuities to the Federal Circuit, and our curiosity as to whether there were changes in examination rigor at the USPTO following establishment of the Federal Circuit in 1982, and whether such changes, if any, could be attributed to the lowered and less certain standards for patentability promulgated by the Federal Circuit.⁸ To that end, we sought continuing applications data from the USPTO, like that provided for our first Article, but substantially predating the advent of the Federal Circuit in

performance of the USPTO. We found that continuing applications, i.e., applications that claimed the priority of an earlier filed copending nonprovisional application, comprised 28.4% of applications filed in 1993–1998. *Id.* at 16. Allowance Percentages, depending on the assumption as to the disposition of parent applications and the presence or absence of an assumed two-year prosecution lag, ranged from a low of 69% to a high of 95%. *Id.* at 17–18. The Allowance Percentage was 86% when divisional applications were treated as original applications and a two-year prosecution lag was assumed. *Id.* at 17. Grant Rates for 1993–1998, corrected for continuing applications, ranged from a low of 80% to a high of 97%, depending on the correction assumption as to the disposition of parent applications. *Id.* at 21. When corrected only for continuation and continuation-in-part applications (i.e., treating divisional applications as Original Applications) the Grant Rate was 87%. *Id.* The uncorrected Grant Rate (patent allowance rate) was 66%. *Id.* In all cases, Allowance Percentages and Grant Rates for the USPTO, corrected for continuing applications, were higher than the uncorrected values, and higher than corresponding values for the EPO, the JPO, and the 1977 cohort of applications at the German Patent Office (“GPO”), suggesting higher standards for patentability (greater examination rigor) at the EPO, JPO, and GPO than at the USPTO. *Id.* at 16–21. Results are summarized in Table 7 of the Article. *Id.* at 21 tbl.7.

⁷ 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). This second Article was based on responses to Freedom of Information Act Request Nos. 01-183, 01-291, and 01-327 in conjunction with appropriate USPTO Annual Report data. See footnote thirteen of the Article for our acknowledgment of the work by Messrs. Fawcett and Brown of the USPTO for finding and forwarding the data on which our second study was based. *Id.* at 37 n.13.

⁸ For a discussion of the lowered and less certain standards for patentability promulgated by the Federal Circuit see, Cecil D. Quillen, Jr., *Proposal for the Simplification and Reform of the United States Patent System*, 21 AIPLA Q.J. 189 (1993) and Cecil D. Quillen, Jr., *Innovation and the U.S. Patent System*, 1 VA. L. & BUS. REV. 207 (2006), and numerous of the references cited therein. Also see Cecil D. Quillen, Jr., Testimony at the Public Hearing on the Standard of Nonobviousness at the United States Patent and Trademark Office (July 20, 1994). All are available at the Research on Innovation website at <http://www.researchoninnovation.org/quillen/quillen.htm>.

1982. The USPTO was only able to provide us with such data for its FYs 1980–2000. Data for earlier years were not available.⁹

Our third Article, published in the Federal Circuit Bar Journal in May 2006, updated our earlier studies through the USPTO's FY 2005.¹⁰ In that

⁹ We found and reported that the number of patent applications, the number of application allowances, the number of patent issuances, and the number and share of continuing patent applications all increased sharply following the advent of the Federal Circuit in October 1982 (the beginning of the USPTO's 1983 fiscal year). See Quillen et al., *supra* note 7, at 37–39. Applications increased from 97,448 in FY 1983 to 293,244 in FY 2000, a 201% increase, and patent issuances increased from 55,314 in FY 1983 to 165,504 in FY 2000, a 199% increase. *Id.* at 3 figs. 1 & 2. Continuing applications increased by 425% (15,425 in FY 1983, 80,957 in FY 2000) and comprised 28% of applications filed in FY 2000 as contrasted with 16% in FY 1983. See *id.* at 40–41. Allowance Percentages and Grant Rates at the USPTO, corrected for continuing applications, rose rapidly following the advent of the Federal Circuit until about 1987–1990, and thereafter continued at higher values through FY 2000, the last USPTO fiscal year for which we had data. *Id.* at 45, 47. Allowance Percentages and Grant Rates at the USPTO, corrected for continuing applications, were substantially higher than Allowance Percentages and Grant Rates for the EPO and JPO (and substantially higher than the uncorrected Allowance Percentages and Grant Rates for the USPTO). *Id.* Grant Rates for the USPTO reported on the Trilateral Website continued to be uncorrected for continuing applications. See *id.* Although it was clear that examination rigor at the USPTO had declined (*i.e.*, Allowance Percentages and Grant Rates had increased) following the advent of the Federal Circuit, it was not possible to determine the extent to which this decline was a result of the USPTO's application of the lowered and less certain standards for patentability promulgated by the Federal Circuit or the increase in continuing applications in the years following formation of the Federal Circuit and the consequent ability of patent applicants to avoid final decisions as to the patentability of their applications by filing such continuing applications.

¹⁰ Cecil D. Quillen, Jr. & Ogden H. Webster, *Continuing Patent Applications and the U.S. Patent and Trademark Office – Updated*, 15 FED. CIR. B.J. 635 (2006). We found that application filings, application allowances, patent issuances, and the number and share of continuing patent applications continued to increase since FY 2000. *Id.* at 654–57. The number of continuing applications increased from 79,550 in FY 2000 to 119,659 in FY 2005, a 50% increase (a 676% increase since FY 1983), and the proportion of continuing applications increased from 27% in FY 2000 to 31% in FY 2005 (18% in FY 1983). *Id.* at 655. The proportion of divisional applications was steady at about 5–6% except for the FY 1995 spike from filings in advance of the effective date of the twenty year from first filing patent term. *Id.* Patent Percentages (and Allowance Percentages) were calculated for the USPTO and Patent Percentages were calculated for the EPO and JPO on the various assumptions specified in the Article. *Id.* at 656–57. The calculations were detailed in Table 3, *id.* at 672, of the Article and comparative Patent Percentages for 1985–2005 were depicted in Figure 5. *Id.* at 657. Grant Rates for the USPTO were calculated based on the various correction assumptions specified in the Article and compared to Grant Rates reported for the EPO and JPO (and the USPTO) on the Trilateral Website. *Id.* at 658–59. The USPTO

Article, we discussed and commented on articles that others published after our second Article, including a study by Jensen, Palangkaraya, and Webster, that the Federal Circuit Bar Journal published contemporaneously in the May 2006 issue.¹¹ Our third Article, as published, contained two data entry errors in Table 1. Fortunately, the errors were minor, their effect on the reported calculations was insignificant, and the conclusions of the Article were unaffected.¹²

Grant Rates reported on the Trilateral Website continued to be uncorrected for continuing applications. The FOIA data on which this Article was based also included information for fiscal years 1981–2005 as to the number of patent applications abandoned without a re-filing, which enabled the calculation of a new corrected Grant Rate that did not depend on an assumption as to the disposition of the parent applications and thus constituted a true lower bound Grant Rate. Such data were not previously available to us and knowledge of their existence was not available until publication in April 2003 of the USPTO Article by Clarke, which did not utilize these data for the calculation of Grant Rates, however. Robert A. Clarke, *U.S. Continuity Law and its Impact on the Comparative Patenting Rates of the US, Japan and the European Patent Office*, 85 J. PAT. & TRADEMARK OFF. SOC'Y 335 (2003). These data for 1981–1982 apparently were later found by the USPTO to be in error as they were omitted from the December 10, 2008 FOIA response on which our current Article is based. The general conclusions of our study were that Patent Percentages (and Allowance Percentages) and Grant Rates for the USPTO remained at or above the higher levels they had reached in 1987–1990 (i.e., between about 70% and about 85-90%) except for declines that commenced in 2001–2002. The USPTO Patent Percentage in FY 2005 (three year composite, two year prosecution lag), treating divisional applications as Original Applications, was 65%. The 2005 Allowance Percentage on the same basis was 70%. Except for a spike in JPO Patent Percentages between 1986 and 1989, USPTO Patent Percentages were above those of the EPO and JPO throughout the 1985 (1986 for the EPO) 2005 period. USPTO Grant Rates, corrected for continuing applications, were substantially higher than Grant Rates for the EPO and JPO (and uncorrected Grant Rates for the USPTO) throughout the 1995–2003 period for which Trilateral Website data were available. The FY 2005 USPTO lower bound Grant Rate, calculated using the number of applications abandoned in 2005 that were not refiled, was 78%.

¹¹ Paul H. Jensen et al., *Disharmony in International Patent Office Decisions*, 15 FED. CIR. B.J. 679 (2006).

¹² The data entry errors were brought to our attention by Dr. Ron Katznelson and noted by us in a letter to the editor of the Federal Circuit Bar Journal. A copy of the Article with corrections is available from the Research on Innovation website. Cecil D. Quillen & Ogden H. Webster, *Continuing Patent Applications and the U.S. Patent and Trademark Office – Updated*, 15 FED. CIR. B.J. 635 (2006) (on file with author), available at <http://www.researchoninnovation.org/quillen/quillencbj06.pdf>.

I. Our Current Study

Our current study, as previously noted, updates our earlier studies through the USPTO's FY 2008 and through 2007 for the EPO and JPO. We have calculated updated Patent Percentages, as defined in our third Article, for the USPTO for the 1995–2007, 1983–2007, and 1983–2008 periods. We have also calculated updated Patent Percentages for the EPO and JPO for the 1995–2007 and 1983–2007 periods,¹³ and compared those results with those for the USPTO for the corresponding periods.¹⁴ We calculated corrected Grant Rates for the USPTO for the 1983–2008 and 1995–2007 periods and compared those Grant Rates to uncorrected Grant Rates for the USPTO for the same periods and, for the 1995–2007 period, to Grant Rates for the USPTO, EPO, and JPO, as reported on the Trilateral Website.¹⁵

The FOIA response also included data for the 1983–2008 period as to the number of abandoned applications for which there were no refiled applications.¹⁶ These data enabled us to calculate for 1983–2008 the number of Net Disposals,¹⁷ which in turn enabled the calculation of corrected Grant Rates for the USPTO for those years that did not require any assumptions as to the disposition of parent applications, i.e., true lower bound Grant Rates.¹⁸ They also enabled the calculation of the number of refiled applications for those years as a percentage of the number of abandoned applications, and an estimate of the time, on average, required for the USPTO to dispose of its then current backlog.¹⁹

Figure 1, below, shows application filings in the USPTO from 1963 through FY 2008.²⁰ The data depicted in this Figure are set forth in Table 1. The sharp

¹³ 2008 data for the EPO and JPO are not yet available through the Trilateral Website.

¹⁴ See Quillen & Webster, *supra* note 10, at 657–58.

¹⁵ See THE TRILATERAL CO-OPERATION, TRILATERAL STATISTICAL REPORT: 2007 EDITION 47 (2007), available at <http://www.trilateral.net/statistics/tsr/2007/TSR.pdf>.

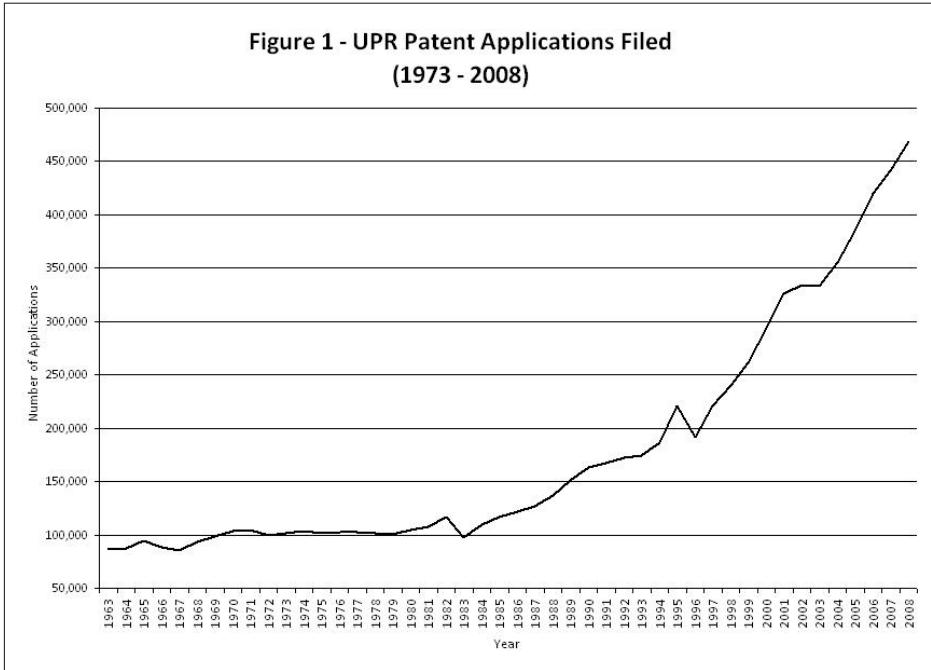
¹⁶ The USPTO Article by Clarke was, as noted, the first disclosure by the USPTO of the existence and availability of these data. See Clarke, *supra* note 10. That Article was among those discussed in our third Article. See Quillen & Webster, *supra* note 10, at 643–48. The USPTO/Clarke Article, however, did not calculate Grant Rates for the USPTO, including Grant Rates utilizing these data.

¹⁷ The number of Net Disposals for any fiscal year is the sum of the number of applications abandoned in that year with no refile and the number of applications allowed in that year.

¹⁸ See *infra* tbl. 5.

¹⁹ See *infra* tbls.1 & 2.

²⁰ Figure 1 in this Article corresponds to Figure 1 in our second Article and to Figure 1 in our third Article. See *infra* fig.1; Quillen et al., *supra* note 7, at 39 fig.1; Quillen & Webster, *supra* note 10, at 655 fig.1.



increase in application filings that followed the advent of the Federal Circuit in October 1982, the beginning of the USPTO's 1983 fiscal year, is apparent.

Application filings were essentially steady at about 100,000 applications per year through FY 1983, which was the USPTO's first fiscal year following creation of the Federal Circuit.²¹ Thereafter, application filings grew sharply, reaching 468,551 in FY 2008 as reported in the USPTO Annual Report (468,669 in the FOIA data), an increase of about 380% over the number of such filings in FY 1983 (97,448 in both the Annual Report and the FOIA data).²²

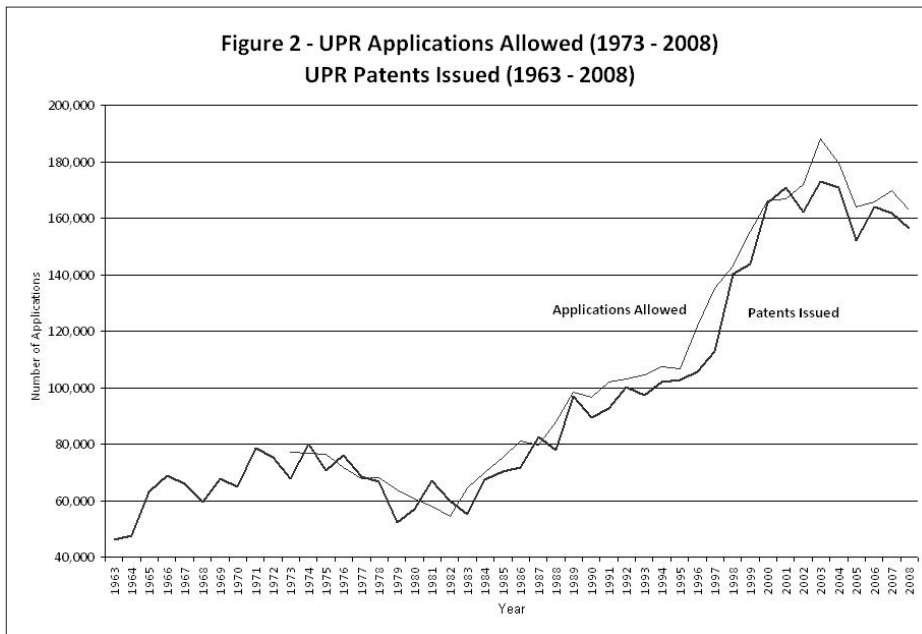
Figure 2 shows patent issuances from 1963 through FY 2008 and application allowances from FY 1973 through FY 2008.²³ The underlying data are also in Table 1. Patent Issuances for 1981–2008 are in Table 2 as well. Issuances and allowances peaked at about 80,000 per year in FY 1974 and thereafter declined to about 60,000 per year until the establishment of the Federal Circuit in 1982.²⁴ Following the advent of the Federal Circuit in 1982, issuances and allowances rose sharply until about 2003, and then appear to have

²¹ See *supra* fig.1; *infra* tbl.1.

²² See *id.*

²³ Figure 2 in this Article corresponds to Figure 2 in our second Article and to Figure 2 in our third Article. See *infra* fig.2; Quillen et al., *supra* note 7, at 40 fig.2; Quillen & Webster, *supra* note 10, at 656 fig.2.

²⁴ See *infra* fig.2.



stabilized at about 160,000 per year.²⁵ For example, patent issuances reached 173,065 in FY 2003, an increase of about 213% over FY 1983 (55,314), and declined to 156,540 in FY 2008 (which is still an increase of about 183% over FY 1983).²⁶

In a soon to be published study, Professor F. M. Scherer of Harvard's Kennedy School of Government found that creation of the Federal Circuit in 1982, and the sharp increase in patenting that followed, did not result in a change in the growth rate of United States Company-Financed R&D Expenditures. The study also found that the growth rate of such expenditures in the 1983–2000 period (after creation of the Federal Circuit) was “insignificantly different” from the growth rate in the 1956–1982 period (before creation of the Federal Circuit).²⁷ This is apparent from Figure 2 of Professor Scherer's paper, reproduced below.

Thus, the advent of the Federal Circuit and the sharp increase in patenting that followed its creation, as shown in our Figures 1 and 2, had no beneficial impact on the growth rate of United States company R&D expenditures as shown by Professor Scherer.²⁸

²⁵ *See id.*

²⁶ *See id.*

²⁷ Frederic M. Scherer, *The Political Economy of Patent Policy Reform in the United States* 29–30 (Harvard Univ. John F. Kennedy Sch. Gov't Faculty Research Working Paper Series, Working Paper No. RWP07-042, 2007), available at <http://ssrn.com/abstract=963136>.

²⁸ *See id.* The Federal Circuit, however, was beneficial for intellectual property attorneys in the United States. The number of members of the ABA Patents, Trademarks, and Copyright

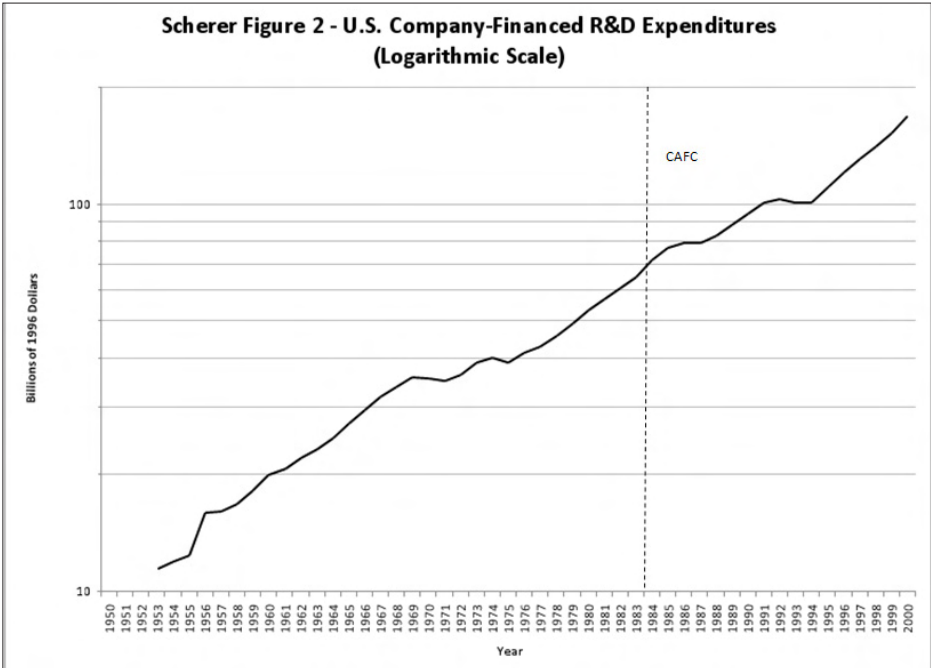
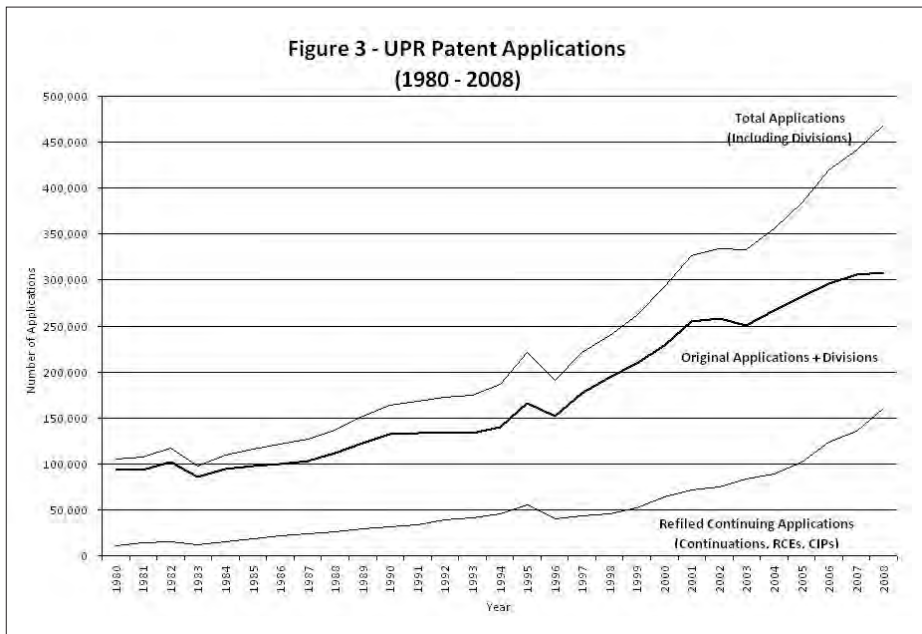


Figure 3 shows the total number of Utility, Plant, and Reissue (UPR) applications, the number of Refiled Continuing Applications,²⁹ and the number of Original Applications plus divisional applications for 1980–2008.³⁰ The underlying data are in Tables 1, 2, and 3. The total number of applications, as previously noted, increased from 97,448 in FY 1983 to 468,551 in FY 2008

Section (now the Intellectual Property Law Section) increased to such an extent that the ratio of such attorneys to overall R&D expenditures in the United States increased from about 50 such attorneys per billion dollars of overall R&D expenditures in 1983 to about 75 in 1997. See John H. Barton, *Reforming the Patent System*, 287 SCI. 1933, 1933 fig.1 (2000).

²⁹ The term “Refiled Continuing Applications” in this Article refers to continuations, requests for continued examination, and continuations-in-part. We did not strictly adhere to this usage in our earlier Articles. By refiling their applications as Refiled Continuing Applications, patent applicants can avoid final decisions as to the patentability of their applications, leaving the USPTO in the position of being unable to obtain final decisions as to the patentability of applications it has examined. The USPTO can rid itself of persistent applicants only by allowing their applications, which may account, to some extent, for the increases in Allowance Percentages, Patent Percentages, and Grant Rates as the number of Refiled Continuing Applications has increased. Moreover, since the parent applications have already been examined by the USPTO, Refiled Continuing Applications represent rework imposed on the USPTO.

³⁰ Figure 3 corresponds to Figure 3 in our second Article and to Figure 3 in our third Article. See *infra* fig.3; Quillen et al., *supra* note 7, at 41 fig.3; Quillen & Webster, *supra* note 10, at 656 fig.3.



(according to USPTO Annual Report Data as shown in Table 1, but 468,669 according to USPTO FOIA data as shown in Table 2), a 381% increase.³¹ Refiled Continuing Applications (continuations, requests for continued examination (“RCEs”), and continuations-in-part (“CIPs”)) increased from 11,905 in FY 1983 to 160,728 in FY 2008, a 1,250% increase.³² Original

³¹ See *infra* tbls.1 & 2.

³² Examiner performance is measured by “counts,” one “count” for the first office action in an application (or the first office action following a request for continued examination) and another “count” when the application is disposed of by allowance, abandonment (or the filing of an RCE), or the filing of an examiner’s answer in an appeal. See NAT’L ACAD. OF PUB. ADMIN., U.S. PATENT AND TRADEMARK OFFICE: TRANSFORMING TO MEET THE CHALLENGES OF THE 21ST CENTURY 99 (2005). Thus an examiner who induces the filing of a continuing application (including an RCE) is assured three “counts,” one when the application under examination is patented, abandoned (or an RCE is filed), or an examiner’s answer is filed in an appeal, one for the first office action in the newly filed continuing application (or the office action following the filing of the RCE), and one when that application is itself patented, abandoned (or another RCE filed), or an examiner’s answer is filed in an appeal. One patent examiner has said:

Abandonments (both final abandonments and abandonments as part of an RCE) are essentially free “counts.” Allowances usually take a minimal amount of time to write up. The first actions of RCEs should take no more time than any other amendment, but I get the bonus of a count for it. First actions of continuations, while of course requiring a search, don’t require as much time to do because I am already familiar with the invention, and have already performed a search on the disclosed invention.

and divisional applications grew from 85,543 in FY 1983 to 307,941 in FY 2008, a 260% increase.³³

Figure 4 shows the growth of Refiled Continuing Applications from FY 1980 through FY 2008. They grew from 10,721 in 1980—with 11,905 in 1983, the USPTO's first fiscal year following the advent of the Federal Circuit in 1982—to 160,728 in FY 2008, a 1399% increase since 1980 (and a 1250% increase since 1983).³⁴

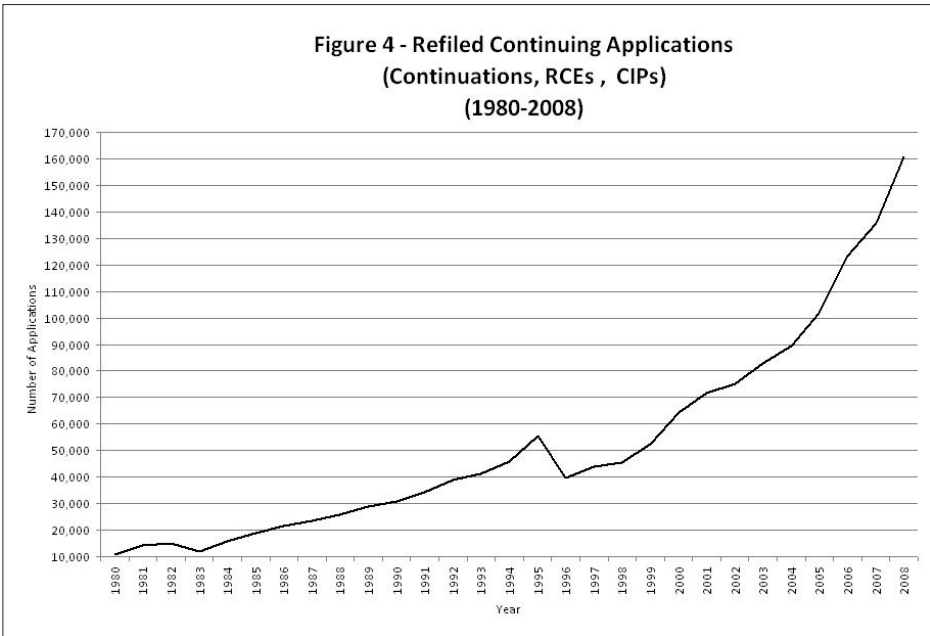


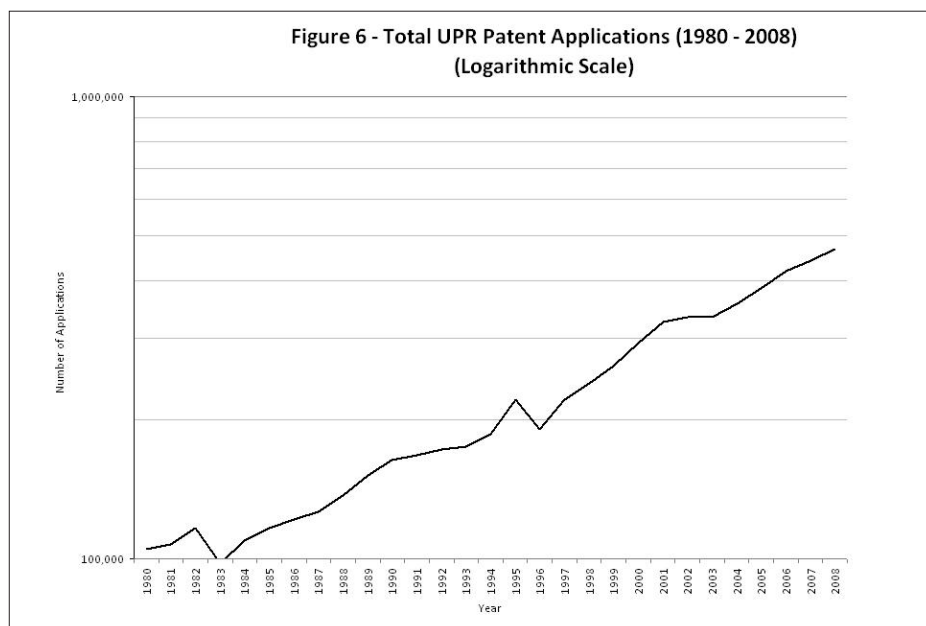
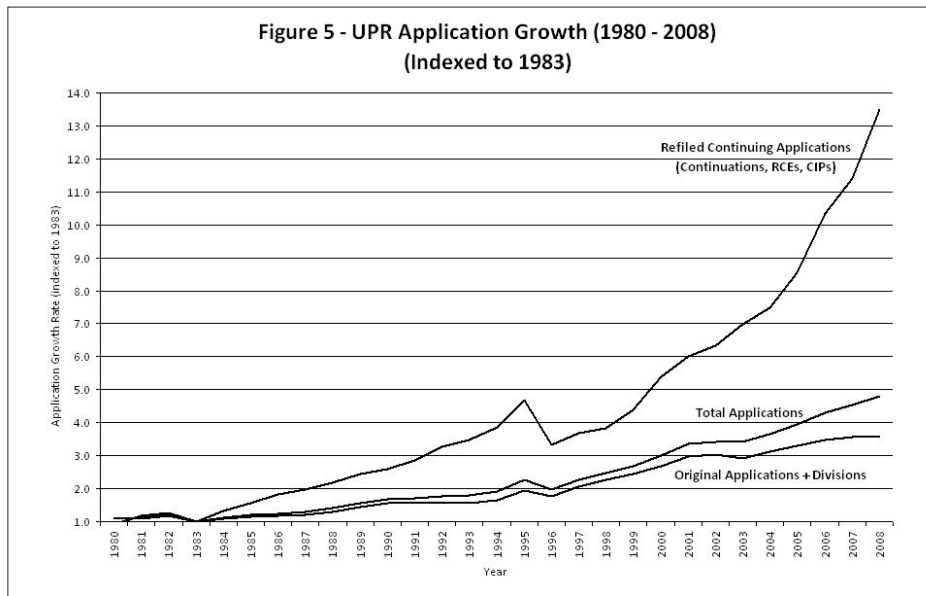
Figure 5 shows the indexed growth of the total number of United States patent applications, the number of Original plus divisional applications, and the number of Refiled Continuing Applications through the USPTO's 2008 fiscal year. The base year is FY 1983. The calculations underlying this Figure are in Table 3. Refiled Continuing Applications grew by a factor of 13.5 from FY 1983 to FY 2008.³⁵ The total number of applications increased

See Just A Patent Examiner, <http://just-n-examiner.livejournal.com/?skip=20> (last visited Apr. 9, 2009). Examiners who achieve an insufficient number of counts may be dismissed. Those who compile more than their quota may be paid a bonus. NAT'L ACAD. OF PUB. ADMIN., *supra*, at 99. The need for examiners to accumulate "counts" and the ease with which they can do so by inducing the filing of continuing applications (including RCEs) may account, at least to some extent, for the continued sharp growth in such applications. *See id.*

³³ *See infra* fig.3.

³⁴ *See infra* fig.4.

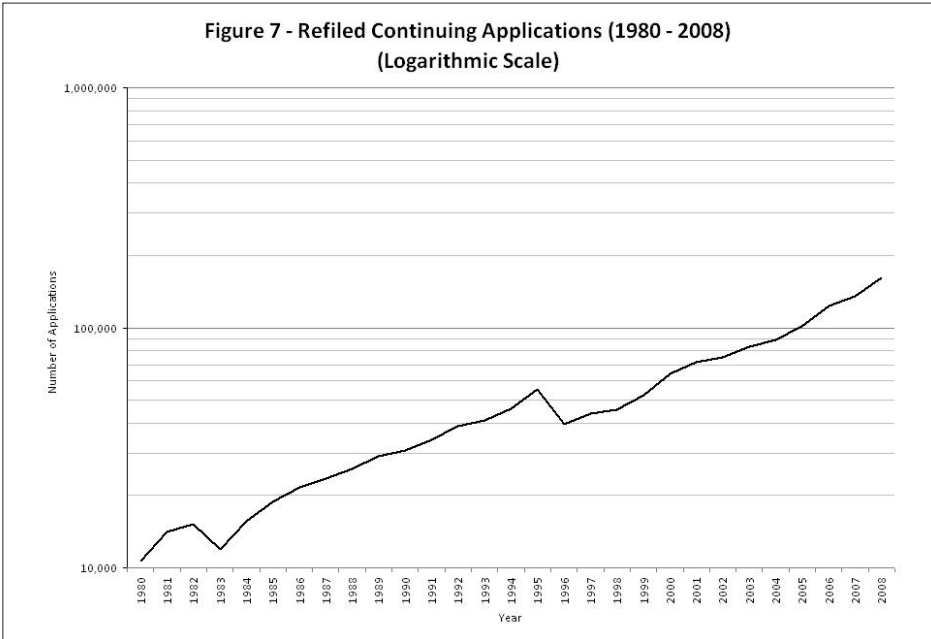
³⁵ *See infra* tbl.3.



by a factor of 4.8, and the number of Original plus divisional applications increased by a factor of 3.6.³⁶

Figure 6 is a logarithmic plot of the total number of UPR applications for 1980–2008. Figure 7 is a logarithmic plot of the number of Refiled Continuing Applications (continuations, RCEs, and CIPs) for the same years. The

³⁶ See *id.*



underlying data for Figure 6 are in Tables 1 and 2. The underlying data for Figure 7 are in Table 2.

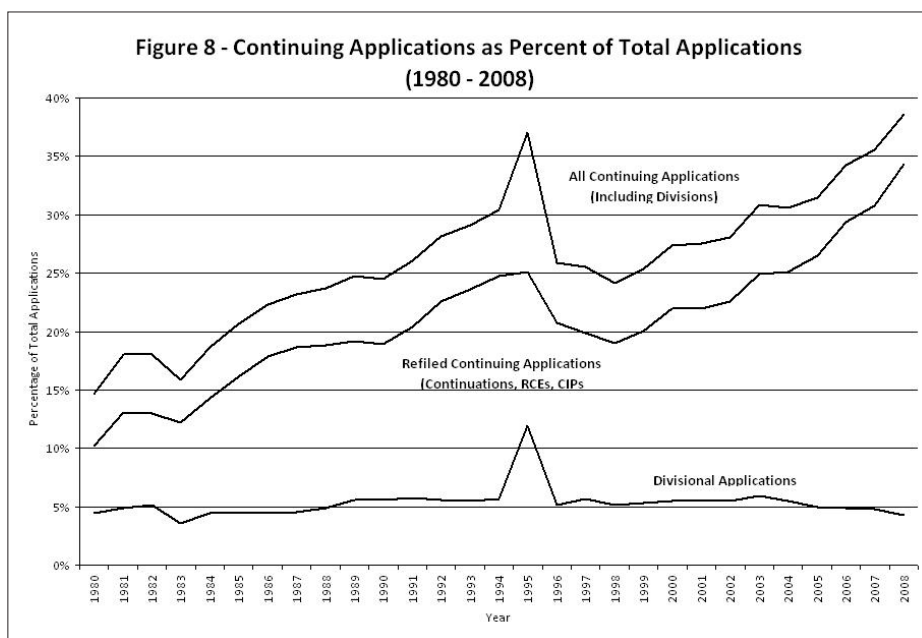
Each of these logarithmic plots is essentially an upward sloping straight line commencing with 1983, indicating an essentially exponential (geometric) growth rate since 1983 with essentially constant annual percentage increases from 1983 through 2008.³⁷ For the total number of applications (Figure 6) the annual percentage increase from 1983 through 2008 is about 5% per year.³⁸ For Refiled Continuing Applications (Figure 7) the annual percentage increase from 1983 through 2008 is about 11% per year.³⁹

³⁷ See *supra* figs.6 & 7.

³⁸ See *supra* fig.6.

³⁹ See *infra* tbl.3. Dr. Ron D. Katznelson also reported geometric growth rates for 1980–2005 for original applications and for continuation applications. RON D. KATZNELSON, PATENT CONTINUATIONS, PRODUCT LIFECYCLE CONTRACTION AND THE PATENT SCOPE EROSION. – A NEW INSIGHT INTO PATENT TRENDS, 10–12 (2007), available at <http://works.bepress.com/rkatznelson/3>. His continuation applications category included continuations and RCEs, but excluded divisional and CIP applications, and his original applications category excluded continuations, CIPs, and divisions. *Id.* at 10. Dr. Katznelson's findings as to application growth rates are largely consistent with ours. He reported a doubling of original applications as defined by him every 14 years. *Id.* at 11. We found a doubling every 13.5 years for 1983–2008 for Original Applications plus divisional applications, our most nearly comparable category. See *infra* tbl.3. He reported a doubling of continuations every 6.5 years. KATZNELSON, *supra*, at 11. We found a doubling of Refiled Continuing Applications every 6.5 years for 1983–2008. See *infra* tbl.3.

Figure 8 shows the shares of divisional applications, Refiled Continuing Applications, and all continuing applications as a percentage of the total number of applications.⁴⁰ Data are from Table 3. The share of divisional applications, except for the FY 1995 “spike” for applications filed in advance of the effective date of the 20-year from filing patent term, has been flat at about 4–6% throughout the 1980–2008 period.⁴¹ The share of Refiled Continuing Applications (continuations, RCEs, and CIPs) grew from about 12% of total applications in FY 1983 to about 34% in FY 2008. The share of the total number of continuing applications (i.e., continuations, RCEs, CIPs, and divisions) grew from about 16% in FY 1983 to about 39% in FY 2008.

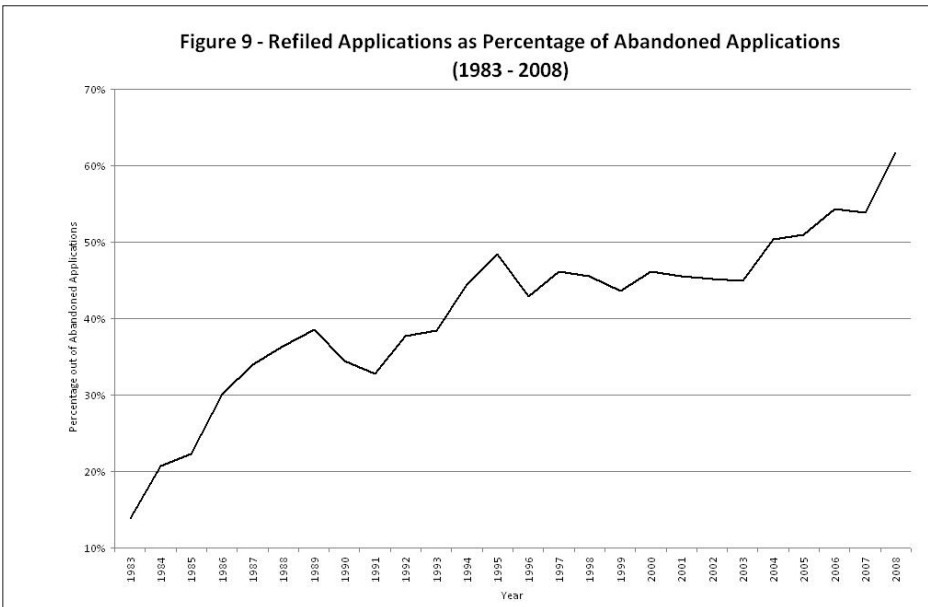


As previously mentioned, the FOIA data listing the number of abandoned applications for 1983–2008 that were not refiled enabled us, in conjunction with the Annual Report data for the total number of abandoned applications for the same years, to determine, by subtraction, the number of abandoned applications that were refiled in those years. Then, by division, we were able to determine the percentage of abandoned applications in those years that were refiled. For example, in FY 2008 the number of abandoned applications that were not refiled (from the FOIA data in Table 2) was 78,864 while the total

⁴⁰ Figure 8 corresponds to Figure 4 of our second Article and to Figure 4 of our third Article. See *infra* fig.8; Quillen et al., *supra* note 7, at 42 fig.4; Quillen & Webster, *supra* note 10, at 657 fig.4.

⁴¹ See *infra* tbl.3.

number of abandoned applications for FY 2008 (from the Annual Report data in Table 1) was 205,974. Thus, the number of abandoned applications in FY 2008 for which there were refiled applications was 127,110.⁴² This is about 62% of the total number of abandoned applications in FY 2008.⁴³ Figure 9 shows the number of refiled applications from FY 1983 through FY 2008 as a percentage of the total number of abandoned applications for each of those years. As can be seen from Figure 9 and Table 2, such refiled applications grew from about 14% of the total number of abandoned application in FY 1983 to about 62% in FY 2008.



Also, as previously mentioned, the number of applications abandoned in 1983–2008 that were not refiled is available in the FOIA data. These data enabled us to determine the number of Net Disposals for the USPTO for each of those years. Based on the number of Net Disposals, we determined the average length of time that the USPTO would need to dispose of its then current backlog at its then current Net Disposal rate. For example, in FY 2008 there were 78,864 abandoned applications that were not refiled and the number of applications allowed was 162,872, their sum, 241,736, is the number of Net Disposals in FY 2008, assuming none of the allowed applications was refiled.⁴⁴ Dividing 1,208,076, the USPTO's backlog of pending applications

⁴² See *infra* tbls.1 & 2.

⁴³ See *id.*

⁴⁴ See U.S. PATENT AND TRADEMARK OFFICE, PERFORMANCE AND ACCOUNTABILITY REPORT: FISCAL YEAR 2008 115 (2008), available at <http://www.uspto.gov/web/offices/com/>

at the end of its 2008 fiscal year, by 241,736, the number of Net Disposals in FY 2008, yields a value, expressed in months, of 60 months.⁴⁵ That is to say, at the Net Disposal rate the USPTO achieved in FY 2008 it would take 60 months (5 years!), on average, to dispose of the FY 2008 backlog.⁴⁶ The USPTO Annual Reports provide a value titled “Pendency time of average patent application.”⁴⁷ This apparently is the time that the average application disposed of in the reported year was pending.⁴⁸ Thus, it is a historical, backwards-looking number and not a measure of the workload facing the USPTO, or the time required to dispose of that workload. It is also not a measure of current performance. The reported value for FY 2008 was 32.2 months, a far cry from the estimated 60 months, on average, required to deal with the current backlog at the current Net Disposal rate.⁴⁹ Figure 10 is a plot of the pendency time of average patent application for 1983–2008 as reported in USPTO Annual Reports and a plot for 1983–2008 of the calculated time required to dispose of the then current backlog at the then current Net Disposal rate. Data and calculations are in Table 1. As can be seen, the two numbers track each other fairly closely until about FY 1999 and then diverge sharply.⁵⁰

II. Patent Percentages and Grant Rates (Patent Allowance Rates)

A previously noted, we calculated Patent Percentages for the USPTO for the 1995–2007, 1983–2007, and 1983–2008 periods and for the EPO and JPO for the 1995–2007 and 1983–2007 periods. Data for the EPO and JPO for 2008 are not yet available through the Trilateral Website.⁵¹ The calculations appear in Table 4. Table 5 summarizes the comparative results.

The USPTO Patent Percentage for the 1983–2007 period, based on Original Applications, was 78% with an assumed two-year prosecution lag (71% with

annual/2008/2008annualreport.pdf [hereinafter USPTO ANNUAL REPORT]; FOIA Request, *supra* note 1. To the extent this assumption is incorrect the number of Net Disposals would be reduced and the time required to dispose of the current backlog at the current Net Disposal Rate would be increased. Thus, this calculation estimates the minimum time, on average, required to dispose of the current backlog at the current Net Disposal rate.

⁴⁵ See USPTO ANNUAL REPORT, *supra* note 44, at 115, 117; FOIA Request, *supra* note 1.

⁴⁶ See USPTO ANNUAL REPORT, *supra* note 44, at 115, 117; FOIA Request, *supra* note 1.

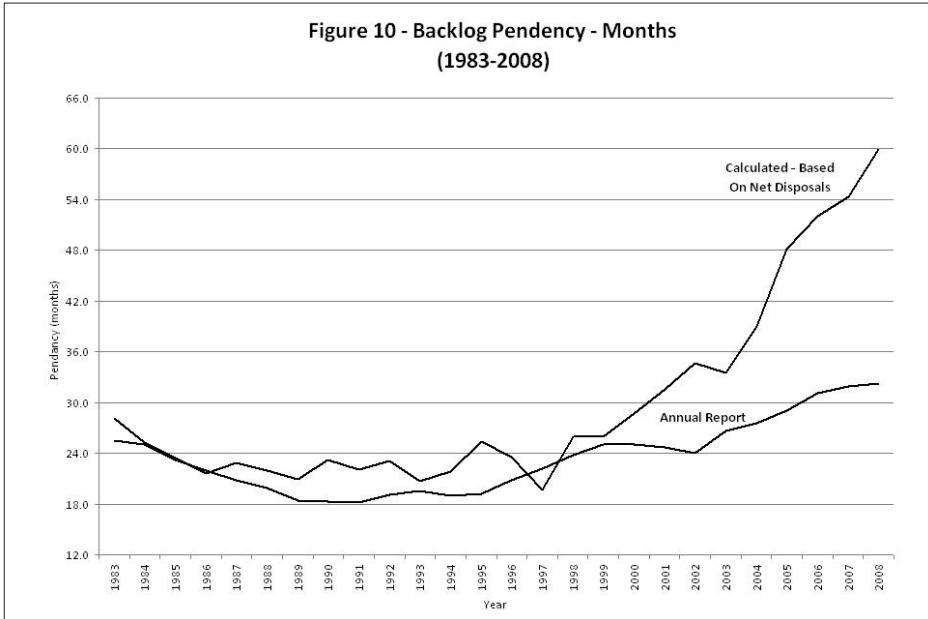
⁴⁷ USPTO ANNUAL REPORT, *supra* note 44, at 115.

⁴⁸ See *id.* at 115 n.7.

⁴⁹ See USPTO ANNUAL REPORT, *supra* note 44, at 115.

⁵⁰ See *infra* fig.10.

⁵¹ See Trilateral Statistics Website, *supra* note 1. Information in the Trilateral Statistical Report is provided through 2007. *Id.*



no prosecution lag), and 73% based on Original plus divisional applications (i.e., treating divisional applications as if they were Original Applications) and with the assumed two-year prosecution lag (66% with no prosecution lag).⁵² For the same 1983–2007 period the EPO Patent Percentage was 55% with the assumed three-year prosecution lag (45% with no prosecution lag), and the JPO Patent Percentage was 61% with the assumed three-year prosecution lag (51% with no prosecution lag).⁵³

The Patent Percentage for the USPTO for 1995–2007, based on Original Applications and with an assumed two-year prosecution lag, was 77% (68% with no prosecution lag).⁵⁴ Based on Original plus divisional applications

⁵² See *infra* tbl.5.

⁵³ See *id.*

⁵⁴ Professors Lemley and Sampat examined outcomes through April 2008 for original utility patent applications filed in January 2001 and published by April 2006. Mark A. Lemley & Bhaven Sampat, *Is the Patent Office a Rubber Stamp?*, 58 EMORY L.J. 181, 187 (2008). They found the “grant rate” range for a one-month sample of published original applications (9,960 applications) to be from 71.8% to 75.9% as of April 2008. *Id.* at 187, 193. The term “grant rate” in their study has a different meaning from Grant Rates determined by us, which conform to the Trilateral Website definition. Compare *id.* at 183, with TRILATERAL STATISTICAL REPORT: 2003 EDITION, *supra* note 5, at 50. The “grant rate” determined by them is the number of issued patents, excluding additional patents claiming priority from a single original application, divided by the number of original applications in their one month sample, and thus is more analogous to our Patent Percentage, but differs from Grant Rates as that term is used by us and as reported on the Trilateral Website. Compare Lemley

(i.e., treating divisional applications as if they were Original Applications) and with the two-year prosecution lag the Patent Percentage was 71% (63% with no prosecution lag).⁵⁵ For the same 1995–2007 period the EPO Patent Percentage was 54% with an assumed three-year prosecution lag (45% with no prosecution lag), and the JPO Patent percentage was 58% with an assumed three-year prosecution lag (52% with no prosecution lag).⁵⁶ In all instances, the EPO and JPO Patent Percentages were lower than the comparable USPTO Patent Percentages, suggesting more rigorous examination standards at the EPO and JPO.⁵⁷ Comparative results are in Table 5.

We also calculated Grant Rates for the USPTO (as defined on the Trilateral Website) that are corrected for continuing applications, as well as Grant Rates for the USPTO that are uncorrected for continuing applications.⁵⁸ The lower bound Grant Rate, which does not require any assumption as to the disposition of the parent application, is obtained by dividing the number of applications allowed in any given year by the number of Net Disposals in that year. The number of Net Disposals is the sum of the number of applications abandoned in that year, with no refiling, and the number of applications allowed in that year. For example, in FY 2008 the number of applications abandoned without any refiling was 78,864 and the number of allowed applications was 162,872.⁵⁹ Thus, the number of Net Disposals was 241,736 and the lower bound Grant Rate in FY 2008 was 67%.⁶⁰ The Grant Rate in 2008, corrected for continuation applications (continuations and RCEs) is 74%.⁶¹ Corrected for Refiled Continuing Applications (continuations, RCEs,

& Sampat, *supra*, at 183, with TRILATERAL STATISTICAL REPORT: 2003 EDITION, *supra* note 5, at 50. They also concluded that the USPTO's substantive rejection rate for this one month sample of original applications was 16.7% as of April 2008, and would never be as high as 20%. Lemley & Sampat, *supra*, at 194.

⁵⁵ Two years was the averaged pendency time from the USPTO Annual Reports, and the averaged examination pendency for the USPTO from the Trilateral Statistics from the Trilateral Website, both rounded to whole years. See USPTO ANNUAL REPORT, *supra* note 44, at 115; TRILATERAL STATISTICAL REPORT: 2007 EDITION, *supra* note 15, at 48.

⁵⁶ Three years was the averaged examination pendency, rounded to whole years, from the Trilateral Statistics from the Trilateral Website for the EPO and the JPO. See TRILATERAL STATISTICAL REPORT: 2007 EDITION, *supra* note 15, at 47–48.

⁵⁷ See *infra* tbl.5.

⁵⁸ See *infra* tbl.4.

⁵⁹ See *infra* tbls.1 & 2.

⁶⁰ See *infra* tbl.4.

⁶¹ See *id.*

and CIPs), the USPTO 2008 Grant Rate is 78%. The uncorrected Grant Rate (patent allowance rate) for FY 2008 is 44%.⁶²

Table 4 shows the Grant Rate data and calculations, including the calculation of USPTO Grant Rates for the 1995–2007 and 1983–2008 periods.⁶³ The lower bound Grant Rate for 1995–2007, based on Net Disposals, was 77%.⁶⁴ For 1983–2008 the lower bound Grant Rate was 75%.⁶⁵ Uncorrected Grant Rates (patent allowance rates) for these periods were 64% and 62%, respectively.⁶⁶

Comparative Grant Rates for 1995–2007 are summarized in Table 5. Grant Rates for the USPTO ranged from 77% to 92% when corrected for Refiled Continuing Applications (continuations, RCEs, and CIPs).⁶⁷ The USPTO Grant Rate when corrected for continuation applications (including RCEs) was 85%.⁶⁸ In all instances, USPTO Grant Rates (including the uncorrected USPTO Grant Rates) are higher than those of the EPO and JPO, again suggesting more rigorous examination standards at the EPO and JPO.⁶⁹

⁶² See *id.* The USPTO persists in putting forward the uncorrected Grant Rate, referred to by the USPTO as the “patent allowance rate,” as a measure of its performance, despite having the data necessary to calculate the true lower bound patent allowance rate (Grant Rate) available to it since at least 2003. Press Release, U.S. Patent & Trademark Office, Fiscal Year 2006: A Record-Breaking Year for the USPTO (Dec. 22, 2006), available at <http://www.uspto.gov/web/offices/com/speeches/06-73.htm> (claiming a 54% patent allowance rate for the USPTO’s 2006 fiscal year). For FY 2006 the lowest possible Grant Rate/Patent Allowance Rate (based on the number of Net Disposals) was 72%. See *infra* tbl.4. The misleading nature of the USPTO’s claims to improved performance based on “patent allowance rates,” i.e., uncorrected Grant Rates, is explained in detail in Bruce A. Kaser, *Patent Application Recycling: How Continuations Impact Patent Quality & What the USPTO is Doing About It*, 88 J. PAT. & TRADEMARK OFF. SOC’Y 426, 428–29 (2006).

⁶³ Grant Rates corrected for all continuing applications (continuations, RCEs, CIPs and divisions) sometimes yield a value greater than 100% because of the underlying assumption for that calculation that all applications for which there is a continuing application are abandoned in favor of the continuing application. This assumption is not always correct. For example, there may be a case where two or more patents may be granted claiming priority from a single Original Application, or where a patent is granted on an Original Application and a second patent is granted on a divisional application claiming priority from the Original Application. These Grant Rate values are calculated in Table 4, but are not included in Table 5 or in Figures 10 or 11.

⁶⁴ See *infra* tbl.4.

⁶⁵ See *id.*

⁶⁶ See *id.*

⁶⁷ See *infra* tbl.5.

⁶⁸ See *id.*

⁶⁹ See *id.*

Figure 11 depicts Grant Rates for the USPTO for 1980 through 2008 (1983–2008 for the lower bound Grant Rate based on Net Disposals).⁷⁰ The calculations underlying Figure 11 are in Table 4. The rise in corrected Grant Rates that followed the advent of the Federal Circuit, which we first reported in our second Article, is apparent.⁷¹ Grant Rates continued to rise until 2000–2001 and then began to decline. By FY 2008, the lower bound Grant Rate (i.e., the Grant Rate based on Net Disposals) had declined to 67%, about the same as its FY 1983 value.⁷² The other corrected Grant Rates remained above their 1983 values.⁷³ The recent decline in Grant Rates may be attributable to the sharp rise in refiled applications rather than increase in the rigor of the USPTO examination process.⁷⁴

Figure 12 compares Grant Rates for the EPO, JPO, and USPTO, as reported on the Trilateral Website for 1995–2007, with the uncorrected USPTO Grant Rate, the USPTO corrected Grant Rate based on Net Disposals (i.e., the USPTO lower bound Grant Rate), and the USPTO Grant Rate corrected for Refiled Continuing Applications (continuations, RCEs, CIPs) for those

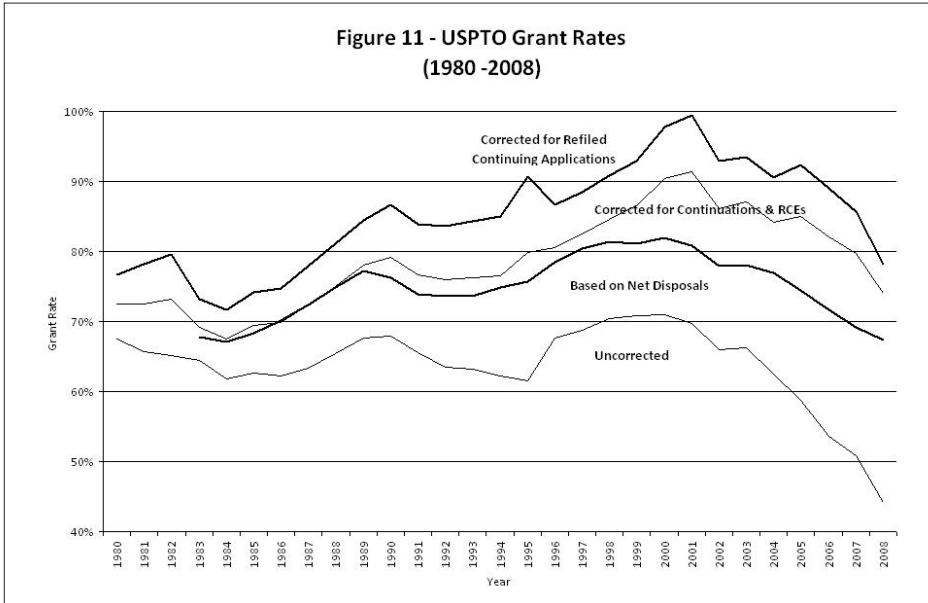
⁷⁰ Figure 11 corresponds to Figure 8 of our second Article and to Figure 6 of our third Article. See *infra* fig.11; Quillen et al., *supra* note 7, at 47 fig.8; Quillen & Webster, *supra* note 10, at 660 fig.6.

⁷¹ But see Ron D. Katznelson, *Bad Science in Search of “Bad” Patents*, 17 FED. CIR. B.J. 1, 27 (2007). Dr. Katznelson found that “grant rates” at the USPTO rose from 59% for “applications for distinct inventions” filed in 1982 and 1983 to 76% for such applications filed in 1997 and 1998. *Id.* app. at 30. Dr. Katznelson’s “grant rates” are determined by a fraction in which the denominator is the number of what Dr. Katznelson calls “applications for distinct inventions” filed in a given USPTO fiscal year and the numerator is the total number of patents subsequently granted on applications filed in that year. *Id.* at 21–22. Dr. Katznelson’s “grant rates” are thus more like the Patent Percentages determined by us, see Quillen & Webster, *supra* note 10, at 636–37 & n.12, and are unlike our Grant Rates, which conform to the Trilateral Website definition. See TRILATERAL STATISTICAL REPORT: 2003 EDITION, *supra* note 5, at 50. Dr. Katznelson’s “applications for distinct inventions,” the denominator in his fraction, includes an undetermined number of applications that were subsequently abandoned in favor of continuing applications and his “grant rates” are thus understated by some undetermined amount. Katznelson, *supra*, at 21–24. Nonetheless Dr. Katznelson’s finding that his “grant rates” rose from 59% for applications filed in 1982–1983 to 76% for applications filed in 1997–1998, *id.* app. at 30, appears to confirm our finding that examination rigor at the USPTO declined following the advent of the Federal Circuit in 1982. Quillen et al., *supra* note 7, at 37. His findings were later reported in his presentation to the Southern California Law Associations Intellectual Property Spring Seminar. See KATZNELSON, *supra* note 39.

⁷² See *infra* tbl.4; *infra* fig.11.

⁷³ See *infra* tbl.4; *infra* fig.11.

⁷⁴ See *infra* figs.4 & 9; see also Kaser, *supra* note 62, at 433–35.



years.⁷⁵ The underlying calculations and data appear in Table 4. Lower Grant Rates at the EPO and JPO suggest greater examination rigor, i.e., higher patentability standards, at the EPO and JPO.⁷⁶ For the 1995–2007 period for which Trilateral Website data are available, the averaged Grant Rates for the EPO and JPO are 60% and 64%, respectively. The lower bound USPTO Grant Rate for those years, based on Net Disposals, is 77%, well above the averaged Grant Rates for the EPO and JPO for those years.⁷⁷

Figure 13 plots the Grant Rates for the EPO and JPO, as reported on the Trilateral Website, as a percentage of the lower bound USPTO Grant Rate for the years 1995–2007 based on Net Disposals. The underlying calculation appears in Table 4. Again, lower Grant Rates at the EPO and JPO suggest greater examination rigor at the EPO and JPO.⁷⁸

Conclusions

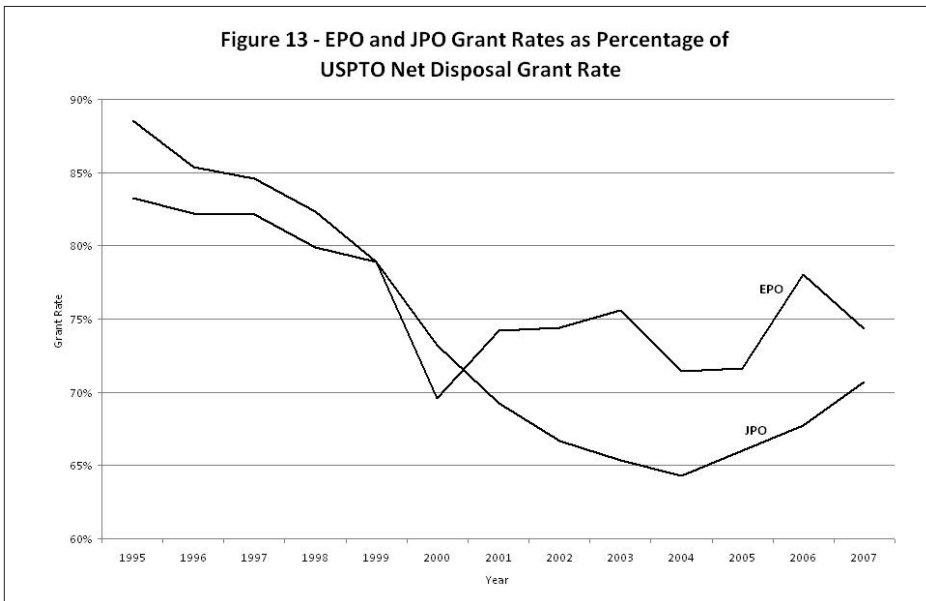
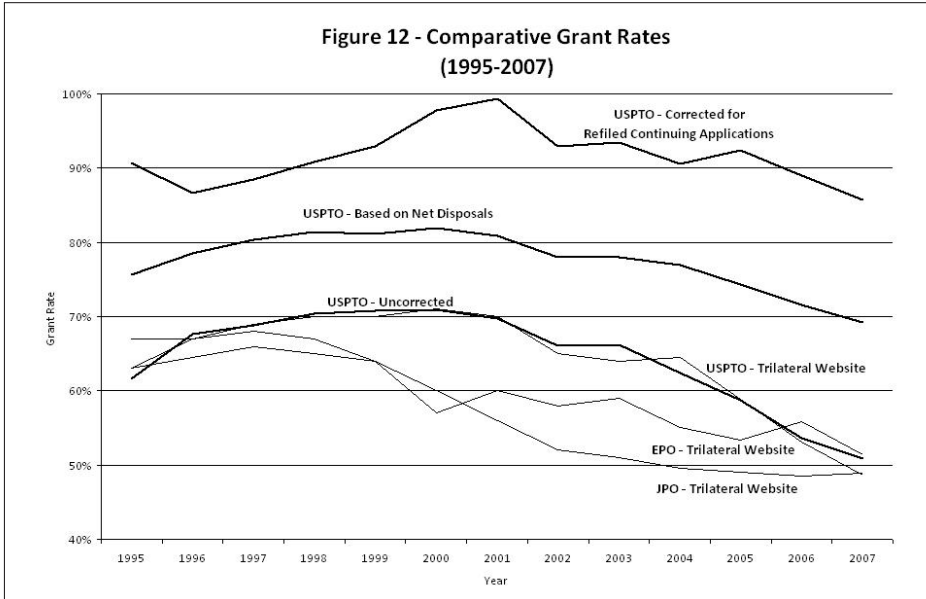
The most striking findings of this study are: (1) the continued growth in the number and share of Refined Continuing Applications (continuations, CIPs, and RCEs) since our last Article in 2006 (which reported data through the USPTO's 2005 fiscal year), and (2) the dramatic growth in the number

⁷⁵ Figure 12 corresponds to Figure 9 of our second Article and to Figure 7 of our third Article. See *infra* fig.12; Quillen et al., *supra* note 7, at 48 fig.9; Quillen & Webster, *supra* note 10, at 662 fig.7.

⁷⁶ See *infra* fig.12.

⁷⁷ See *id.*; *infra* tbl.4

⁷⁸ See *infra* tbl.4; *infra* fig.13.



of abandoned applications for which there is a refiled application. Refiled Continuing Applications, which represent rework for the USPTO, grew from 101,744 in FY 2005 (10,721 in FY 1980) to 160,728 in FY 2008, a 58% increase from 2005 to 2008.⁷⁹ The share of such applications grew from

⁷⁹ See FOIA Request, *supra* note 1; *supra* fig.4. The USPTO has recognized that Refiled Continuing Applications represent rework imposed on it, but its efforts to address the problem have been ill advised at best. Rather than seeking legislation to abolish Refiled Continuing

26% in FY 2005 (10% in FY 2000) to 34% in FY 2008, a 48% increase from 2005 to 2008.⁸⁰ And the number of abandoned applications that were continued in refiled applications reached 62% in FY 2008 (14% in FY 1983, 51% in FY 2005).⁸¹

Equally striking is the finding of a 60 month (five year!), on average, examination backlog facing the USPTO when determined by dividing the application backlog at the end of the USPTO's 2008 fiscal year by the USPTO's Net Disposal rate in its 2008 fiscal year. Until about FY 1999, this measure of the USPTO's backlog was largely consistent with the Pendency Time of Average Patent Application reported in USPTO Annual Reports, but after the 1999 fiscal year they diverged sharply.⁸² The growth in the number of Refiled Continuing Applications, referred to in the previous paragraph, undoubtedly accounts, to a considerable extent, for the growth of the USPTO's backlog to

Applications and eliminate the rework, and despite doubts about its legal authority to issue the rules, the USPTO proposed Final Rules that, if implemented, would have affected less than 3% of the applications filed at the USPTO in FY 2006. *See* Changes to Practice for Continued Examination Filings, Patent Applications Containing Patentably Indistinct Claims, and Examination of Claims in Patent Applications, 72 Fed. Reg. 46,716, 46,718 (Aug. 21, 2007). Refiled Continuing Applications comprised 29% of applications filed in FY 2006. *Id.* at 46,813. Subsequently the Director of the USPTO, in his written response to questions by Chairman Berman at the February 27, 2008 Hearing of the Subcommittee on Courts, the Internet, and Intellectual Property of the House Judiciary Committee, stated that "[t]he limitations in the continuations rule were assumed to result in a 1% reduction of applications received (approximately 5,000), beginning in FY2010." *U.S. Patent and Trademark Office: Hearing Before Subcomm. on Courts, the Internet, and Intellectual Property of the H. Comm. on the Judiciary*, 110th Cong. (2008) (written responses to questions submitted by Rep. Howard L. Berman, Chairman, committed to the record), available at <http://www.patentlyo.com/patent/law/dudas.ltr.pdf>. He also stated that "the reduced applications total assumed was not significant." *Id.* Unexplained by the USPTO is why it sought to deal with its rework problem by a rule making of dubious legality, and that, even if implemented, would have had only an insignificant effect. The USPTO's Final Rules were challenged in the United States District Court for the Eastern District of Virginia, which ruled that the proposed rulemaking was beyond the USPTO's legal authority. *See* *Tafas v. Dudas*, 541 F. Supp. 2d 805, 809–10 (E.D. Va. 2008). The district court's judgment was appealed to the Federal Circuit, which affirmed the district court's determination that Final Rule 78, applicable to continuation and continuation-in-part applications, was invalid, but reversed as to Final Rule 114 applicable to requests for continuing applications. *Tafas v. Doll*, No. 2008-1352, 2009 WL 723353, at *15 (Fed. Cir. Mar. 20, 2009). The case was remanded to the district court for further proceedings involving Final Rule 114 and two other Final Rules unrelated to Refiled Continuing Applications. *Id.*

⁸⁰ *See* FOIA Request, *supra* note 1; *supra* fig.8; *infra* tbl.2.

⁸¹ *See* FOIA Request, *supra* note 1; *supra* fig.9; *infra* tbl.2.

⁸² *See supra* text accompanying notes 43–45; *supra* fig.10.

a total of 1,208,076 pending applications and, thus, to a considerable extent, for the 60 month average examination backlog.⁸³

The policy question of whether it is desirable to perpetuate our system of continuing applications, raised in our earlier Articles, takes on new urgency given their continued, sharp growth and the extent to which: (1) the increasing number of Refiled Continuing Applications deprives the USPTO of the ability to obtain final decisions regarding the patentability of examined applications, (2) such applications impair the USPTO's ability to deal with its backlog, and (3) those filing such applications impose rework on the USPTO. Abolition of Refiled Continuing Applications would, as noted, increase USPTO resources available for examination of Original Applications by about 50% without any increase in staff or budget, and would enable the USPTO to obtain final decisions as to the patentability of applications it has examined.⁸⁴ This should enable the USPTO to enhance the intensity of its examination efforts and the quality of patents it issues, and to focus on dealing with its backlog.⁸⁵

Although Grant Rates at the USPTO began to decline after 2000–2001,⁸⁶ USPTO Grant Rates and Patent Percentages continued to exceed those of the EPO and JPO.⁸⁷ It is entirely possible that the recent decline in Grant Rates at the USPTO is simply a result of the increase in continuing applications and the consequent deferral in final decisions as to patentability of such applications.⁸⁸

Not answered by this study (or by our earlier studies) is the extent to which the decline in examination rigor at the USPTO (i.e., the increase in Allowance Percentages, Patent Percentages, and Grant Rates) that followed the creation of the Federal Circuit is a consequence of the USPTO's application of the Federal Circuit's lowered and less certain standards for patentability, or the increase in Refiled Continuing Applications and the USPTO's inability to obtain final decisions as to the patentability of such applications' parents.

⁸³ See Kaser, *supra* note 62, at 432–33.

⁸⁴ Abolition of Refiled Continuing Applications was recommended by one of the authors (Quillen) at the April 19, 2004 Patent Quality Conference sponsored by the Intellectual Property Owners Association. Cecil D. Quillen, Jr., Presentation at the Patent Quality Conference, Intellectual Property Owners Association: Abolish Continuing Patent Applications? (Apr. 19, 2004), available at [http://www.researchoninnovation.org/quillen/Abolish%20Continuing%20Applications%20\(IPO%202004\).pdf](http://www.researchoninnovation.org/quillen/Abolish%20Continuing%20Applications%20(IPO%202004).pdf).

⁸⁵ Refiled Continuing Applications also make possible numerous abuses that are beyond the scope of this Article. These abuses would be eliminated by abolition of Refiled Continuing Applications. See, e.g., Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, 84 B.U. L. REV. 63 (2004).

⁸⁶ See *supra* figs. 11 & 12.

⁸⁷ See *infra* tbls. 4 & 5; *supra* figs. 12 & 13.

⁸⁸ See Kaser, *supra* note 62, at 433–35.

Thus, the second policy question posed in our earlier Articles is still valid and unanswered. Are we satisfied with the lower standards for patentability at the USPTO in comparison to the EPO and JPO? And, if not, what do we do about it? Even if we enable the USPTO to obtain final decisions as to the patentability of applications it has examined by abolishing Refiled Continuing Applications, it may not be sufficient to raise examination rigor at the USPTO to a level comparable to that at the EPO and JPO. The USPTO claims that it faithfully applies the legal standards for patentability prescribed by the Federal Circuit;⁸⁹ therefore, enabling the USPTO to obtain final decisions as to the patentability of examined applications will not by itself be sufficient. The standards for patentability which the USPTO follows must be raised if the USPTO is to achieve parity with EPO and JPO. Raising those standards in the United States may require legislation to deal with the Federal Circuit “problem.”⁹⁰

⁸⁹ The USPTO claimed a Patent Allowance Compliance Rate of 96.3% in FY 2008, determined by inspecting a selection of allowed applications for compliance with legal standards. USPTO ANNUAL REPORT, *supra* note 44, at 42. Similarly high percentages have been claimed for earlier years. See Quillen & Webster, *supra* note 10, at 663 n.136; James A. Toupin, General Counsel, U.S. Patent & Trademark Office, Address at the IPO 2008 Annual Meeting: Practitioner Responsibilities: Should we rethink whether the duty of reasonable inquiry requires prior art searches?, 6 (Sept. 21, 2008), available at <http://www.patentblurb.com/lib/exe/fetch.php?id=start&cache=cache&media=pto:080921toupin.pdf>. If these claims are true, then perhaps it is the standards themselves, in addition to the USPTO’s inability to obtain final decisions as to the patentability of applications it has examined, that account for the elevated Patent Percentages and Grant Rates at the USPTO. Whatever the cause, given the elevated Patent Percentages and Grant Rates at the USPTO, the question, raised in our earlier Articles, of whether we should return to the “preponderance of the evidence” standard for overcoming the statutory presumption of validity remains relevant.

⁹⁰ The Supreme Court in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007), apparently sought to restore the higher Supreme Court standards for patentability that had been applied in the Supreme Court and the regional Courts of Appeals prior to the advent of the Federal Circuit and that have been evaded or ignored by the Federal Circuit throughout its existence. It remains to be seen the extent to which the Federal Circuit (and the USPTO) will follow the Supreme Court’s restored higher standards. One of the authors (Quillen) has proposed dealing with the Federal Circuit “problem” by restoring appellate jurisdiction in patent infringement cases to the regional Courts of Appeals, or by adoption of the Nard/Duffy proposal for parallel appellate tracks in patent cases, see Craig Allen Nard & John F. Duffy, *Rethinking Patent Law’s Uniformity Principle*, 101 Nw. U. L. Rev. 1619 (2007). Adoption of either proposal should assure that patent appeals are heard by courts that are more likely to follow the Supreme Court. See *Innovation and the U.S. Patent System*, *supra* note 8; Cecil D. Quillen, Jr., *Commentary on Bessen and Meurer’s Patent Failure: An Industry Perspective*, 16 J. INTEL. PROP. L. 57 (2008).

Editor's Note

Tables 1–5, referenced in this article, were too large to print readably in this format. These tables can be viewed on the journal's website, available at <http://docs.law.gwu.edu/stdg/fcbj>, and are also on file with the authors.

Table 2 - USPTO FOIA DATA

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	1995-2007	1983-2007	1983-2008	
UPR Applications Filed	105,046	107,513	116,731	97,448	109,539	116,427	121,611	126,407	137,069	151,331	163,561	167,715	172,539	174,553	186,123	221,304	191,016	220,773	240,090	261,041	293,244	326,081	333,688	333,452	355,527	384,228	419,760	441,637	468,669	4,021,841	5,746,164	6,214,833	
Continuation Applications																																	
Continuations	6,054	8,253	9,149	6,803	9,578	11,960	14,156	15,622	17,139	19,450	20,317	22,761	26,518	28,356	32,033	37,900	23,999	29,021	14,311	13,591	17,958	21,799	25,889	26,283	28,087	30,844	32,599	33,762	36,292	336,043	560,736	597,028	
Continued Prosecution Applications (CPAs)																			17,462	25,258	30,888	22,407	8,981	2,334	1	0	0	1	0	107,332	107,332	107,332	
Requests for Continued Examination (RCEs)																					1,035	12,440	25,682	39,582	46,043	55,268	74,888	87,087	112,446	342,025	342,025	454,471	
Rule 129 Continuations																1,612	5,016	3,737	2,356	949	444	206	118	87	42	9	24	8	10	14,608	14,608	14,618	
Total Continuation Applications (Calculated)	6,054	8,253	9,149	6,803	9,578	11,960	14,156	15,622	17,139	19,450	20,317	22,761	26,518	28,356	32,033	39,512	29,015	32,758	34,129	39,798	50,325	56,852	60,670	68,286	74,173	86,121	107,511	120,858	148,748	800,008	1,024,701	1,173,449	
Continuation-in-Part Applications (CIPs)	4,667	5,828	5,986	5,102	6,070	6,782	7,549	7,935	8,670	9,621	10,610	11,372	12,499	12,906	13,959	16,086	10,629	11,089	11,455	12,456	13,948	14,689	14,602	14,747	15,082	15,623	15,769	14,909	11,980	181,084	294,159	306,139	
Total Refiled Continung Applications (Calculated)	10,721	14,081	15,135	11,905	15,648	18,742	21,705	23,557	25,809	29,071	30,927	34,133	39,017	41,262	45,992	55,598	39,644	43,847	45,584	52,254	64,273	71,541	75,272	83,033	89,255	101,744	123,280	135,767	160,728	981,092	1,318,860	1,479,588	
Divisional Applications																																	
Divisionals	4,629	5,280	5,965	3,510	4,822	5,265	5,402	5,768	6,698	8,402	9,131	9,586	9,564	9,592	10,615	26,448	9,867	12,590	11,916	13,629	15,767	17,975	18,160	19,745	19,469	19,121	20,545	21,312	20,036	226,544	314,899	334,935	
Divisional CPAs																																	
Total Divisional Applications (Calculated)	4,629	5,280	5,965	3,510	4,822	5,265	5,402	5,768	6,698	8,402	9,131	9,586	9,564	9,592	10,615	26,448	9,867	12,590	12,312	13,943	16,027	18,115	18,331	19,781	19,469	19,121	20,545	21,312	20,036	227,861	316,216	336,252	
Total Continuing Applications (Calculated)	15,350	19,361	21,100	15,415	20,470	24,007	27,107	29,325	32,507	37,473	40,058	43,719	48,581	50,854	56,607	82,046	49,511	56,437	57,896	66,197	80,300	89,656	93,603	102,814	108,724	120,865	143,825	157,079	180,764	1,208,953	1,635,076	1,815,840	
Applications Abandoned Without Refiling				1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	1995-2007	1983-2007	1983-2008	
Original Applications Abandoned Without Refiling				26,447	30,344	31,126	30,196	26,204	25,196	24,559	25,492	30,639	30,797	31,010	29,581	27,609	27,053	27,048	27,153	30,012	31,590	33,679	41,905	45,618	45,722	47,546	53,753	60,268	62,856	498,956	840,547	903,403	
Continuing Applications Abandoned Without Refiling				4,168	4,015	3,909	4,176	4,309	4,304	4,482	4,518	5,485	6,086	6,397	6,470	6,656	6,286	5,985	5,574	6,094	5,100	5,873	6,604	7,382	7,865	8,972	11,925	15,443	16,008	99,759	158,078	174,086	
Total - Applications Abandoned Without Refiling				30,615	34,359	35,035	34,372	30,513	29,500	29,041	30,010	36,124	36,883	37,407	36,051	34,265	33,339	33,033	32,727	36,106	36,690	39,552	48,509	53,000	53,587	56,518	65,678	75,711	78,864	598,715	998,625	1,077,489	
Abandoned Applications That Were Refiled (Calculated)				4,940	8,954	10,048	14,779	15,677	16,851	18,177	15,740	17,579	22,316	23,356	28,881	32,195	25,019	28,334	27,375	27,956	31,366	33,014	39,908	43,176	54,237	58,714	78,109	88,318	127,110	567,721	765,019	892,129	
Refiled Applications as % of Total Abandoned (Calculated)				14%	21%	22%	30%	34%	36%	38%	34%	33%	38%	38%	44%	48%	43%	46%	46%	44%	46%	45%	45%	45%	50%	51%	54%	54%	62%				
Patents		1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	1995-2007	1983-2007	1983-2008	
UPR Patent Count (Total Issued)		65,191	59,855	55,314	67,218	70,255	71,793	82,639	77,846	96,870	89,561	92,471	100,117	97,391	102,129	102,578	105,529	112,641	140,156	143,682	165,498	170,637	162,216	173,065	170,637	152,087	164,115	161,835	156,540	1,924,676	2,928,280	3,084,820	
Patents Wherein Parent Patent Was Granted		3,244	4,750	4,586	5,561	5,350	5,359	6,194	6,446	8,399	9,157	9,979	11,644	11,548	12,450	13,140	15,588	18,684	20,451	21,179	24,950	26,984	27,638	29,253	27,959	26,278	30,772	30,547	29,962	313,423	410,096	440,058	
"Original" UPR Patents		61,947	55,105	50,728	61,657	64,905	66,434	76,445	71,400	88,471	80,404	82,492	88,473	85,843	89,679	89,438	89,941	93,957	119,705	122,503	140,548	143,653	134,578	143,812	142,678	125,809	133,343	131,288	126,578	1,611,253	2,518,184	2,644,762	
Percent Where Parent Was Patented (Calculated)		5%	8%	8%	8%	8%	7%	7%	8%	9%	10%	11%	12%	12%	12%	13%	15%	17%	15%	15%	15%	16%	17%	17%	16%	17%	19%	19%	19%				

TABLE 3 - CALCULATIONS

USPTO UPR Applications	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	1995-2007	1983-2007	1983-2008
Original Applications (FOIA UPR Applications less FOIA Total Continuing Applications)	89,696	88,152	95,631	82,033	89,069	92,420	94,504	97,082	104,562	113,858	123,503	123,996	123,958	123,699	129,516	139,258	141,505	164,336	182,194	194,844	212,944	236,425	240,085	230,638	246,803	263,363	275,935	284,558	287,905	2,812,888	4,111,088	4,398,993
Original Applications + Divisionals	94,325	93,432	101,596	85,543	93,891	97,685	99,906	102,850	111,260	122,260	132,634	133,582	133,522	133,291	140,131	165,706	151,372	176,926	194,506	208,787	228,971	254,540	258,416	250,419	266,272	282,484	296,480	305,870	307,941	3,040,749	4,427,304	4,735,245
Refiled Continuing Applications (Continuations, RCEs, CIPs)	10,721	14,081	15,135	11,905	15,648	18,742	21,705	23,557	25,809	29,071	30,927	34,133	39,017	41,262	45,992	55,598	39,644	43,847	45,584	52,254	64,273	71,541	75,272	83,033	89,255	101,744	123,280	135,767	160,728	981,092	1,318,860	1,479,588
Original Applications as % of Total Applications	85%	82%	82%	84%	81%	79%	78%	77%	76%	75%	76%	74%	72%	71%	70%	63%	74%	74%	76%	75%	73%	73%	72%	69%	69%	69%	66%	64%	61%	70%	72%	71%
Original Applications + Divisionals as % of Total Applications	90%	87%	87%	88%	86%	84%	82%	81%	81%	81%	81%	80%	77%	76%	75%	79%	80%	81%	80%	78%	78%	77%	75%	75%	74%	71%	69%	66%	76%	77%	76%	
Refiled Continuing Applications as % of Total Applications	10%	13%	13%	12%	14%	16%	18%	19%	19%	19%	19%	20%	23%	24%	25%	21%	20%	19%	20%	22%	22%	23%	25%	25%	26%	29%	31%	34%	24%	23%	24%	
Divisional Applications as % of Total Applications	4%	5%	5%	4%	4%	5%	4%	5%	5%	6%	6%	6%	6%	5%	6%	12%	5%	6%	5%	5%	5%	6%	5%	5%	5%	5%	5%	4%	6%	6%	5%	
Total Continuing Applications as % of Total Applications	15%	18%	18%	16%	19%	21%	22%	23%	24%	25%	24%	26%	28%	29%	30%	37%	26%	26%	24%	25%	27%	27%	28%	31%	31%	31%	34%	36%	39%	30%	28%	29%
Indexed Application Growth 1980-2008 (Calculated: 1983 = Base Year)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Average Annual Growth 1983-2008	Years to Double	
Total Applications	1.1	1.1	1.2	1.0	1.1	1.2	1.2	1.3	1.4	1.6	1.7	1.7	1.8	1.8	1.9	2.3	2.0	2.3	2.5	2.7	3.0	3.3	3.4	3.4	3.6	3.9	4.3	4.5	4.8	7%	10.7	
Original Applications	1.1	1.1	1.2	1.0	1.1	1.1	1.2	1.2	1.3	1.4	1.5	1.5	1.5	1.5	1.6	1.7	1.7	2.0	2.2	2.4	2.6	2.9	2.9	2.8	3.0	3.2	3.4	3.5	3.5	5%	13.5	
Original Applications + Divisions	1.1	1.1	1.2	1.0	1.1	1.1	1.2	1.2	1.3	1.4	1.6	1.6	1.6	1.6	1.6	1.9	1.8	2.1	2.3	2.4	2.7	3.0	3.0	2.9	3.1	3.3	3.5	3.6	3.6	5%	13.2	
Refiled Continuing Applications (Continuations, RCEs & CIPs)	0.9	1.2	1.3	1.0	1.3	1.6	1.8	2.0	2.2	2.4	2.6	2.9	3.3	3.5	3.9	4.7	3.3	3.7	3.8	4.4	5.4	6.0	6.3	7.0	7.5	8.5	10.4	11.4	13.5	11%	6.5	
UPR Application Disposals (Calculated)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	1995-2007	1983-2007	1983-2008
Nominal UPR Application Disposals (Applications Allowed + Applications Abandoned)	89,717	88,545	83,583	99,931	113,300	120,488	130,072	125,945	134,221	145,690	142,422	155,717	162,292	165,114	172,153	173,026	180,052	196,607	203,147	219,442	234,256	239,434	260,231	284,459	287,173	279,325	309,659	333,812	368,846	3,200,623	4,867,968	5,236,814
Net UPR Application Disposals (Applications Allowed + Applications Abandoned Without Refiling)				94,991	104,346	110,440	115,293	110,268	117,370	127,513	126,682	138,138	139,976	141,758	143,272	140,831	155,033	168,273	175,772	191,486	202,890	206,420	220,323	241,283	232,936	220,611	231,550	245,494	241,736	2,632,902	4,102,949	4,344,685
Disposals Corrected for Continuation Applications (Including RCEs)	83,663	80,292	74,434	93,128	103,722	108,528	115,916	110,323	117,082	126,240	122,105	132,956	135,774	136,758	140,120	133,514	151,037	163,849	169,018	179,644	183,931	182,582	199,561	216,173	213,000	193,204	202,148	212,954	220,098	2,400,615	3,843,267	4,063,365
Disposals Corrected for Refiled Continuing Applications (Continuations, RCEs, CIPs)	78,996	74,464	68,448	88,026	97,652	101,746	108,367	102,388	108,412	116,619	111,495	121,584	123,275	123,852	126,161	117,428	140,408	152,760	157,563	167,188	169,983	167,893	184,959	201,426	197,918	177,581	186,379	198,045	208,118	2,219,531	3,549,108	3,757,226
Disposals Corrected for All Continuing Applications	74,367	69,184	62,483	84,516	92,830	96,481	102,965	96,620	101,714	108,217	102,364	111,998	113,711	114,260	115,546	90,980	130,541	140,170	145,251	153,245	153,956	149,778	166,628	181,645	178,449	158,460	165,834	176,733	188,082	1,991,670	3,232,892	3,420,974

Table 5 - COMPARATIVE PATENT PERCENTAGES AND GRANT RATES

PATENT PERCENTAGES				
	1983-2007		1995-2007	
	Prosecution Lag	No Lag	Prosecution Lag	No Lag
USPTO				
Based on Original Applications	78%	71%	77%	68%
Based on Original + Divisional Applications	73%	66%	71%	63%
EPO				
55%	45%	54%	45%	
% of USPTO (Original + Divisional Applications)	75%	69%	76%	70%
JPO				
61%	51%	58%	52%	
% of USPTO (Original + Divisional Applications)	84%	77%	81%	82%
GRANT RATES (Patent Allowance Rates)				
			1995-2007	
USPTO				
Uncorrected				64%
Lower Bound Based on Net Disposals				77%
Corrected for Continuation Applications (Including RCEs)				85%
Corrected for Refiled Continuing Applications (Continuations, CIPs, RCEs)				92%
EPO (1995-2007 Averaged)				
% of USPTO Lower Bound Based on Net Disposals				60%
JPO (1995-2007 Averaged)				
% of USPTO Lower Bound Based on Net Disposals				57%
			73%	