From: Wasserman, Melissa F
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To: External Examination Time Study <ExternalExaminationTimeStudy@USPTO.GOV>
Subject: Comments Re: Examination Time Goals

Attached please find our comments regarding examination time goals.

Best,

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Comments on Examination Time Goals

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On average, a patent examiner spends only 19 hours reviewing an application, including reading the patent application, conducting a prior art search, comparing the prior art with the application, writing a rejection, responding to the patent applicant's arguments, and often conducting an interview with the applicant's attorney. Because patent applications are presumed to comply with the patentability requirements when filed, a patent examiner who is given insufficient examination time may conduct limited review of applications and grant patents that fail to meet the patentability standards.

In a forthcoming article, we set out to comprehensively test whether the time allocated to review patent applications may be causing patent examiners to allow low quality patents.[1] To do so, we follow individual examiners throughout the course of their career and track the evolution of examiner behavior—including their grant rates—as they experience promotions that diminish the amount of examination time at their disposal. That is, we exploit the fact that each examiner promotion on the General Schedule pay grade—i.e., GS-11 to GS-12—is associated with approximately a 10 to 15 percent decrease in the number of allocated hours to review an application. Through various methodological techniques, we find evidence suggestive that examiner time allocations to review patent applications are causing patent examiners to allow low quality patents. For instance, we find that as examination time is cut roughly in half (i.e., as an examiner rises from GS-7 to GS-14, controlling for changes in years of experience), grant rates rise by roughly 19 percentage points—or around 27 percent. We also find that the longer a patent examiner stays at a GS-level, the more her grant rate drops (see Figure 1). Thus, it appears that the increased grant rate we document upon GS-level promotion is unlikely to be due solely to an increase in an examiner's experience in reviewing applications. If anything, our results are more consistent with a story in which examiners learn over time how to form more effective bases of rejections (resulting in grant rates decreasing as an examiner garners more experience), only to have this learning process interrupted when examiners experience time diminishing promotions (resulting in grant rates re-elevating). Further supporting this learning-interruption interpretation of our findings, we also find that the rate by which examiners issue time-intensive obviousness rejections appears to rise as examiners spend more time within grade levels, only to see these

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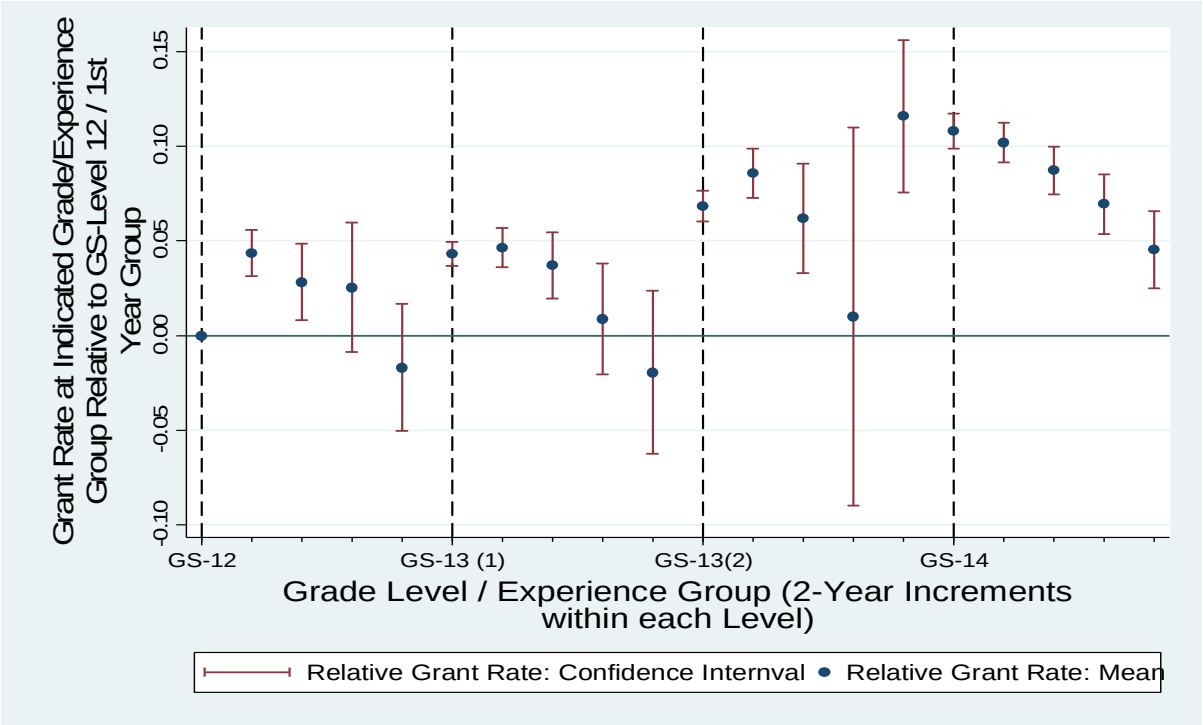
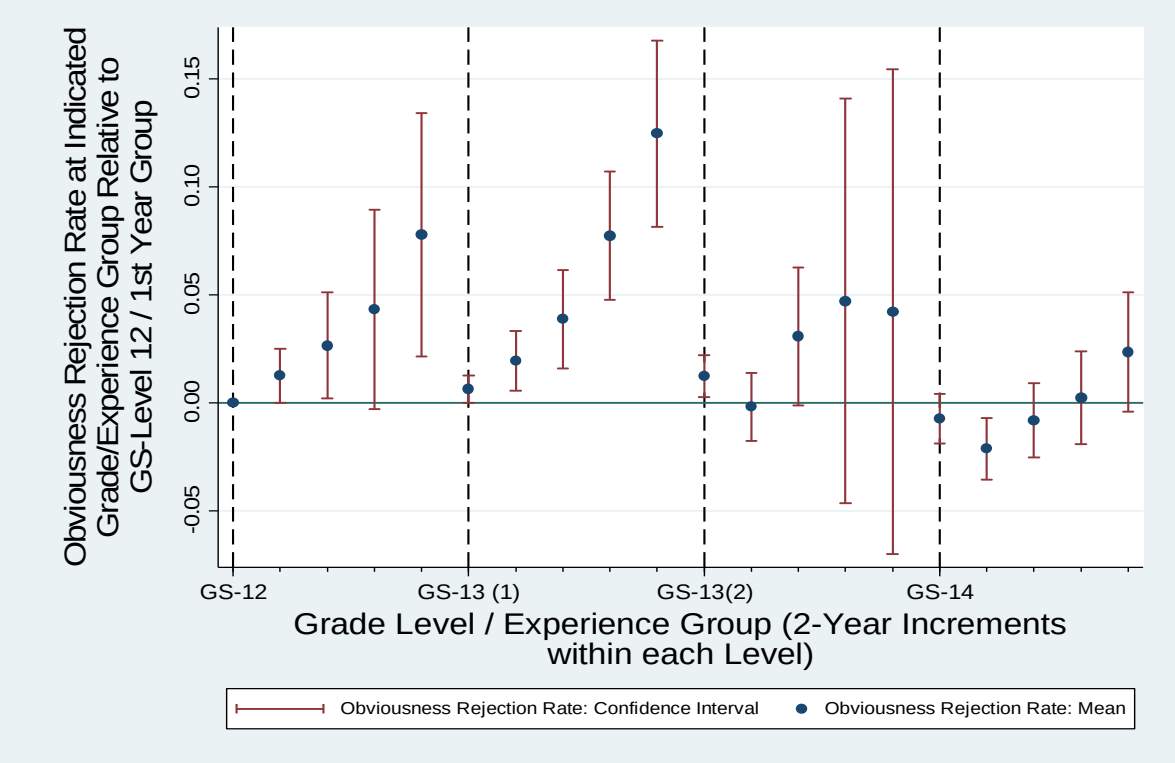
rates fall upon promotions that carry with them reductions in the amount of time extended to examiners (see Figure 2).[3]

Figure 1: Relationship between Grant Rate and Increases in Experience Years within Distinct Grade Levels



[3] As we spell out in our forthcoming publication, we caution the reader that decoupling an experience effect from a promotion effect is a very challenging statistical exercise, especially for lower GS-levels where examiners somewhat consistently spend relatively brief periods of time at each GS level. Conceivably, our empirical exercise and our ability to separate experience effects from promotion effects could be enhanced to the extent that we conducted this exercise over smaller windows of time and observed allowance rates at smaller intervals—e.g., tracking allowance rates in the weeks or months leading up to and subsequent to a promotion (as opposed to the years leading up to and subsequent to promotions). We note, however, that an alternative approach of that nature suffers from limitations of its own. After all, the question before us is the effect of allocations of time over entire applications (not just individual office actions), a process that transpires over a period of months/years. If time allocations do affect allowance rates, it may thus be difficult to observe a discontinuity in granting tendencies upon promotions when looking at very brief intervals of time. This is especially true considering that the way in which new time allocations affect an examiner's behavior on the first office action on the merits may differ from how it affects their behavior on subsequent rounds of review—a topic of future research that we hope to pursue. Accordingly, we opt to tackle this problem while calculating allowance tendencies over longer blocks of time, despite the difficulty that creates in confirming our story at earlier promotion events.

Figure 2: Relationship between Incidence of any Obviousness Rejection and Increases in Experience Years within Distinct Grade Levels



Michael D. Frakes and Melissa F. Wasserman, Is the Time Allocated to Review Patent Applications Inducing Examiners To Grant Invalid Patents?: Evidence from Micro-Level Application Data, *The Review of Economics and Statistics* (forthcoming 2017), copyrighted by the President and Fellows of Harvard College and the Massachusetts Institute of Technology.

What do our results imply for USPTO policy? Our results suggest that time allocations are binding on patent examiners and causing examiners to grant invalid patents. Notably, the magnitude of the bias is large. We estimate that 40,000 fewer patents would be issued each year if all patent examiners were given the amount of time extended to GS-7 examiners.

We recognize, of course, that setting examiner workload expectations involves a number of delicate balancing acts. For instance, in determining how much time an examiner should spend on an application, the USPTO faces a fundamental quality-versus-quantity tradeoff. Taking the budget as a given, if the Agency increases the time given to examiners to review applications, it necessarily decreases the number of applications the Agency can process. Our empirical analysis itself does not speak to whether or not the USPTO is approaching this tradeoff in a socially

detrimental manner. To be clear we strongly believe that cost and pendency must be considered when time allocations. Nevertheless, given how much easier to measure and evaluate production levels, backlogs, etc. and how fundamentally difficult it is to quantify examination quality, we have our suspicions that current USPTO policy may cater more to production-level concerns.

We also acknowledge that the USPTO is not the only player in town that can eliminate invalid patents. One cannot ignore the courts in this discussion. Hypothetically, if the courts were able to quickly and inexpensively remove patents that should have never been issued from the public domain, increasing the time allocations at the USPTO would not be necessary. As such, this examiner-time allocation question implicates another key tradeoff: the administrative costs associated with investing more ex ante—at the Agency—versus the administrative costs associated with reserving judgment for the courts ex post. The empirical framework employed in our forthcoming article discussed above also provides us a means of evaluating these relative administrative burdens. Interestingly, our preliminary evidence on this point suggests that society may get better bang-for-the-buck by investing more on the margin at the USPTO, further reinforcing our point that the Agency should strongly consider revising its examiner time allocations.

Our bang-for-the-buck comments aside, investing more in examination efforts will require more funds. To cover these needs, the USPTO could increase its examination fees to cover the additional costs associated with giving patent examiners more time to review applications. That is, the Agency can remove the constraint of a fixed budget, in light of the fact that the USPTO now has the ability to set its own fees.[2]

Finally, we want to highlight another important dimension of patent examination quality that may be implicated by time-allocation considerations: heterogeneity in patent examiner behaviors. Regardless of our concerns over patent examiners allowing too many patents on average, we may be independently concerned with the idea that applicants may face very different application outcomes depending on the examiner to which they are randomly assigned. Our findings implicate a concern of precisely this sort. That is, whether you are assigned a GS-7 examiner or a GS-14 examiner seems to matter greatly in terms of your expected outcome with the application process. To the extent that these differences do in fact arise from time-allocation differences across examiners, our research suggests that the Agency may wish to reconsider the manner in which it re-scales time allocations upon examiner promotions. One way to achieve more homogeneity in examiner outcomes would be to modify the way in which examination times are adjusted upon promotion to give less time to junior examiners and more time to senior examiners. If examination time does indeed account for the GS-level-grant-rate relationship that we document in our research, then this approach would help decrease examiner heterogeneity in

decision making while nonetheless keeping the average total hours spent reviewing an application relatively constant (thus maintaining budget neutrality). Alternatively, the Agency could consider taking even greater efforts than they already do to easing examiners into their new time allocations upon promotion—e.g., easing examiners into their new schedules over a one-year time period (rather than the next bi-week).

All told, the evidence that we have collected is suggestive of a powerful role being played by examiner time allocations. Before fully changing patent policy, it would be ideal to understand these causal pathways with even greater certainly. As such, on a concluding note, we encourage the USPTO to consider implementing some controlled experiments respecting these matters, whether experimenting with examination time increases generally or with the way in which allocations are scaled upon promotions. While such experiments would carry implementation (and other) costs, the knowledge and the value that could come from them could be substantial.

[1] Michael D. Frakes and Melissa F. Wasserman, Is the Time Allocated to Review Patent Applications Inducing Examiners To Grant Invalid Patents?: Evidence from Micro-Level Application Data, Review of Economics and Statistics (forthcoming 2017), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2467262.

[2] We acknowledge that fee increases may instigate tradeoffs of another variety—e.g., driving some applicants away from the patent system. Applicants are not likely to be so sensitive to fee levels, however, that these considerations should deter the Agency from entertaining the idea of expansions in time allocations, especially in light of the social harms that may arise from granting invalid patents.