

# 2016 PATENTLY-O PATENT LAW JOURNAL

## An Empirical Analysis of Some Proponents and Opponents of Patent Reform<sup>1</sup>

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### Introduction

On March 2, 2015, a group of 51 economics and legal scholars wrote an open letter to Congress stating that “a large and increasing body of evidence indicates that the net effect of patent litigation is to raise the cost of innovation and inhibit technological progress” and arguing in favor of “salutary reforms.”<sup>3</sup> Eight days later and evidently in response to the first letter, a different group of 40 economics and legal scholars wrote an open letter to the chairpersons and ranking members of the House and Senate Committees on the Judiciary, “to express [their] deep concerns with the many flawed, unreliable, or incomplete studies about the American patent system that have been provided to members of Congress.”<sup>4</sup> As one may surmise, the letters are essentially diametrically opposed.<sup>5</sup> As a result, the letters provide an opportunity to investigate the lines that separate those largely arguing against the current patent system from those largely arguing in favor of it.

Prior empirical scholarship investigating the legal professoriate has primarily focused on law school hiring practices, particularly with regard to the law schools

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<sup>1</sup> Cite as James E. Daily, *An Empirical Analysis of Some Proponents and Opponents of Patent Reform*, 2016 Patently-O Patent Law Review 1.

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<sup>3</sup> CLARK D. ASAY ET AL., LETTER TO CONGRESS 1 (2015) (“the first letter”), available at [http://www.utdallas.edu/~ugg041000/IPScholarsLettertoCongress\\_March\\_2\\_2015.pdf](http://www.utdallas.edu/~ugg041000/IPScholarsLettertoCongress_March_2_2015.pdf).

<sup>4</sup> MICHAEL ABRAMOWICZ ET AL., LETTER TO CHUCK GRASSLEY ET AL. 1 (2015) (“the second letter”), available at <http://cpip.gmu.edu/wp-content/uploads/2015/03/Economists-Law-Prof-Letter-re-Patent-Reform.pdf>.

<sup>5</sup> The merits of the letters are beyond the scope of this paper. In the interest of full disclosure, the author’s own views are more closely aligned with the second letter than the first.

attended by law professors.<sup>6</sup> In addition to the signatories' educational backgrounds, this investigation considers additional factors such as employment history and political affiliation.

It should be noted at the outset that the selection of signatories was almost certainly biased by the letters' organizers and the signatories themselves. Thus, the letters are not necessarily representative samples of legal and business academics or attorneys.

## Methods

The names and then-current affiliations of the signatories were collected from the letters. Additional information was collected from publicly available sources such as curricula vitae, LinkedIn profiles, bar association websites, and OpenSecrets. Data collected for the signatories included: attorney status, patent attorney status, an employment history (not including summer associate or other pre-graduate positions), an educational history, donations to political parties or candidates<sup>7</sup>, and whether the signatory had appeared as an attorney in federal court<sup>8</sup>. The raw dataset is being published with this report.<sup>9</sup>

Some of the information was incomplete. For example, degree years and subjects were not available for all signatories. However, complete, detailed information was available for the majority of signatories.

The significance of the independent variables was tested using Fisher's exact test. Similar results were obtained using a logistic regression. The effect size was calculated using Cramér's V. Effect sizes are reported only for variables that are significant at the  $p < 0.05$  level. All statistical calculations were performed using R.<sup>10</sup>

## Results

An analysis was performed for several independent variables. The results of this analysis can be seen in Table 1.

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<sup>6</sup> Daniel Martin Katz et al., *Reproduction of Hierarchy? A Social Network Analysis of the American Law Professoriate*, 61 J. L. ED. 76 (2011); Richard E. Redding, "Where Did You Go to Law School?" *Gatekeeping for the Professoriate and Its Implications for Legal Education*, 53 J. L. ED. 594 (2003).

<sup>7</sup> Donation information was taken from OpenSecrets, <http://www.opensecrets.org>.

<sup>8</sup> Data was taken from the LegalMetric database, which is derived from the federal courts' PACER system, <http://www.legalmetric.com>.

<sup>9</sup> <http://patentlyo.com/patprofs-data>.

<sup>10</sup> <https://www.r-project.org>.

| variable                       | frequency<br>(1st Letter) | frequency<br>(2nd Letter) | p-value  | effect size |
|--------------------------------|---------------------------|---------------------------|----------|-------------|
| attorney                       | 0.509                     | 0.750                     | 0.29     | --          |
| PTO registration               | 0.039                     | 0.400                     | 2.38e-05 | 0.45        |
| listed in LegalMetric database | 0.215                     | 0.150                     | 0.58     | --          |
| law professor                  | 0.607                     | 0.800                     | 0.06     | --          |
| STEM degree                    | 0.352                     | 0.475                     | 0.28     | --          |
| business or economics degree   | 0.411                     | 0.300                     | 0.37     | --          |
| federal clerkship              | 0.235                     | 0.400                     | 0.11     | --          |
| Federal Circuit clerkship      | 0.078                     | 0.200                     | 0.12     | --          |
| non-JD doctoral degree         | 0.529                     | 0.375                     | 0.20     | --          |
| Democratic donation            | 0.196                     | 0.125                     | 0.40     | --          |
| Republican donation            | 0.019                     | 0.150                     | 0.0407   | 0.24        |

Table 1. Analysis of several categorical variables.

Two statistically significant variables were found: registration to practice before the United States Patent and Trademark Office and donations to Republican candidates and causes. The effect size of USPTO registration was particularly strong. The relatively weak significance and effect size of Republican donations (and non-significance of Democratic donations) is consistent with other evidence that patent policy is not a traditional left/right political issue in the United States. Intellectual property attorneys are almost the definition of politically moderate,<sup>11</sup> and the most recent significant patent legislation to become law, the America Invents Act, passed in the House and Senate with nearly identical breakdowns in votes between the Republican and Democratic parties.<sup>12</sup>

Although the signatories' ages were not readily publicly available, the year at which they received their first degree was used as a proxy for age under the assumption that most signatories proceeded directly to post-secondary education and completed their course of study in the typical timeframe. A separate logistic regression conducted on this proxy determined that it was not significantly correlated with signatory status ( $p = 0.423$ ). Histograms for both groups are shown in Figures 1 and 2. The two groups produced broadly similar slightly left-skewed distributions, which indicates a clustering of somewhat younger signatories of about the same age, which is typical for age-related measures.

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<sup>11</sup> Adam Bonica et al., *The Political Ideologies of American Lawyers*, J. L. ANALYSIS (forthcoming), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2654412](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2654412).

<sup>12</sup> H.R.1249 Senate Record Vote and House Roll no. 491, available at <https://www.congress.gov/bill/112th-congress/house-bill/1249/actions>.

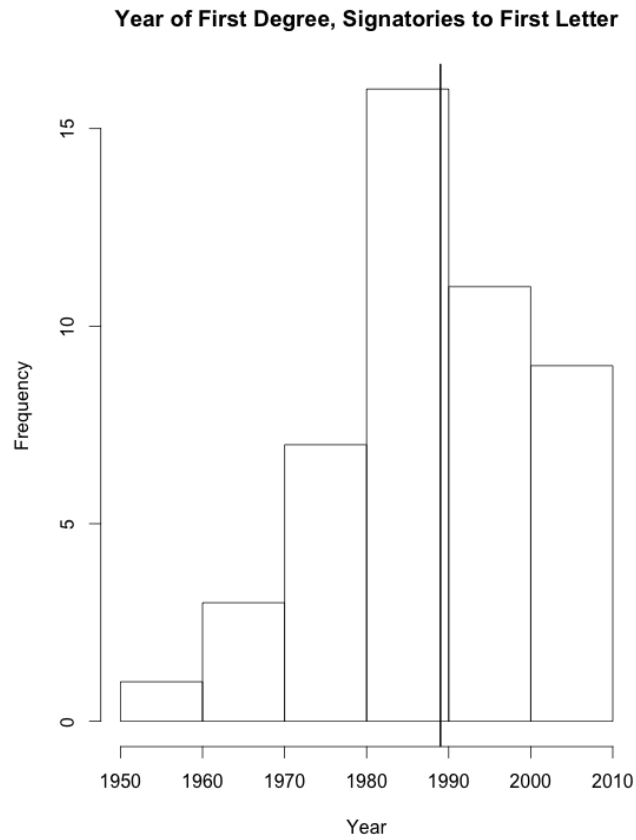


Figure 1. Histogram showing years at which signatories to the first letter received their first post-secondary degrees. The median is 1989.

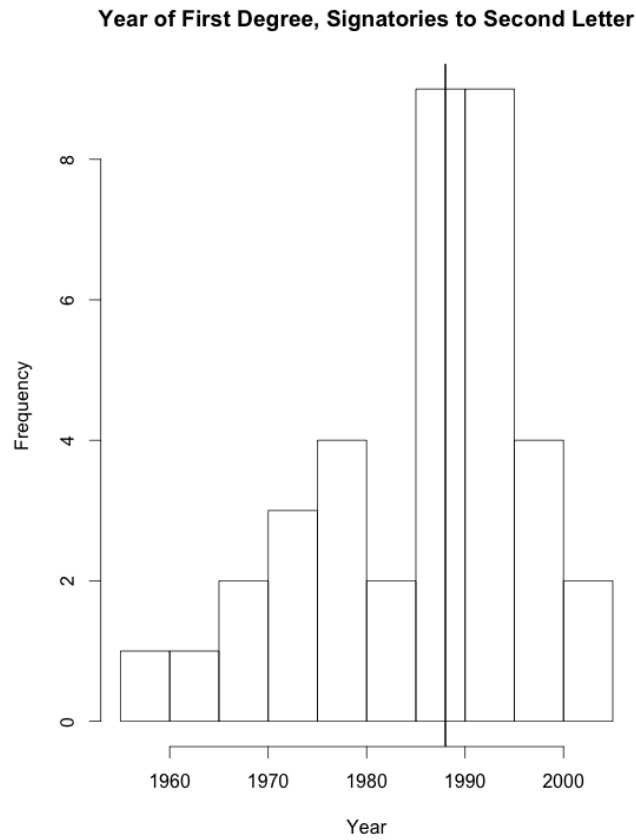


Figure 2. Histogram showing years at which signatories to the second letter received their first post-secondary degrees. The median is 1988.

Frequency distributions were calculated for the institutions from which signatories received their undergraduate, non-law doctoral, and law degrees, shown in Figures 3-5. None of the differences were significant.

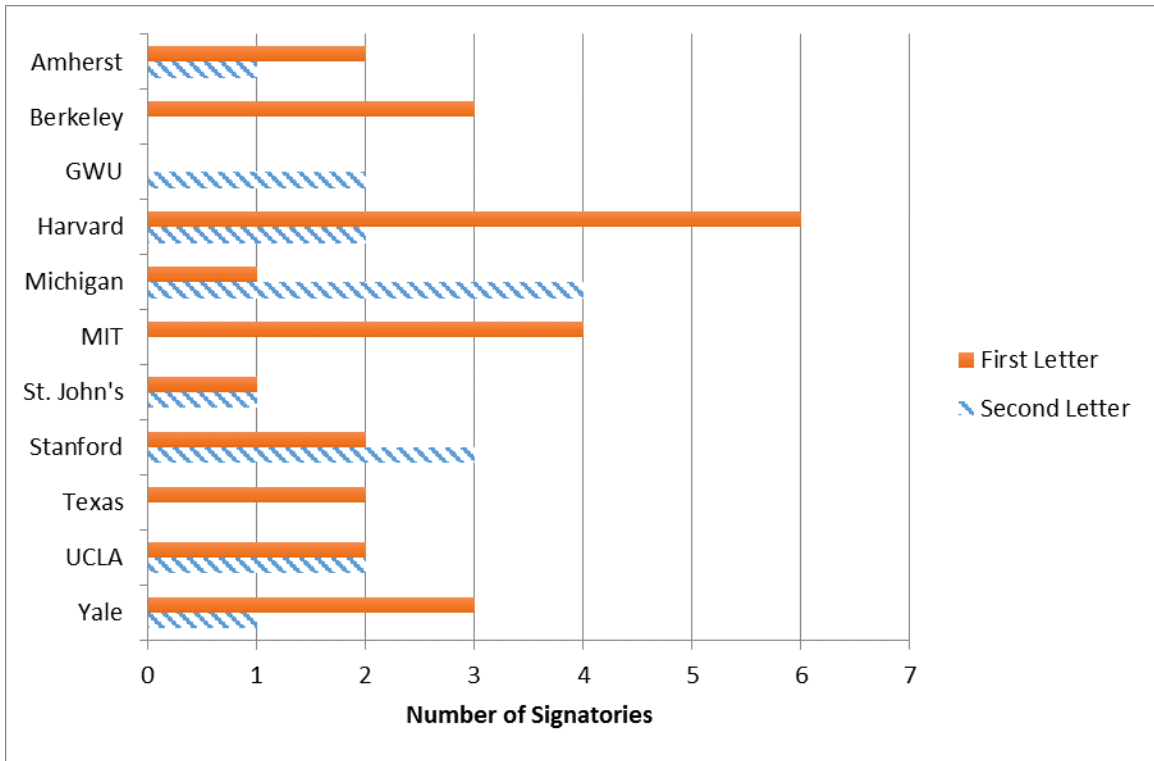


Figure 3. Undergraduate degree institutions. Frequency distribution of institutions from which signatories received an undergraduate degree, limited to schools from which at least two signatories received a degree.

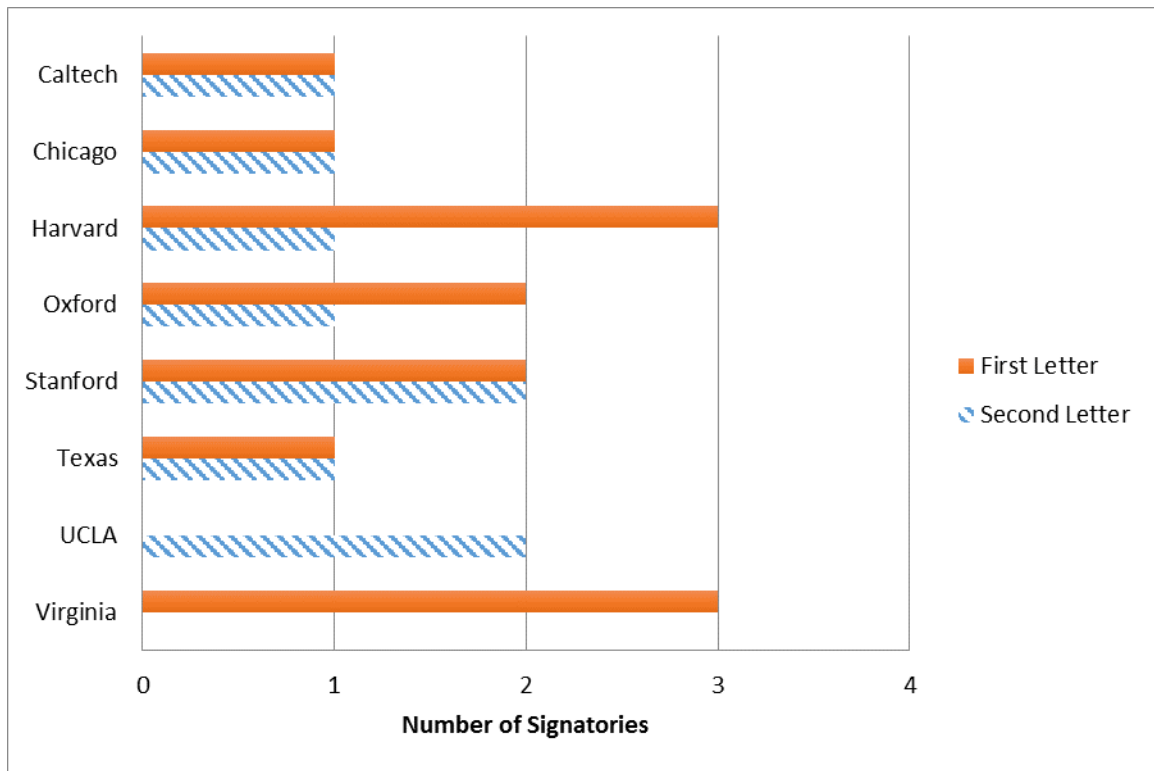


Figure 4. Non-law doctoral degree institutions. Frequency distribution of institutions from which signatories received a non-law doctoral degree, limited to schools from which at least two signatories received a degree.

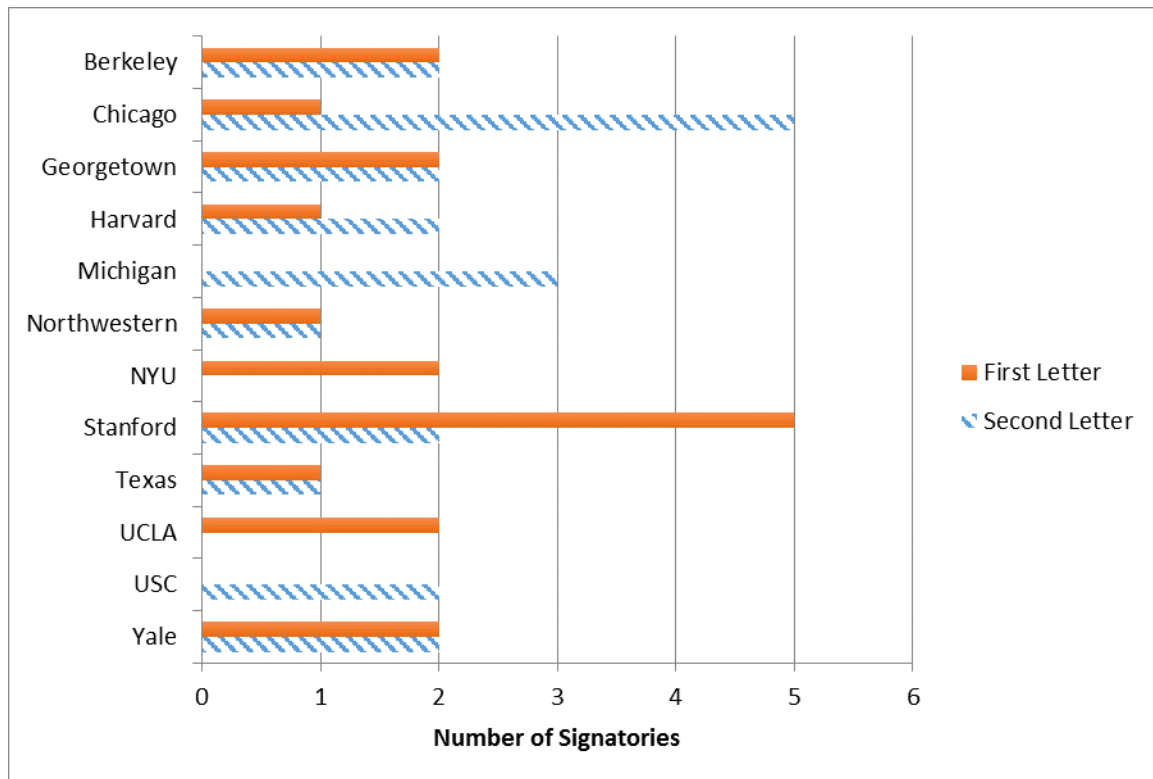


Figure 5. Law schools. Frequency distribution of institutions from which signatories received a JD, limited to schools from which at least two signatories received a degree.

## Conclusions

Neither of the significant results are especially surprising, though interpreting them is somewhat difficult. One possible—albeit cynical—explanation for the correlation with PTO registration is that patent practitioners are more apt to oppose patent reform for self-interested reasons. Less cynically, practitioners' insider perspective may give them reason to disagree with the empirical measures offered by reform proponents.

It is more difficult to interpret the correlation with donations to Republican candidates and causes. Given its relatively low significance, smaller effect size, and lack of a corresponding correlation with Democratic donations, it may be spurious.

Several of the independent variables show non-significant trends (e.g. a greater proportion of law professors among signatories to the second letter), but we should be careful not to let confirmation bias lead us to see patterns that are not supported by the data. Concluding anything further would likely require a larger sample size.



Perhaps the most interesting conclusion that can be drawn is that there are *not* very many significant differences in the signatories' backgrounds. One could interpret this to mean that the signatories are motivated more by intellectual conviction than external bias. If true, then we (and Congress) should consider their positions on the merits rather than on the basis of the signatories' numbers, education, or experience.