

# The Examiner Interview Index: An Actionable Statistic for Use in Tactical Prosecution Decision-making

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One of the challenges of using examiner prosecution data available from various commercial data sources is information overload. From a patent examiner's allowance rate to more sophisticated statistics like the average office actions to grant ratio (OGR) to proprietary metrics like LexisNexis® PatentAdvisor's Examiner Time Allocation (ETA) statistic, the question the practitioner faces is what do any of these indicate about what to do with this case right now? Are any of these a statistic that provides insight to how a case is going to go in front of this specific examiner? This paper presents an analysis of a new statistic, the Examiner Interview Index, that is based on a normalization of the allowance rate immediately after an examiner interview reported by LexisNexis® PatentAdvisor®. EII is most useful as a stand-alone metric as it intuitively correlates directly with the examiner behaviors the practitioner observes written and oral interactions. Because of this, this paper concludes that EII is a better statistic than either ETA or OGR in predicting future examiner behavior during prosecution and for use in tactical prosecution decisions.

## Experimental Methods

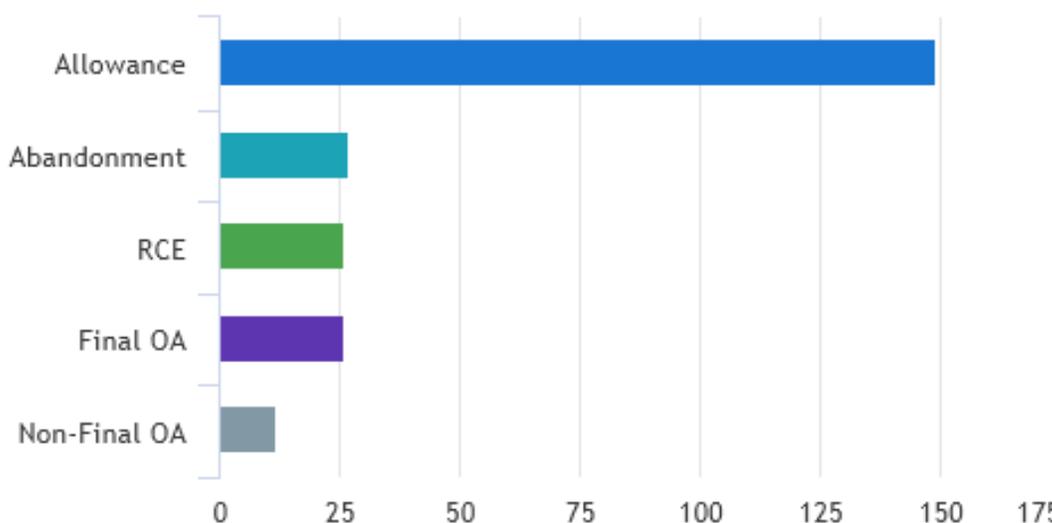
In May 2022, data for 5339 active examiners currently examining cases at the United States Patent and Trademark Office (USPTO) was obtained from the PatentAdvisor® database maintained by LexisNexis IP. Each examiner's data set was based on all those cases present in the database that they were known to have examined since the time they began work as an

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examiner with the USPTO. Those examiners who were known to have moved into non-examining positions (SPEs, etc.) at the time the dataset was assembled were removed. The following statistics were collected for each examiner for use in comparative analysis and model development either directly from the PatentAdvisor database or calculated from the data in the database: allowance rate, ETA, OGR, allowance rate post-interview, rate of winning on appeal, and rate of cases decided by the Patent Trial and Appeal Board (PTAB).

The rates were calculated as percentages. As a precursor to the Examiner Interview Index, an Allowance Rate Post-Interview (ARPI) was calculated from the data presented in a bar chart in the Interview Statistics section of the PatentAdvisor® report for each examiner, a representative example of which is reproduced below as FIG. 1.



**FIG. 1**

In this graph, the outcomes as calculated by PatentAdvisor® following an interview are listed as separate bars. The allowance rate post-interview was calculated by taking the total number of cases allowed in the allowance bar and dividing it by the sum of the total allowances,

abandonments, requests for continued examination (RCEs), final office actions (OA), and non-final office actions, and any unknown outcomes (if present). This result was then multiplied by 100 to convert it to a percentage value. In the case of the chart above, the total number of allowances was 149, and the total number of interviews was  $(149 + 27 + 26 + 26 + 12) = 240$  counting the abandonments, RCEs, and final and non-final office actions. The resulting Allowance Rate Post Interview (ARPI) in FIG. 1 is 62.1% after rounding.

The ARPI statistic was NOT taken or calculated from the allowance rate with interview or allowance rate without interview statistics already reported in PatentAdvisor®. These statistics are calculated taking into account the total number of applications (not just the interviewed applications) before the particular examiner. For example, for the examiner associated with FIG. 1, the allowance rate with an interview is reported as 71.3% and the allowance rate without an interview is 20.4%. The problem with using these reported percentages in PatentAdvisor® is that they create inaccurate expectations in the mind of the practitioner about how effective interviewing the examiner will be. In reality, interviewing this examiner did **not** result in an allowance rate of 71.3%--instead the allowance rate was actually 62.1%. This 10% difference is quite significant (as will be discussed hereafter) and can result in practitioners underestimating the difficulty of prosecuting a case before a given examiner and the real success rate in negotiating using interviews.

While the actual number of active examiners doing day-to-day examination at the USPTO is not precisely known and a total is only reported yearly by the USPTO in its Annual Performance Plan and Annual Report<sup>2</sup>, the ability to develop a statistically-significant

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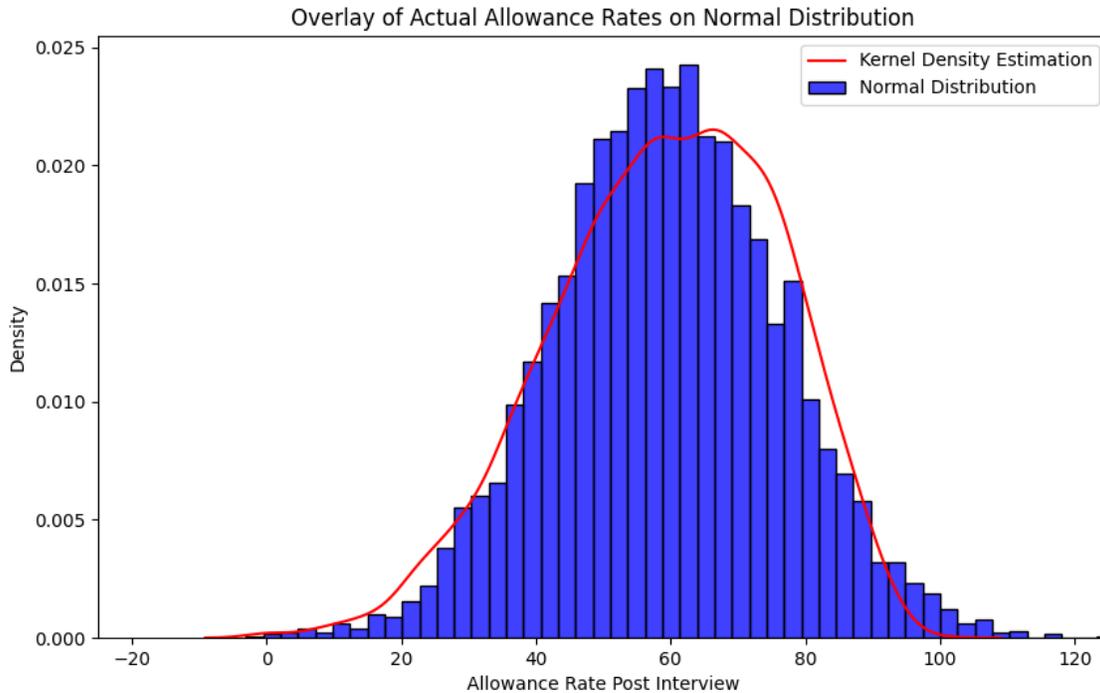
<sup>2</sup>Total Examiners at end of FY2022 reported from the FY 2022 Agency Financial Report, United States Patent and Trademark Office, *available at* <https://www.uspto.gov/about-us/performance-and-planning/uspto-annual-reports>

conclusions for the Allowance Rate Post Interview (ARPI) does not require that the data set include every examiner. In this situation, the fact that the results reported herein are based on 5339 examiners of the 8509 total examiners reported at the office in 2022 means that the conclusions are statistically significant at a 99.999% confidence level with a 1.8465% margin of error with a 50% population proportion selected<sup>3</sup>. Use of the 50% population proportion reflects the initial assumption that the ARPI statistic is normally distributed about its mean where 50% of the examiner population is on one side of the mean and the other 50% of the examiner population is on the other side of the mean. FIG. 2 demonstrates that this assumption is correct as ARPI is indeed normally distributed based on a histogram analysis and a kernel density estimation with a mean located at 59.23% and a standard deviation of 16.83%.

Initially, a normal probability plot of the z-scores for the ARPI statistic for all examiners in the dataset was constructed to study the characteristics of the distribution of this statistic.

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<sup>3</sup> Calculated using the Margin of Error Calculator on Calculator.net, *available at* <https://www.calculator.net/sample-size-calculator.html>

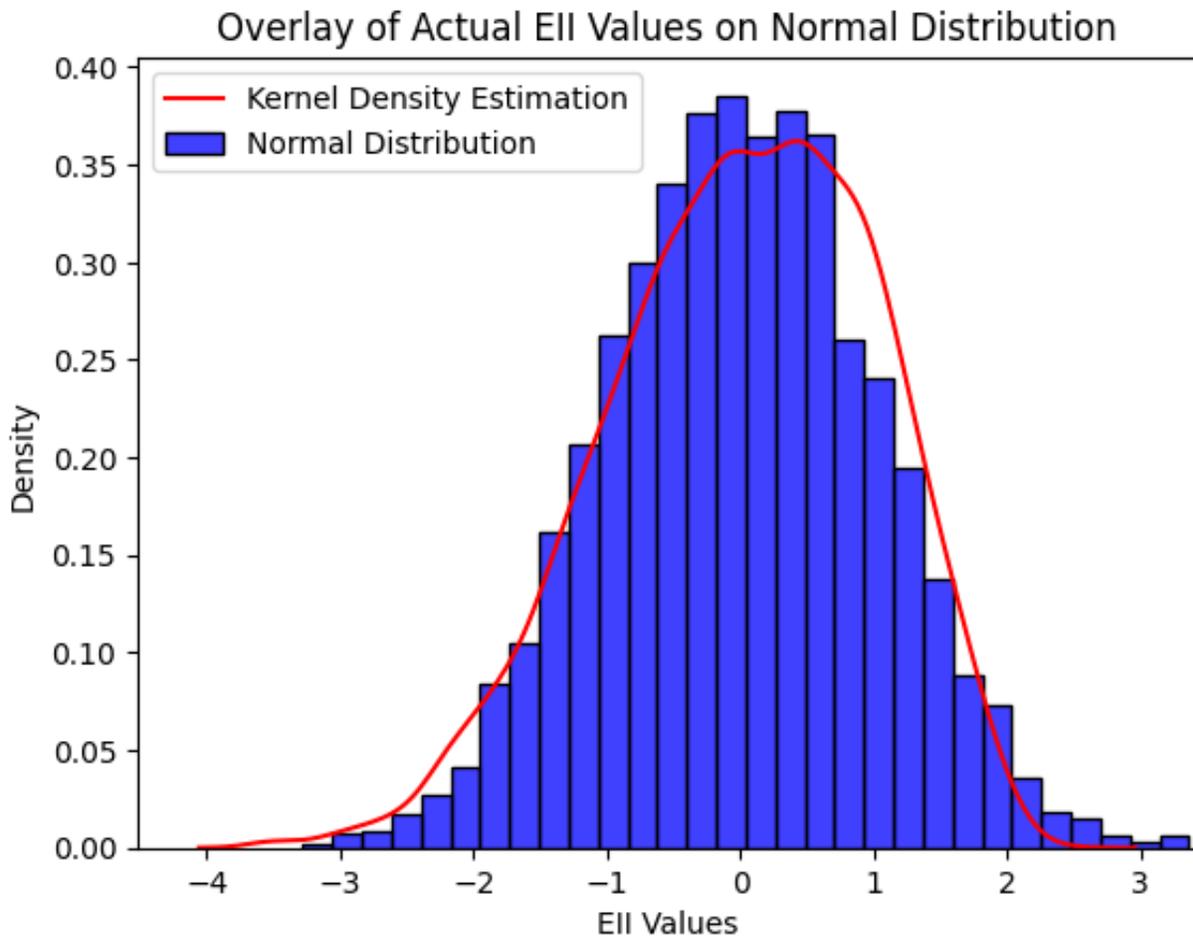


**FIG 2<sup>4</sup>**

FIG. 2 indicates that the ARIPI statistic has a substantially normal distribution with a mean located at 59.23% and a standard deviation of 16.83%. The tail that begins to appear between 90% and 100% is expected given that it is reasonable for there to be more examiners who allow close to or exactly 100% of their cases after an interview than examiners who allow less than 35% of their cases post interview. Because of the normality of the distribution for ARPI, the ARPI values can be normalized around 0 using a Z-score to form a short-hand statistic the authors refer to as an Examiner Interviewing Index (EII). FIG. 3 shows that the appearance of EII closely tracks ARPI but the values are now centered around 0.

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<sup>4</sup> The graphs in this paper were created using Microsoft 365 Copilot Business from the raw Excel data.



**Figure 3**

Using the normalized EII allows the practitioner to see at a glance how far beyond (or below) a given Examiner is relative to the mean (0) in a way that meaningfully corresponds with the number of standard deviations the Examiner is located away from the mean (+3 to -3). Positive EII values indicate that an Examiner is more likely than average to allow a case immediately after an interview. Negative EII values indicate that, statistically, interviewing the examiner is less likely to produce an allowance than attempting to do so with the average examiner.

The author has been prosecuting patent cases for about 19 years and has been investigating the correlation between EII and how difficult a case is to negotiate with an examiner for the past 8 years. The author previously noticed an anecdotal connection between ARPI for a given examiner and how difficult it was to reach an agreement on issues when interviewing that examiner. On the basis of statistical probability theory, an examiner with an ARPI of 50% (EII of -0.55) is supposed to be equally likely to grant or deny an allowance following an interview, so deciding whether to interview such an examiner could be decided by simply flipping a coin. In order to try to ensure that the time and effort of interviewing for both the author and the examiner was more likely to produce a productive result, the author had selected a minimum ARPI for an examiner interview of at least 60% (EII of +0.05) based on the experience of interviewing numerous examiners. Coincidentally, this minimum ARPI to interview was almost exactly what the USPTO-wide mean of the ARPI values is at the corresponding zero EII value validating that this rule of thumb had an underlying statistical basis.

What does this imply? If an examiner is more difficult than average to negotiate with orally in an interview (negative EII values), then resolving all other patentability and procedural issues with that examiner will correspondingly be more difficult. Negotiating in writing using procedural tools like appeals with these examiners becomes the only way to move a case forward on all issues than interviewing. Conversely, if an examiner is easier than average to negotiate with in an interview (positive EII values), then oral negotiations are likely a good way to resolve many or all issues in the case. While this seems self-explanatory, EII is telling the practitioner more than just how an interview is going to go. Because behavior in interviews intuitively correlates directly with how examiners broadly approach their work, this conclusion is borne out by a practitioner's personal experience with the examiner in past prosecution and interactions.

EII thus becomes a measuring stick for the “reasonableness” of an examiner as measured by an examiner’s willingness to resolve issued through oral interactions. Since emotionally intelligent humans can assess this quality of negotiability in a direct interaction with each other to varying extents, the use of interviews can be valuable to obtain this kind of information. However, any practitioner’s individual experience with an examiner cannot provide a full picture. EII allows the practitioner to assess through everyone else’s experiences with the examiner how the examiner negotiates over time. Thus, EII, since it correlates to interview behavior, acts as a predictive metric of examiner negotiating behavior throughout a case. This paper, through comparing and contrasting with other statistics that attempt to predict examiner behavior, will demonstrate that EII is the best statistical indicator of how difficult it will be to work with an examiner through the lifecycle of examination of a case.

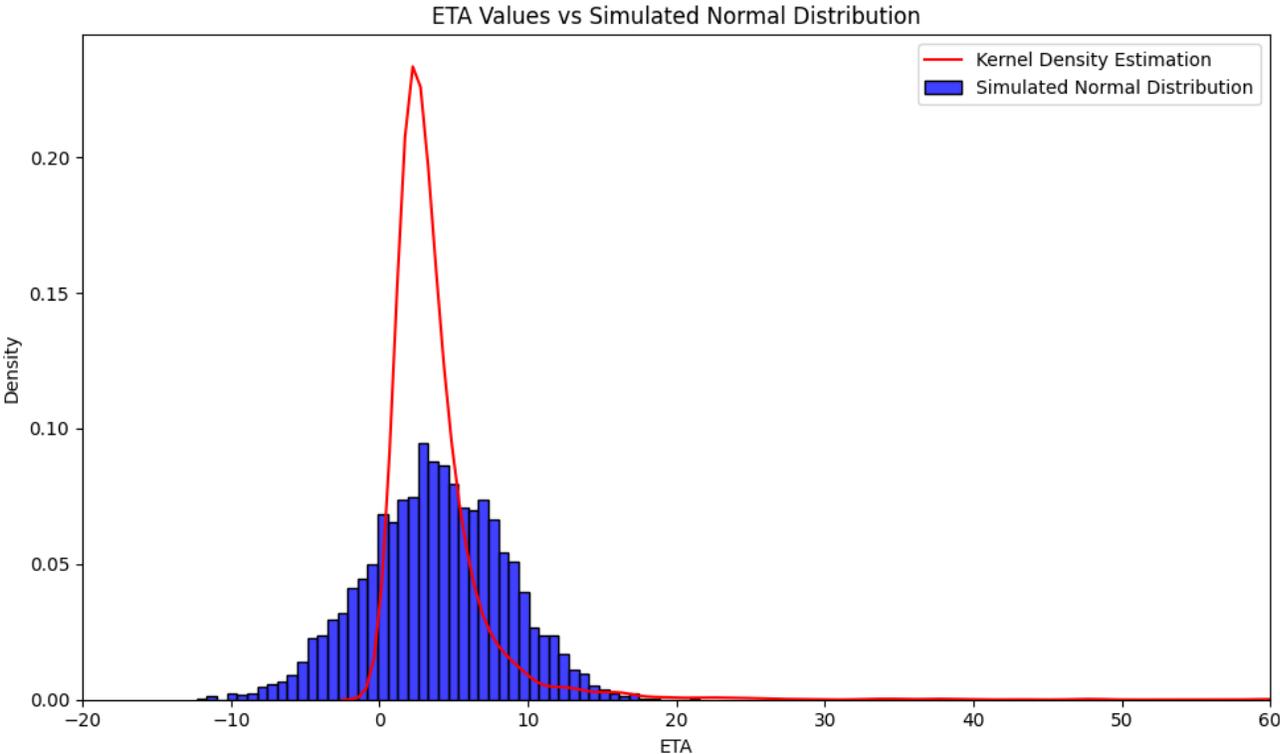
#### Comparison of EII Predictions versus ETA and OGR:

One of the challenges of use of examiner statistics intended to give an overall “sense” of an examiner’s performance/preferences is determining what data values go into such a statistic. A wide variety of approaches have been taken over the years, two of which are considered in this paper, PatentAdvisor’s® proprietary ETA statistic and OGR. OGR is the Office Action to Grant Ratio which indicates how many written Office Actions that an Examiner issues on average for each patent they have granted. The analysis begins with plotting the ETA and OGR<sup>5</sup> statistics compared to a kernel density estimation shown below in FIGS. 4 and 5. Because the histogram of data values does not correlate with the kernel density estimation, neither of these statistics has

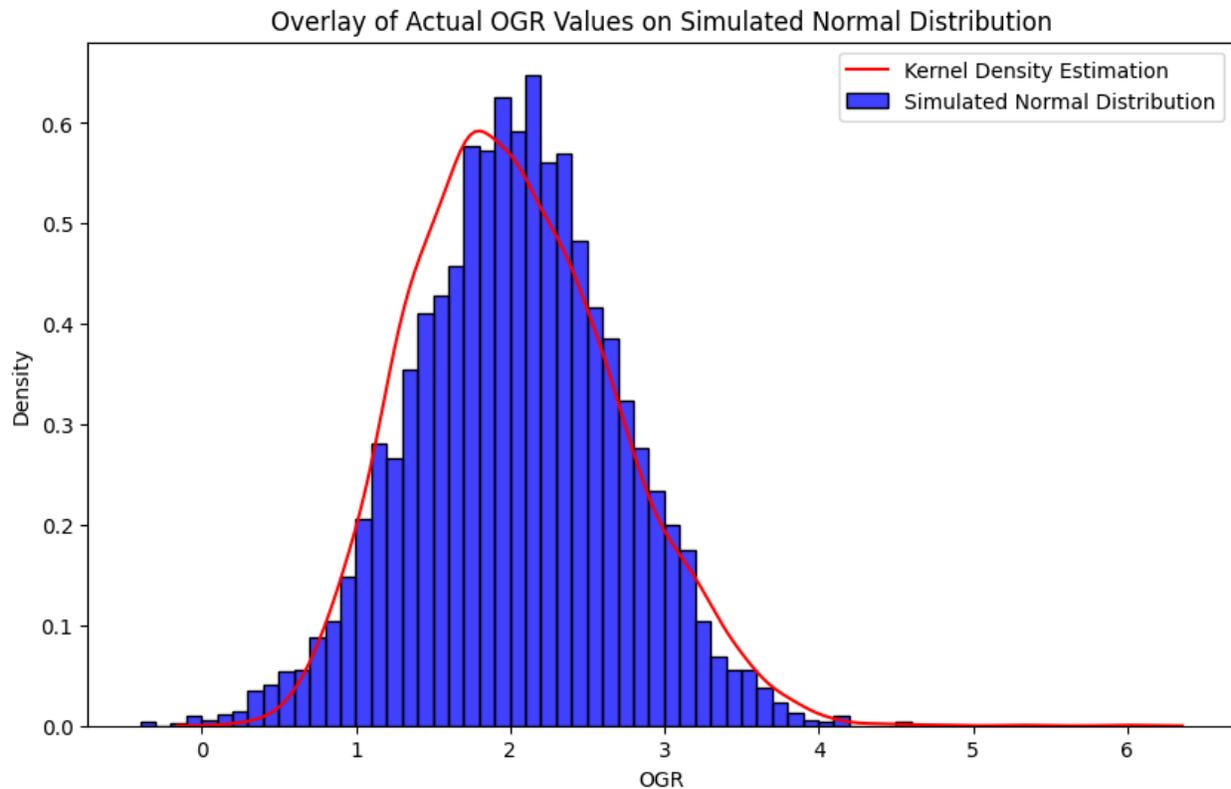
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<sup>5</sup> OGR was taken by using the Average Actions to Grant ratio data for each Examiner available from PatentAdvisor like the approach taken in S. Sean Tu, “Three New Metrics for Patent Examiner Activity: Office Actions per Grant Ratio (OGR), Office Actions per Disposal Ratio (ODR), and Grant to Examiner Ratio (GER),” *J. Pat. And Trademark Off. Soc.* V. 100, p. 277 (2018).

a fully normal distribution like EII. ETA illustrated in FIG. 4 has a significant tail of values that extend out to 100 which has been cut off at 60 to aid in viewing the rest of the distribution but affects the shape of the kernel density estimation.

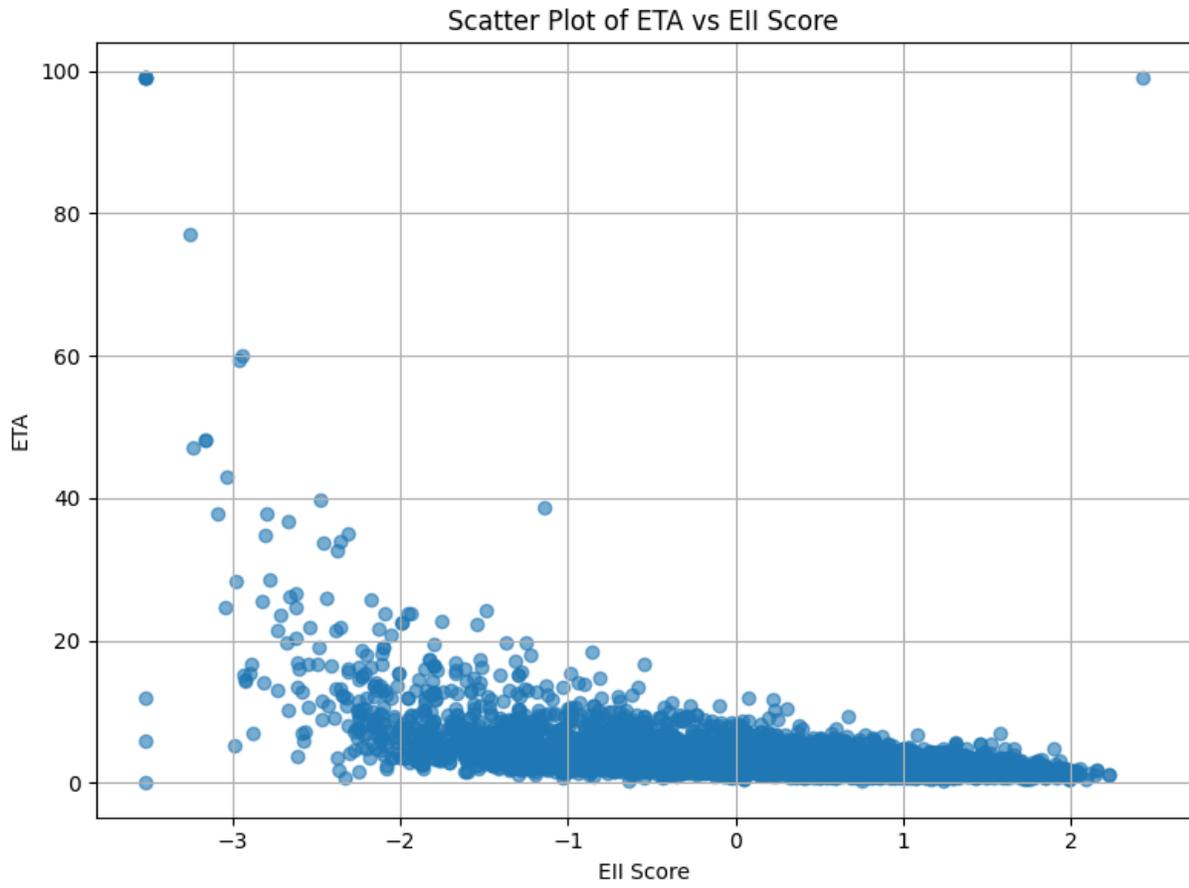


**FIG 4**

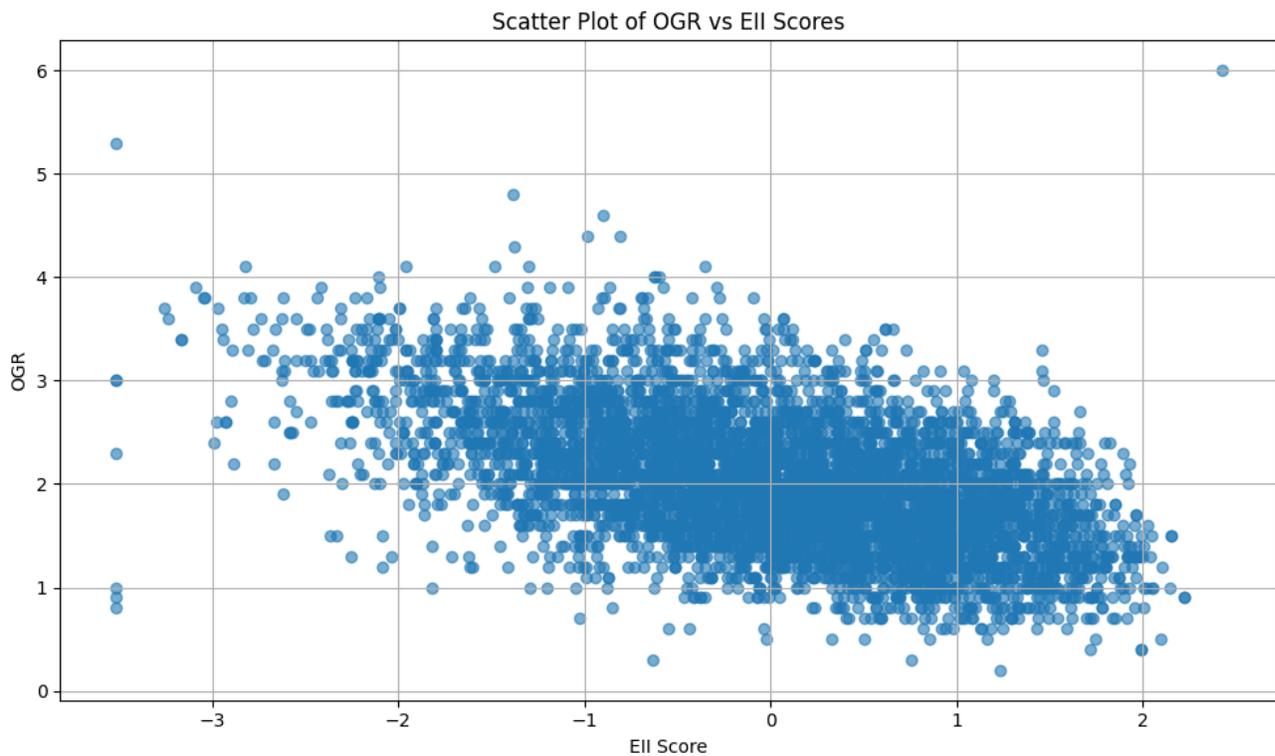


**FIG 5**

Does either ETA or OGR provide a similar ability to EII to predict how a case will go before an examiner? If they do, then each statistic should show that examiners with positive EII values have consistently and correspondingly lower ETA values and lower OGRs. If not, then these statistics are not as capable as the EII value in tactically advising the practitioner whether an examiner is on the reasonable side of zero or not. As an initial look into any correlation between ETA and OGR, FIG. 6 is a scatterplot of the values for the examiners in the dataset. FIG. 7 is a corresponding scatterplot for OGR.



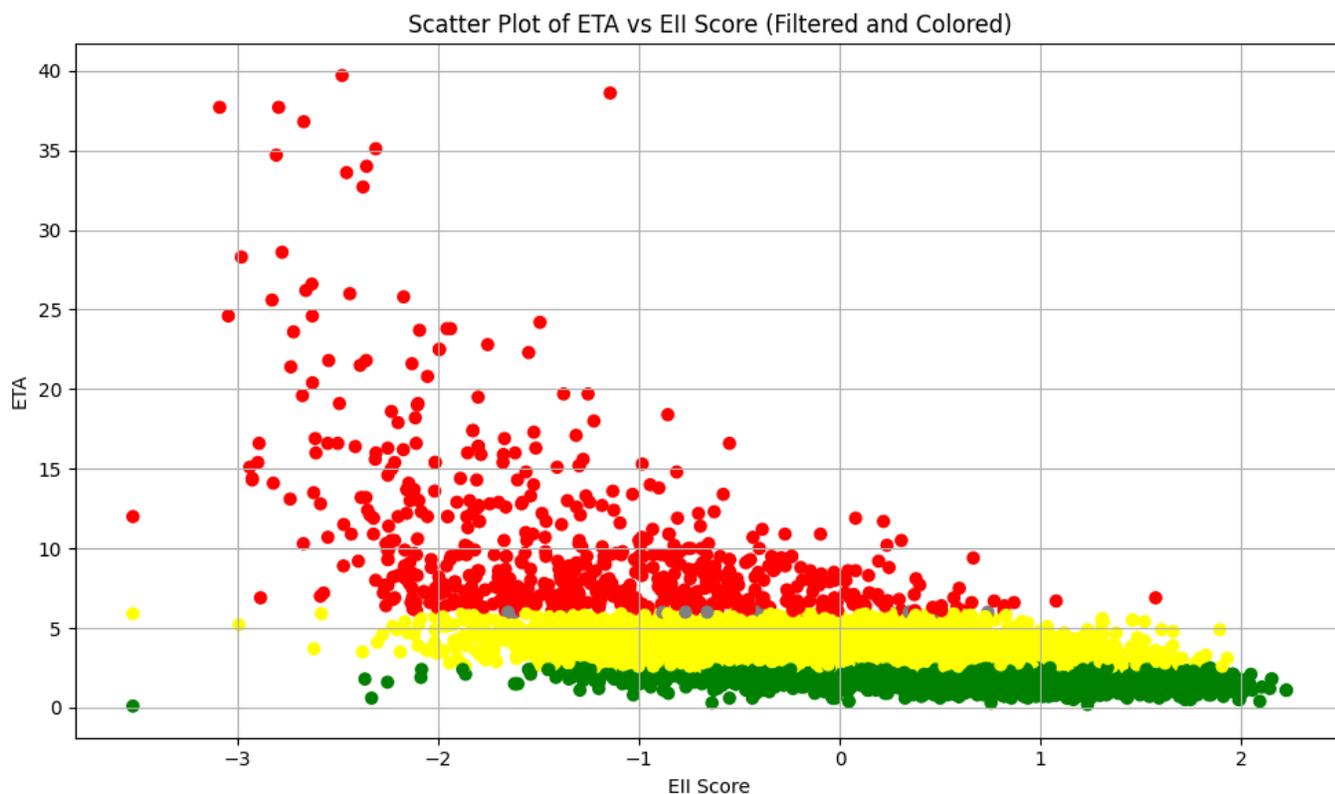
**FIG 6**



**FIG 7**

Both ETA and OGR show some correlation with EII score, but to determine whether ETA actually correlates we must apply a filter to the ETA values. ETA is a proprietary statistic calculated for each examiner at the USPTO that weighs various factors including the examiner's allowance rate, the total number of issued patents for the examiner, the total number of abandoned applications for that examiner, the total number of pending applications for the examiner, and the examiner's years of service at the USPTO as an examiner. Note that this statistic is primarily determined by the examiner's production numbers as an examiner. The ETA statistic reflects this, as red rated examiners in PatentAdvisor ( $ETA > 6$ ) have been demonstrated to issue only 15% of the patents at the USPTO while green rated examiners ( $ETA$  between 0.1-

2.5) issue over 50% of the patents with yellow examiners (ETA between 2.6-5.9) having the balance<sup>6</sup>.



**FIG 8**

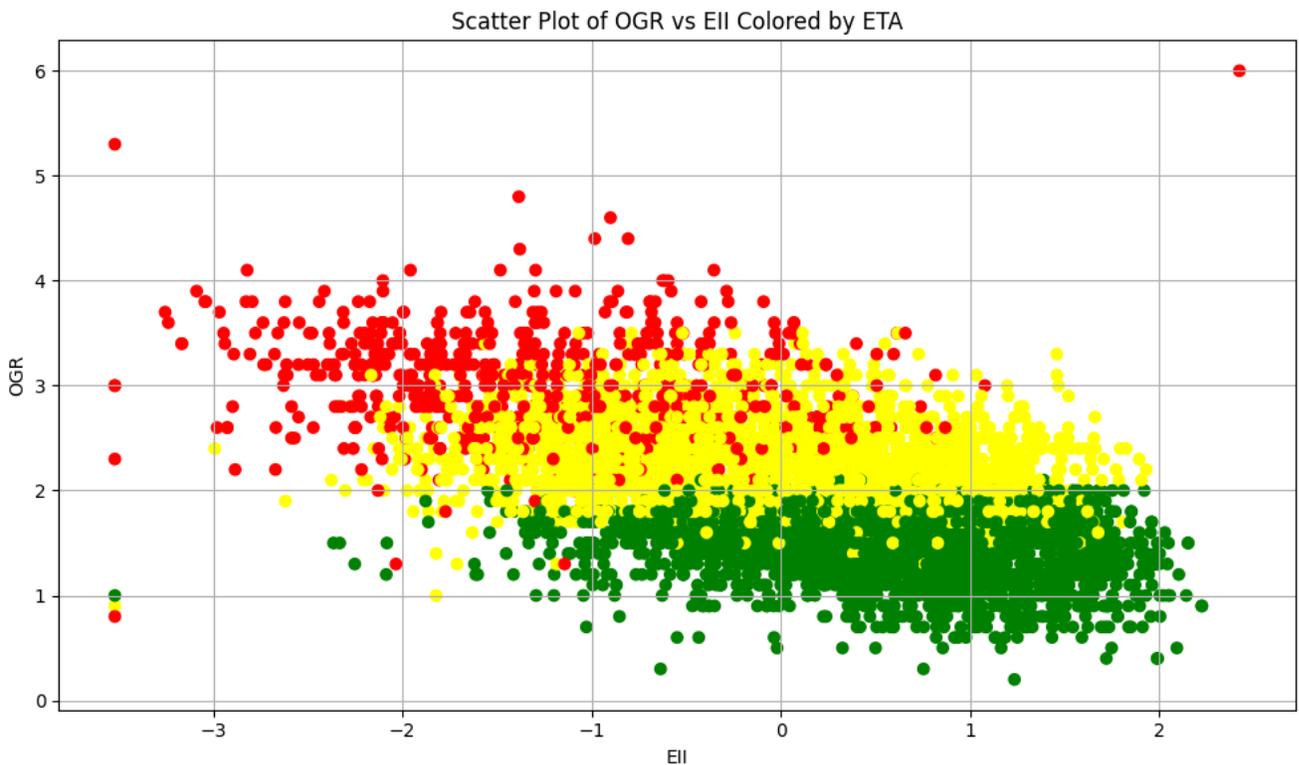
FIG. 8 is the same scatterplot of ETA versus EII score as in FIG. 6 but with all ETA values greater than 40 excluded to give better resolution on the Y axis. The red points in the graph correspond to the ETA values for red examiners, yellow for yellow examiners, and green for green examiners. What is remarkable to see in this visualization is that it shows how little actual correlation is present between ETA and EII. While most of the red examiners have negative EII scores, a good number of them do not. Yellow examiners are mostly split between

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<sup>6</sup> Sartori et al, "Green, Yellow, or Red: What Color is Your Patent Examiner and Why Should You Care?" IPWatchdog, (Jan. 21, 2021), available at <https://ipwatchdog.com/2021/01/21/green-yellow-red-color-patent-examiners/id=129219/#>.

positive and negative EII values. And while a plurality of green examiners are on the plus side of EII scores, many are still one standard deviation away from the mean on the negative side.

The foregoing means that many ostensibly green and yellow examiners per ETA are actually more difficult to work with than their simple production numbers and years of experience indicate. However, these less reasonable examiners **cannot** be identified using ETA value alone as they are camouflaged among all of the other yellow and green examiners in the data. The particular value of ETA assigned to each of them does **not** give the practitioner any advance warning that there will be challenges resolving issues during prosecution.



**FIG 9**

FIG. 9 is a plot of OGR versus EII with the points color labeled by their ETA values, which shows nearly all examiners who issued more than 2 office actions per grant are perceived as yellow by ETA but are much more reasonable per EII score than their ETA color would suggest. This is in part because examiners who issue more office actions take longer to issue their cases, and so are penalized in the ETA calculation regardless of how reasonable they are. The EII score, however, does not care about case duration, but is a measure of how negotiable an examiner is overall.

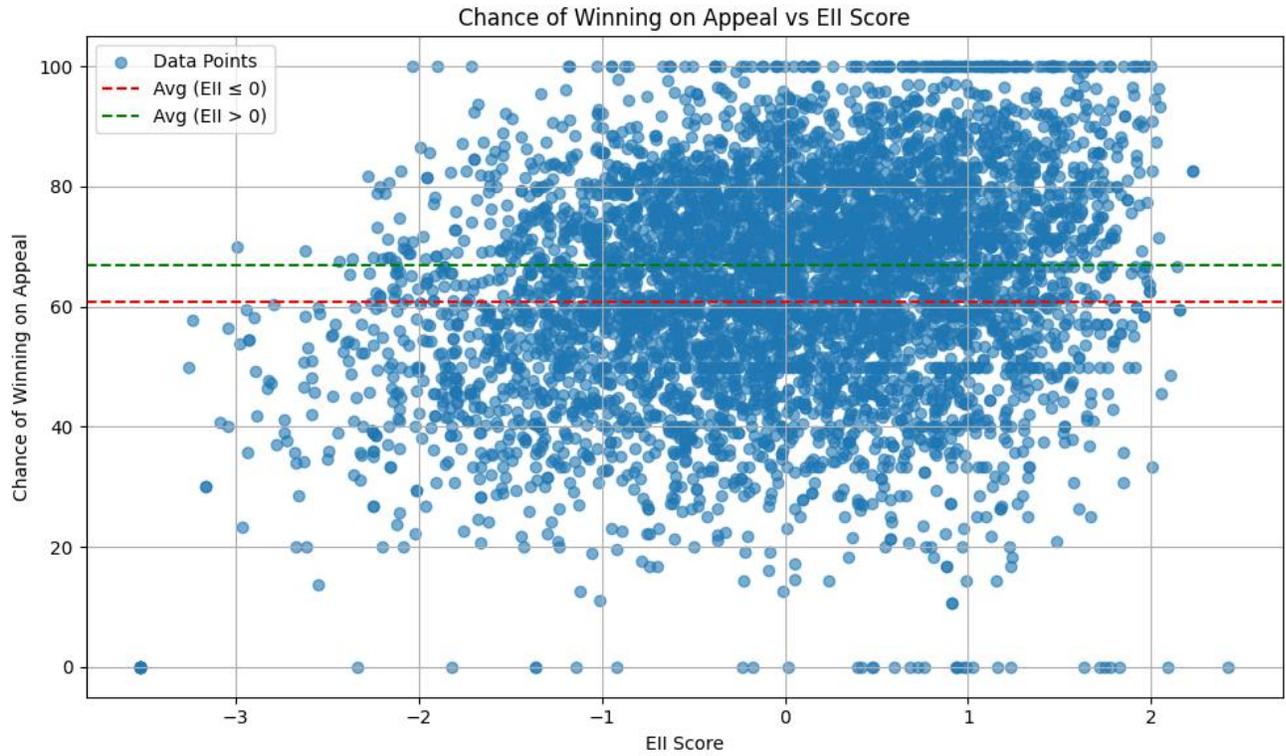
The author has experienced the difference in interview settings working with ETA green examiners who were not helpful and with ETA yellow examiners who were quite reasonable. The observable correlation between ETA and the EII value is with most of the red examiners. But the red portion of the examining corps represents only 15% of the population. Even a certain number of red examiners are on the positive side of zero for EII. What this means is that it is EII which is a better measure of an examiner's willingness to resolve issues with a practitioner (reasonableness) than ETA. One of the direct insights that EII scores give is that it is statistically not recommended to interview any examiners with a score of 0 or less. While the author has certainly heard from many fellow practitioners who believe that their interviewing skills are what will make the difference, it is more cost effective to learn from others' experiences rather than conduct an experiment with an examiner you do not already know well. EII helps the practitioner avoid the temptation to engage with examiners with scores less than zero with the belief that with the right approach or sufficient "vulnerability" in an interview will persuade and examiner to be cooperative. And, as previously observed, how interviews go, also generally goes all of examination with a given examiner.

So should you just interview every examiner and then use that single data point to decide how things are going to go? No, because a practitioner's single interview is just one data point and thus unable to support a statistically valid conclusion. Only EII provides insights from **all** practitioners' learned experiences and is a data-informed way to assess an examiner's reasonableness. While a practitioner is free to confirm the EII score with an interview, if an examiner already has sufficient cases and experience to produce a valid EII score, why reinvent the wheel at the client's expense?

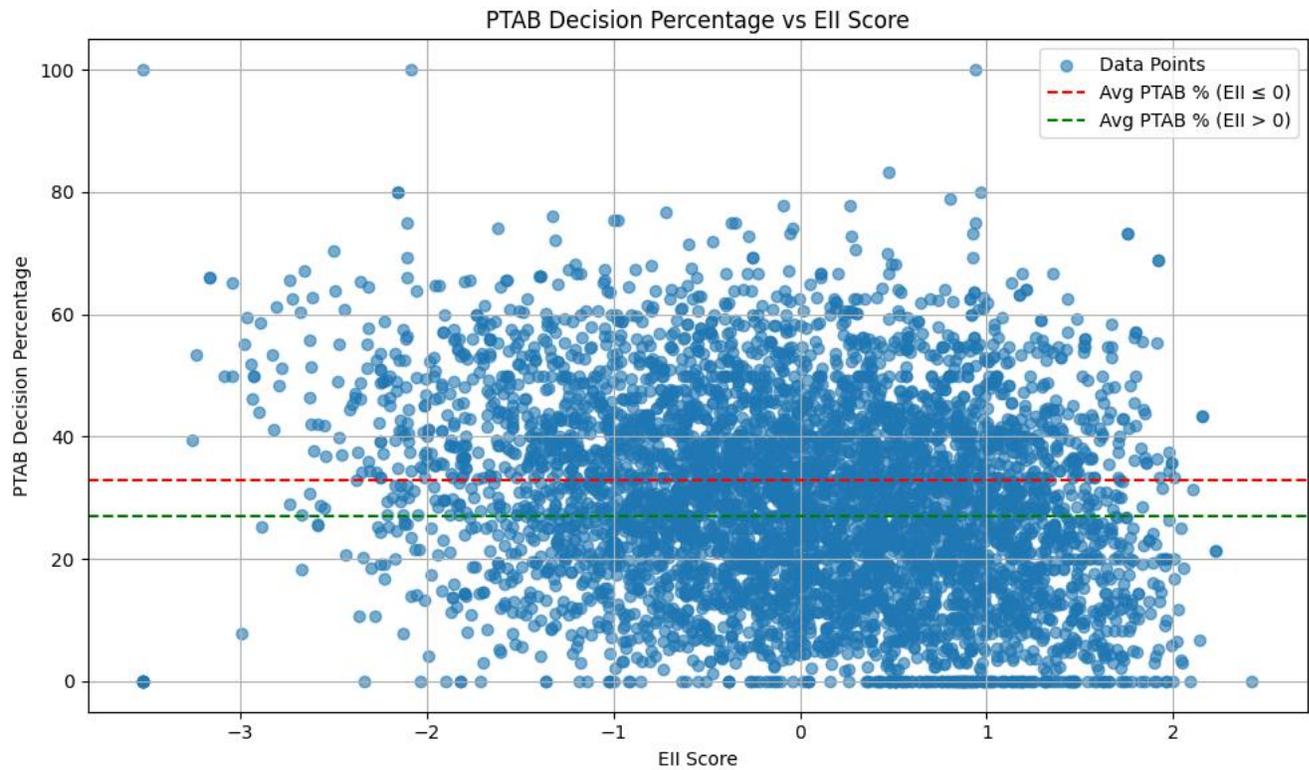
While what to do with examiners with positive EII scores is relatively straightforward (find ways to directly negotiate with them through telephone calls and interviews) what is the best approach for examiners with below average EII scores? Is the case doomed to take longer and cost more than if it was before an examiner with an above average EII score? The author's experience has been that if an examiner with a below average EII score is negotiated with in writing using an ex parte appeal with an appeal early and often approach, significant cost savings are realized over a traditional interview and RCE approach. Why this result is the case is intuitive—interviewing examiners who demonstrably do not positively respond to oral advocacy results in more back and forth than using the ex parte appeal procedure to generate normative leverage and expand the audience of examiners who are reviewing the issues in the case via appeal conferences. Ex parte appeals allow the practitioner to negotiate in writing and before more members of the examining corps. With the recent substantial increase in government fees for first and second RCEs, the economics of attempting to resolve all issues with an interview followed by an RCE are becoming significantly less attractive.

So what does EII inform the practitioner about how things will go during an ex parte appeal before their examiner? FIG. 10 is a graph of the percent chance of winning on appeal

before the PTAB by EII score and FIG. 11 is a graph of the percentage of appeals decided by the PTAB by EII score. A line showing the average of the percentages for all examiners with positive EII scores and negative EII scores is also shown on each graph.



**FIG. 10**



**FIG. 11**

FIG. 9 indicates that the practitioner is more likely to win at the Board with examiners with positive EII scores than with examiners with negative EII scores. By “winning” at the Board means all those situations where the examiner 1) reopens prosecution at some point during the appeal process, 2) allows the case at some point in the appeal process, or 3) is actually reversed by the Board. Intuitively this makes sense as by inspection a majority of the 100% applicant win examiners at the top of the figure have a positive EII value. The positive correlation between the chance of winning on appeal and the EII value indicates that examiners with increasingly positive EII values either do not let their cases go to the Board or are just not as good at creating a sufficient record with arguments which would allow the Board affirm their rejections. The graph also indicates that practitioners also do not do that much worse with examiners with negative EII index values (~5% less win rate).

FIG. 10 indicates that there is a general negative correlation between the percentage of decisions actually decided by the PTAB for an examiner and that examiner's EII value. Examiners with more positive EII values are less likely to let their cases be decided by the Board. Pursuing an appeal with an examiner with a very positive EII value is therefore less likely to result in a Board decision than pursuing an appeal with an examiner with a very negative EII value. However, the difference between the population of examiners with zero or negative EII values and those with positive EII values is only about 5% once again, meaning that the examiners with negative EII values are not that much more likely to send their cases to the Board. Thus, seeking an appeal with an examiner with a negative EII value does not automatically condemn a case to a year or more of delay before a resolution can be reached. Instead, as FIG. 11 shows, both populations of examiners are about 70% likely to not let their case go to the board and allow or reopen prosecution during the appeals process.

Beyond indicating how examination is likely to proceed overall, EII does predictably provide key tactical insight on the likelihood of success of interviewing examiners. For 13.5% of the examiners in the population (beyond 2 standard deviations or an EII value of -2), an interview is highly unlikely to result in an allowance as the next action. Because the EII statistic is normally distributed, whether an examiner chooses to allow a case after an interview is mostly up to the examiner. Put differently, regardless of the interviewing skill employed, there are many examiners that the data shows do not allow their cases after an interview. Blanket approaches of interviewing every patent case are not going to change these examiners' preferences—such interviews will only keep adding data that confirms what the data set already showed. This observation may prompt some practitioners to revisit their interviewing approaches. The data set also indicates that the assumption that many practitioners have publicly expressed to the author that an interview will help a case move forward most of the time is not

supported by a review of the actual examiner data. Instead, **targeted** interviewing of examiners who the data shows like to use interviews to move their cases forward is the best approach to resolve issues.

The author's experience in interviewing many examiners is that those with positive EII scores are more likely to demonstrate the following behaviors during an interview:

- 1) Come prepared.
- 2) Make meaningful unsolicited suggestions regarding alternative claim language or amendments.
- 3) Reach a negotiated agreement in principle on a contested point during the interview.
- 4) Allow some substantive amendments to be filed after final that will be considered.
- 5) Issue allowances where an examiner's amendment is used to make claim amendments to make the claims allowable.
- 6) Concede clearly incorrect claim constructions/art interpretations.

Those examiners with zero or negative EII scores are more likely to demonstrate these contrasting behaviors during an interview:

- 1) Come unprepared.
- 2) Not make any meaningful suggestions regarding alternative claim language/amendments or offer meaningless/detrimental amendments.
- 3) Refuse to commit to agree on a contested point
- 4) Demand that arguments and amendments presented during the interview are presented via a request for continued examination (RCE).

- 5) Refuse to use examiner's amendments in notices of allowance instead of applicant-submitted responses and RCEs.
- 6) Refuse to concede clearly incorrect claim constructions/art interpretations.

There may be various practitioners who may take some offense at the previous observation that they are statistically unlikely advance every case with an interview given they are regarded as highly skilled practitioners. To these, the author makes the following observations:

The significance of the bell curve distribution for the EII score reveals that EII has a naturally occurring distribution. In other words, a practitioner cannot beat the curve, but has to learn how to cope with its shape. The feedback the author has received in the past 8 years while using EII from fellow practitioners is that they believe that they are sufficiently talented and good enough at what they do to beat the statistical odds and influence difficult and unreasonable examiners through their skill of presentation and arguments. In reality, because of the amount of work an examiner is expected to produce every two weeks, there is way more going on under the hood when an allowance decision is on the table than what a practitioner could offer the examiner in any given interview setting.

The normal distribution means that regardless of a practitioner's skill, they provably are not going to win more than 50% of the time with half of the Examiners at the office. As practitioners, we deceive ourselves when we think we have power or influence over other people (which is the root of codependency). Skill as a practitioner show itself in being willing to recognize who the examiner is on the normal distribution and meet them where they are with the procedural tools that provide actual leverage to get the case done.

Yes, an unskilled practitioner can throw a case. But the reverse is not true—the most skilled practitioners the author knows at the most elite national IP boutiques struggle daily with getting what should be allowable cases past numerous examiners. That struggle is what fighting the normal distribution looks, feels, sounds, and costs like. Like they told all attorneys in law school, “half of you are going to be in the bottom 50% of your class.” The examiners sort themselves.

After years of appeals and negotiating with examiners, the author has come to appreciate that good advocacy, specifically good written advocacy, makes a much bigger difference at the PTAB than before most examiners. The USPTO's output-focused culture means examiners have to make decisions about how to get workflow credit out of their cases. Many reach their biweekly production targets using RCEs. EII shows that examiners are people too and so a normal distribution of outcomes surrounding their tendency to allow after an interview exists. In view of its intuitive correlation and the inability of ETA and OGR to provide the same ability to parse examiner behavior, EII is the best measure (over ETA and OGR) of an individual examiner's reasonableness, or their willingness to work with a practitioner to resolve issues in a case. The real humanity involved in the patent examination process is something the author has been struck by ever since the days he did his first statistical analysis of examiner behavior in 2007.<sup>7</sup>

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<sup>7</sup> Adam R. Stephenson, “A view of the future in semiconductor process: patent prosecution in class 438 under the United States Patent and Trademark Office's final claims and continuations rules,” 8 *Wake Forest Intell. Prop. L. J.* 272 (2008).

What the author has found most useful about EII is the validation of EII value for a given examiner happens simply through a practitioner's experience with that examiner. Identifying these self-interested examiners with negative EII scores and using procedural steps like ex parte appeals to work around them, in the author's experience, has resulted in reducing churn, the government fee cost, and the loss of patent term adjustment that results from filing RCEs. It can also result in shorter independent claims as meaningless amendments are avoided that some examiners propose in interview settings that simply add words to the claim and either have no real effect or result in unnecessary narrowing of scope in view of the art cited. Because the only setting in which these types of claim amendment proposals come up is in oral interviews, avoiding interviewing these examiners allows the applicant to not be tempted to settle and then try to broaden using a continuing application (which is an increasingly expensive option since the addition of continuing application fees in January 2025).

## Conclusion

In this paper a novel EII score with a normal distribution with a mean that evenly divides the total number of examiners at the USPTO is presented. The intuitive quality of this statistic and its correlation to anecdotal experience with examiners helps answer the question "How is this case going to go?" The data presented indicates that EII scores are a better indicator of what to do next than ETA or OGR. The EII value indicates what an examiner's preferred negotiating style is and also what approach (written or oral) that is more likely to advance a case. The EII value is particularly helpful when considered at any final or second office action where the examiner has chosen to "contest" a case either by finding new art or simply repeating the previous arguments without really considering the practitioner's response. In these situations, the practitioner can add value by avoiding interviews with examiners with negative EII values

and carefully preparing for interviews with those examiners with positive EII values. Because EII is a tactical rather than strategic statistic, using just EII scores can help provide cost and time savings immediately for the practitioner and client without requiring significant time or having an understanding of what the other 6 pages of examiner analytic data might mean. This ability to use examiner data to “cut to the chase” provides immediate benefit to a practitioner and the client at a minimal level of time investment. EII scores also help the practitioner appreciate the statistical reality the client is facing when negotiating with any given examiner and can help the practitioner manage expectations using an intuitive statistic.