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WHO’S AFRAID OF THE APA? WHAT THE PATENT SYSTEM CAN LEARN FROM ADMINISTRATIVE LAW

STUART MINOR BENJAMIN AND ARTI K. RAI

INTRODUCTION

In the last few years, widespread dissatisfaction with the patent system – and particularly with the perceived poor quality of issued patents – has spurred a broad range of groups to call for reform. Congress is currently looking into the possibility of significant reform. One important reform proposal upon which otherwise divergent groups broadly agree is fortification of administrative procedures, particularly through the institution

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within the Patent and Trademark Office (PTO) of a trial type system of post-grant opposition.²

The emphasis on fortifying administrative procedures through new legislation is in accord with the Supreme Court’s interest, demonstrated through its 1999 Dickinson v. Zurko decision,³ in applying administrative law to the patent system. Indeed, the inattention to administrative law principles has long been a striking feature of the patent system. In contrast with commentators and practitioners in other technically complex areas (e.g., environmental law, telecommunications law, and food and drug law), the patent law community has tended to pay little attention to administrative law.⁴ In part, this has been because, until 1999, the primary expositor of patent law and policy, the Court of Appeals for the Federal Circuit (which hears all appeals in patent cases),⁵ denied that the Administrative Procedure Act even applied to its review of the PTO.⁶ Additionally, unlike such prominent agencies as the Environmental Protection Agency and the Federal Communications Commission, the PTO does not have authority to issue substantive rules, and it does not render legal interpretations of the patent statute to which courts must give Chevron deference.⁷

Although administrative law thinking is now beginning to permeate the patent community, incorporation of such thinking is far from complete.⁸

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⁵ The Court of Appeals for the Federal Circuit was established in 1982 to hear all appeals in patent cases.
⁶ The significance of 1999 is that the Supreme Court decided Zurko that year.
⁷ See Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837 (1984); United States v. Mead Corp., 533 U.S. 218, 227-230 (2001) (indicating that deference to legal interpretations under Chevron is merited when an agency acts pursuant to Congressional grant of substantive rule-making authority or pursuant to Congressional grant of authority to conduct formal adjudications); infra notes ___ to ___ and accompanying text.
⁸ In some respects, the administrative law gap in patent law has parallels in antitrust law. Indeed, in that case, although Congress has given the FTC power to render legal interpretations under the FTC Act, courts have sometimes been resistant to invoking Chevron deference. Some of the formal and functional problems raised by the failure to take
Some judges on the Federal Circuit have been quite resistant to the Supreme Court’s command in *Zurko*. Perhaps the most striking example of the failure to consider administrative law is the prevailing position that post-grant opposition proceedings should be governed by rules of judicial review borrowed from civil procedure. Indeed, of the major reform proposals, only the Federal Trade Commission’s analysis takes administrative law seriously.\(^9\) This is unfortunate, as an approach to post-grant opposition grounded in rules of civil procedure will suffer from the same collective action/public good problems that arise in trial court patent challenges and is therefore unlikely to achieve significant efficiency benefits.\(^10\)

In this Article, we go beyond the preliminary discussions contained in cases like *Zurko* and in the FTC report to provide a comprehensive account of the intersection of patent law and administrative law.\(^11\) Such an account could proceed from first principles – for example, designing an ideal agency procedure and a reviewing court from scratch. There is considerable value in accounts that design ideal institutions. But for better or worse, a new start from the ground up – whether in patent law or administrative procedure – is exceedingly unlikely. By contrast, an approach that assumed no changes whatsoever to the status quo might miss opportunities for improvement. In this Article we adopt an intermediate position, looking at what theory and doctrine would suggest for the relationship between the judiciary and the PTO, and the ways in which realistic changes to the existing process might be attractive in light of that theory and doctrine. The result is a second-best solution – but one that is considerably more desirable than the status quo.

For the most part, judicial review based on ordinary administrative law doctrine, coupled with modest changes to existing PTO procedures, provide a result that is both politically possible and normatively desirable. Fortification of administrative procedures could include not only post-grant opposition proceedings but also the possibility of self-selection into a more rigorous patent examination. Judicial review of these proceedings based largely on standard administrative law principles would provide reasonably accurate, cost-effective determinations of patent validity. Additionally,

\(^9\) As we discuss further below, the FTC report, * supra* note 2, argues that the results of post-grant review by the PTO be given *Chevron* deference by the Federal Circuit. *See infra* notes ___ to ___ and accompanying text.

\(^10\) *See infra* notes ___ to ___ and accompanying text.

\(^11\) Such an account necessarily focuses on patent validity rather than issues (such as defenses to infringement, nuances of patent claim construction, and remedies) that are more specific to the enforcement of patents by trial courts in particular cases.
proper application of administrative law principles would provide an institutional foundation for the determinations of economic policy that the patent system should be making, including economic policy determinations regarding how patent principles should apply with respect to different types of technological information. In circumstances where rigorous administrative proceedings were in place, the result would be significantly greater deference than the Federal Circuit currently gives.

Incorporation of administrative law principles into patent law has a larger significance as well. In some situations, it may be tempting for judges and practitioners to announce that a particular area of law is *sui generis*, such that ordinary rules do not apply to it. Treating a particular area of law as an exception to a broader regime allows judges and practitioners to take into account specific features of that area in fashioning rules. For example, patents may be different from some other regulatory regimes to the extent that the patent system predates the New Deal era, during which the

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12 Note this is a more fine-grained position than the assertion that patents play different roles in different industries. See, e.g., Wesley Cohen et al., *Protecting Their Intellectual Assets: Appropriability Conditions and Why U.S. Manufacturing Firms Patent (or Not)*, NBER Working Paper No. 7552 (2000); Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575 (2003). Although one can make generalizations about industries, such generalizations are necessarily “rule-like” – that is, they are likely to be over-inclusive and under-inclusive. For example, Burk and Lemley, who tend to argue in favor of industry specific policy, note that, even within industries, information can play different roles. *Id.* at 1624-25 (observing that, within biotechnology industry, patents on DNA sequence information that can be used as a therapy operate very differently from patents on other types of DNA sequence information). At the same time, such generalizations do not necessarily have the easy applicability of rules. *See id.* at 1635 (noting that “boundaries between industries are vague and notoriously mutable”). For these reasons, at least in the context of validity determinations, we would generally prefer policy approaches that apply at the level of invention rather than industry. *Cf.* Burk & Lemley at 1641 (distinguishing “macro-policy” levers, which operate at an industry level, from “micro-policy” levers which operate at the level of invention). Notably, many of the validity standards in the patent statute, such as the requirement that the applicant have made an advance that would be “nonobvious” to the “person having ordinary skill in the art” seek to advance economic goals by operating – at least in their ideal implementation – primarily at the level of invention. Indeed, one of the problems with much of the Federal Circuit’s jurisprudence, particularly in the biopharmaceutical arena, is that it has tended to paint with a broad brush – assuming, for example, that all invention in the biopharmaceutical area is inherently uncertain and therefore nonobvious. The better reasoned cases, by contrast, look at the particular invention at issue. *See Amgen, Inc. v. Hoechst Marion Roussel*, 314 F.3d 1313 (Fed. Cir. 2003) (upholding a broad claim on the grounds that cell manipulation techniques are understood).

From an economic policy standpoint, one particularly useful distinction at the level of invention would be the distinction between infrastructural invention and more downstream activities. *See generally* Brett Frischmann, *An Economic Theory of Infrastructure and Commons Management*, 89 MINN. L. REV. 917 (2005). For a discussion of how this distinction could be taken into account from a policy standpoint, *see infra* notes ___ to ___ and accompanying text.
administrative state fully came into existence. But *sui generis* approaches are notorious for opening the door to undue influence by groups whose interests focus on that area of law. Moreover, isolating patents from mainstream administrative law ignores the many commonalities between the PTO and other agencies. Patents are special, as are telecommunications, wetlands development, agriculture, and virtually every other regulated activity. But their regulation at the federal level entails similarities across agencies. Courts and practitioners that ignore those similarities may achieve private gain (in the form of benefits that flow from their specialized knowledge and access), but the costs, and foregone benefits, for the public can be considerable.

Part I introduces the goals of patent law and the manner in which determinations of patentability by the PTO seek to implement those goals. Part II considers how existing administrative law doctrine (i.e., administrative law principles applied to other agencies) would apply to Federal Circuit review of PTO patent decisions. As this Part discusses, the Federal Circuit has resisted the application of ordinary administrative law doctrine to its review of the PTO. Part III turns to normative considerations, considering what form of Federal Circuit review of PTO patent decisions would be attractive. The choice between the PTO and the Federal Circuit is a comparative one, and in this section we consider the strengths and weaknesses of each. Part IV addresses the degree to which application of existing administrative law doctrine would advance those normative considerations. It argues that, in the main, such application would in fact be normatively desirable, not only for existing PTO procedures but also for proposed new ones. This Part concludes with a discussion of whether changes in standards of review actually make a difference in judicial behavior. Based upon an empirical analysis of 10 years of cases decided before and after the Supreme Court decision in *Dickinson v. Zurko*, we conclude that there is some evidence of impact, even at the Federal Circuit.

I. *Using Validity to Implement the Goals of Patent Law*

A. The Goals of Patent Law

On the conventional account, the major normative goal of patent law is fostering innovation – both initial invention and the commercialization of such invention. Although the importance of invention relative to commercialization continues to be hotly debated, most patent

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14 Generally speaking, those scholars who view patents as a species of property right emphasize the ways in which early and certain patent grants can promote efficient commercialization. See Edmund W. Kitch, *The Nature and Function of the Patent System*, 20
scholars would agree that patents can, and should, be used in some measure to promote both invention and commercialization. In recent years, scholars have also contended that patents play roles not directly connected with appropriation of profits from innovation. For example, they assist small firms in attracting venture capital by providing a signal that a firm has knowledge capital or is well managed. And they are used to form patent portfolios that are in turn used for a variety of different purposes, defensive and offensive. Assuming these accounts’ descriptive accuracy, we do not

J.L. & Econ. 265 (1977); F. Scott Kieff, Property Rights and Property Rules for Commercializing Inventions, 85 Minn. L. Rev. 697 (2001). Kitch’s position, which analogizes early-stage patent claims to mining claims in the American West, is sometimes called “prospect theory.” Cf. John F. Duffy, Rethinking the Prospect Theory of Patents, 71 U. Chi. L. Rev. 439 (2004) (asserting a defense of prospect theory that focuses not on patents as property rights but on the ways in which prospect theory may channel rent-dissipating patent races in the direction of patents that are granted early and hence expire early). Scholars who view patent rights as distinct, at least in part, from ordinary property emphasize that the information contained in inventions is a nonexclusive and nonrivalrous public good. See Mark Lemley, Property, Intellectual Property, and Free Riding, 83 Texas L. Rev. 1031, 1035 & n.8 (2005) (collecting articles). These scholars contend that patents should generally be granted only to the extent necessary to generate the good; allowing additional patenting beyond this level is likely to increase deadweight loss, hinder further use and improvement, and promote rent-dissipating patent races.

At a high level of abstraction, debates regarding whether patents are or are not like property may be intractable, partly because of the well-known malleability of terms like property (and for that matter, the public domain and the commons). See James Boyle, The Second Enclosure Movement, 66 Law & Contemporary Problems 33, 67-68 (2003) (discussing a “legal realism for the public domain” based on the reality that property has a similar messy history); Carol Rose, Canons of Property Talk, or Blackstone’s Anxiety, 108 Yale L.J. 601 (1998); Michael A. Carrier, Cabining Intellectual Property Through a Property Paradigm, 54 Duke L.J. 1 (2004) (discussing the many ways in which property law diverges from the principle of “despotic dominion”), and partly because patents play different roles with respect to different types of information. See infra notes ___ to ___ and accompanying text.

Ashish Arora and Robert Merges have argued that patents promote technology markets. See Ashish Arora and Robert Merges, Specialized Supply Firms, Property Rights, and Firm Boundaries, 13 Industrial and Corporate Change 451 (2004). We view this argument as related to the appropriation of innovation rents story. Indeed, on this argument, patents are particularly valuable precisely because they allow innovation rents to be appropriated in markets rather than solely in vertically integrated firms. Whether the boundaries of patentable subject matter (and other patent law doctrines) have improperly been extended to include not only inventive technology but also inventive ideas with poorly defined boundaries is a question we do not take up here. For an interesting discussion, see Oren Bar-Gill and Gideon Parchomovsky, A Marketplace for Ideas, 84 Tex. L. Rev. 395 (2005).


See Wagner & Parchomovsky, supra note ___, at nn. 66-82 (noting that given the low quality of patents, individual patents are not likely to be good signals, and patent counts
believe that they offer independent normative goals for patent law. Indeed, those who have discussed patent portfolios generally do not see the rise of such portfolios as a normatively attractive development. But some commentators who argue in favor of an independent signaling function for patents appear to be more sanguine. To the extent that these commentators are arguing for altered validity standards, we disagree. As an initial matter, patents are likely to be accurate signals of knowledge capital and good management only if they cover technologies that are either inventive or need patent protection for development. Moreover, even if certain non-inventive information occasionally demonstrates knowledge capital, any benefit that that might accrue from altering patentability standards to allow patents on such information is outweighed by the costs that such non-inventive patents would impose. In this Article, therefore, we focus on the goals of invention and commercialization.

B. The Inquiry into Patent Validity

As various commentators have noted, achieving the goals of patent law directly would, at least as a routine matter, probably be impractical. Absent significant expenditure of resources — and perhaps even with such resource expenditure — it would be difficult for the PTO (or the courts, for that matter) to get traction on the question of whether a particular patent was necessary to promote innovation (whether invention or development/commercialization) with respect to a particular piece of information.

Indeed, the patent statute does not provide for such a direct inquiry. Instead of asking whether a given patent is necessary to promote innovation, the patent statute directs the PTO to determine whether the patent application meets validity standards that have scientific and technical underpinnings. Specifically, when the PTO examines a patent application in order to determine whether to grant it, the PTO first construes the patent claims to determine exactly how much inventive territory the applicant is likely to represent strategic thinking about the patent system rather than knowledge capital); Rai, supra note ___ at 1082-83 (arguing that the low quality of patents produced by the PTO creates very noisy signals for venture capitalists). But see Ronald Mann, Do Patents Facilitate Financing in the Software Industry, 83 Tex. L. Rev. 961 (2005) (arguing that software patents may provide information about the firm).

19 See Wagner & Parchomovsky, supra note ___, at n. 267 (noting that “the net effect of patent portfolios is likely to be negative” and suggesting a number of reform measures to reduce their prevalence); cf. Mann, supra note ___ (noting that the creation of patent portfolios for purposes of cross-licensing is not likely to provide net benefits but that such portfolios may provide some information about the firm).

20 See supra note ___.

21 See e.g., FTC Report, supra note ___, at 11 (observing that the “more manageable standards of the patent system” help to address the less administrable policy questions).

22 In any given case, it is easy to imagine economic experts having good-faith disagreements on whether an invention would have arisen without the expectation of a patent. Alternatively, they might disagree on whether a patent is necessary to promote development and commercialization.
claiming. Having determined the scope of the territory, the PTO then looks to whether the claims are valid. Most importantly, under the patent statute, the PTO must determine “if the differences between the subject matter sought to be patented and the prior [invention in the field] are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.” 23 The intuition behind this inquiry is that if the invention would have been technically obvious to a person having ordinary skill, it would have arisen without the patent incentive. Moreover, allowing patents on technically obvious inventions could cause races to patent such inventions, diverting resources away from more productive lines of inquiry. 24 In contrast, a nonobvious invention might not have arisen but for the patent incentive. Notably, the inquiry into technical nonobviousness takes into account the possibility that a particular invention may be “obvious to try” but nonetheless have only a limited possibility of success. Under boilerplate patent law, inventions are obvious only if the ordinary artisan attempting to make the invention would have a reasonable expectation of success. 25 Thus inventions that are risky to make are considered nonobvious. 26

As compared with the ultimate economic question of whether a patent is necessary to promote innovation, this intermediate scientific and technical question may have an answer that is more determinate. 27 To be sure, findings about how skilled the “ordinary” artisan is, and about what constitutes the relevant prior invention (known as “prior art”) of which this ordinary artisan should have been aware, will inevitably have components that are uncertain and subjective. But the uncertainty and subjectivity involved should be less acute than that involved in a direct economic inquiry. Indeed, to the extent that the PTO examiner is herself one of ordinary skill, she simply needs to be made aware of all the prior art. 28

Scientifically and technically based requirements such as nonobviousness can thus serve as reasonably good proxies for the economic

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23 35 U.S.C. Section 103. The prior invention in the field is called “prior art,” and this is the term used by the statute.
24 For a discussion of how this has arguably happened in biotechnology and software, see Rai, supra note __.
27 This argument is probably most accurate in those areas of natural science and engineering that are relatively well understood. In those areas, the art and the level of skill in the art tends to be relatively well-defined. The claim’s accuracy in newly emerging areas such as nanotechnology or in other areas to which the patent system has extended, such as business methods, is less clear.
28 As we discuss further below, the PTO examiner is probably more likely than any other government actor to have ordinary skill in the art. See infra notes __ to ___ and accompanying text.
inquiry of whether a patent is necessary to generate an invention. For purposes of meeting the system’s economic goals, the examination process set up by the Patent Act has two deficiencies, however. First, although scientific and technically based validity standards may generally be tractable proxies for the ultimate economic inquiry, these proxies do not always capture all of the economic policy reasons for granting a patent. Specifically, to the extent that the economic risk associated with developing a technically obvious invention is substantial, allowing a patent on that invention could be useful. For example, a patent on a gene that produces a promising therapeutic protein may fail the test of technical obviousness but may be necessary for stimulating investment in the clinical trials that need to be conducted before the protein can be marketed commercially. Second, as numerous commentators have long observed, the ex parte proceedings upon which the PTO generally relies are unlikely to afford examiners the opportunity to deny even questionable patents.

How to address these deficiencies is not clear. With respect to the second deficiency noted above, the fact that many individual patent applications will have only minor market significance in the long term.

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29 See Robert Merges, Uncertainty and the Standard of Patentability, 7 HIGH TECH L.J. 1 (1992); see also Kitch, supra note ___ (advocating development as a major reason for granting patent rights).


31 See FTC Report, supra note ___, ch. 5 at 5 (giving estimates of the total amount of time available to examine a patent application that range from 8 to 25 hours).

32 The data on market significance, and particularly on licensing, are not as well developed as one might hope, but they do suggest that many individual patents have low market value. One recent study based on a sample of 776 German and 222 U.S. patents found that the most valuable 10% of patents accounted for 80% of the value of the sample. See F.M. Scherer, The Innovation Lottery, in Expanding the Boundaries of Intellectual Property: Innovation Policy for the Knowledge Society 3 (Rochelle Dreyfuss et al., eds., 2001). To the extent that litigation is seen to be a marker of value, similar “skewness” might be inferred from litigation statistics. Only about 2% of patents are the subject of litigation. See Lemley, supra note ___ at 1501. See also Mark A. Schankerman, How Valuable Is Patent Protection? Estimates by Technology Field, 29 RAND J. ECON. 77 (1998) (using patent renewal data in France to show that patents have mean values somewhat smaller than the average cost of patent prosecution (which runs between $10,000 and $30,000 in the U.S.)). Note, however, that the apparently low mean value for pharmaceutical patents seen in Schankerman’s data probably does not necessarily translate to the U.S. experience, as most countries other than the U.S. maintain some form of price control on pharmaceuticals.
may militate against expending resources to improve examination procedures for all applications. 33 Hence calls for reform have focused on post-grant review, which, at least when implemented in the European patent system, tends to target those patents that are likely to be commercially significant. 34 Notably, the European approach to post-grant review does take administrative procedure seriously. Under the European system, a judgment on validity rendered by the European Patent Office applies against the world, not simply against the party (or parties) who challenged the patent administratively. 35 This Article identifies administrative law based mechanisms of judicial review that would similarly allow the U.S. system to take full advantage of the cost savings and increased accuracy potentially offered by post-grant review. As for the first problem noted above, there is good reason to be wary of giving any government institution plenary authority to make direct inquiries into economic policy. Thus, consistent with standard administrative law doctrine, we would propose dividing authority for policymaking between the PTO and the courts.

We turn, then, to the administrative law context for our argument. In the next Part, we discuss how, as a matter of formal doctrine, administrative law principles currently apply to review of existing PTO proceedings.

II. The PTO and Administrative Law Doctrine

In most technically complex areas, administrative law looms large. Federal statutes known as organic statutes create administrative agencies and empower them to take a range of actions, usually including informal rulemaking and different types of adjudication. Those organic statutes sometimes specify the standards that courts should use in reviewing agency actions. Usually the organic statute does not, however, specify the standards applicable in all situations. Indeed, some organic statutes do not specify any standards. Insofar as the organic statutes do not provide such standards, the regime enunciated in the Administrative Procedure Act (APA) provides the governing standards. 36 The idea behind the APA was that it would provide the default rules for all agencies (and both “agency” and “agency action”

33 The minimal level of review that should be accorded to each application is very difficult to assess. For discussion of the problems that could be caused by low quality patents, “low value” patents, see Bronwyn Hall & Dietmar Harhoff, Post-Grant Reviews in the U.S. Patent System, 989, 992-94 (2004); Rai, supra note __, at 1082-83.
34 See Hall & Harhoff, supra note __, at 1006 (summarizing studies in which one or the other participated showing that “particularly valuable patents are selected with higher likelihood than less valuable ones”)
35 See Mark Janis, Towards a Viable Administrative Revocation System for U.S. Patent Law, 11 HARV. J.L. & TECH. 1, 109-10 (1997). Indeed, in the European system validity can be challenged only through opposition proceeding or in proceedings distinct from enforcement proceedings known as nullity proceedings. Id.
were defined very broadly in the APA), with the result that it would create a new legal regime for agencies with organic statutes that included little procedure. Thus, for any given agency the central question is the degree to which its organic statute specifies the relevant standards and thus displaces the APA. How does this apply to the PTO? Strikingly, although the organic statute provides very little guidance, the Federal Circuit has often failed to apply the APA. In the next sections we address the application of administrative law doctrine to PTO actions, specifically patent grants and denials.

**A. Patent Law and the APA: General Considerations**

At the time of the APA's enactment in 1946, the patent statute did not contain any language concerning how PTO actions were to be reviewed by courts. In the absence of statutory language, regional courts of appeals had enunciated judicial standards of review as patent common law. Courts had generally applied a rebuttable presumption of validity with respect to PTO decisions to grant a patent, but different courts articulated different standards for how the presumption was to be rebutted. As for patent denials, the Court of Claim and Patent Appeals (CCPA) – the predecessor to the Federal Circuit that heard all appeals from patent denials – often failed to enunciate a standard of review. Moreover, even in those cases where the CCPA did use terminology suggesting a standard, it was at most a brief mention of such terms as “clear case of error” or “manifest error.” To the extent there was a salient pattern in CCPA review of patent denials, it was that the CCPA often mentioned agency expertise as a reason for deference.

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37 See 5 U.S.C. § 701(b)(1) (defining “agency” as “each authority of the Government of the United States, whether or not it is within or subject to review by another agency,” with only a few narrow exceptions); see also 5 U.S.C. § 551(1) (same); 5 U.S.C. § 551(13) (defining “agency action” as “the whole or a part of an agency rule, order, license, sanction, relief, or the equivalent or denial thereof, or failure to act”).

38 See S. Rep. No. 79-752, at 1 (1945), reprinted in Staff of Senate Comm. on the Judiciary, Legislative History of the Administrative Procedure Act, 1944-46, at 187 (1946) (stating that the APA would provide a “simple and standard plan of administrative procedure” that would respond to the “widespread demand for legislation to settle and regulate the field of Federal administrative law and procedure”); H.R. Rep. No. 79-1980, at 15 (1946), reprinted in APA Legislative History, at 250 (stating that Congress intended the APA “to be operative ‘across the board’ in accordance with its terms, or not at all.... No agency has been favored by special treatment”).


40 See, e.g., Radio Corp. of America v. Radio Eng’g Lab., 293 U.S. 1, 7 (1934) (noting presumption of validity but also noting that “[t]he force of that presumption has found varying expression in this and other courts”).

41 For example, in a sampling of 14 cases from 1944, none mentioned a standard of review. See Appellants’ Brief in Dickinson v. Zurko, 527 U.S. 150 (1999).


43 See id., 527 U.S. at 160 (noting that in half of 89 pre-APA cases in its sample, the CCPA mentioned PTO expertise, and in three-fourths it mentioned that PTO factfinding in denials had been passed upon by two or sometimes more tribunals).
Given the absence of language in the patent statute, and the absence of a uniform direction in the case law, the APA filled in the gaps and provided the standard of review – or should have been construed to do so.

Six years after the passage of the APA, Congress passed the Patent Act of 1952.\textsuperscript{44} The 1952 statute was silent as to patent denials. It did articulate a presumption of validity for patent grants, but the language stating this presumption is quite sparse: Section 282 of the Patent Act now states that “[a] patent shall be presumed valid” and that “[t]he burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.”\textsuperscript{45} This is the only provision of the Patent Act that even plausibly supersedes the APA for purposes of patent review. Did these provisions in § 282 displace or modify the APA? The short answer is no.

The Supreme Court’s longstanding view has been that agency actions are presumed valid, and a plaintiff seeking to overcome that presumption has the burden of establishing invalidity. The Court articulated this view before the passage of the APA (indeed, in the nineteenth century), and it has adhered to it ever since.\textsuperscript{46} These provisions of section 282 say no more; they merely confirm that this presumption and burden also apply to patent grants. So why enact legislation containing these statements? The congressional materials accompanying the legislation do not shed any light, but the principal drafter of the Patent Act explained that “[t]he first paragraph of § 282 declares that a patent shall be presumed valid and that the burden of establishing invalidity of a patent shall rest on a party asserting it. That a patent is presumed valid was the law prior to the new


\textsuperscript{45} 35 U.S.C. § 282. The 1952 language was even simpler. It provided: “A patent shall be presumed valid. The burden of establishing invalidity of a patent shall rest on the party asserting it.” Since 1952, Congress had added language to § 282, leading to the somewhat more convoluted language quoted in text.

\textsuperscript{46} See, e.g., Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402 (1971) (“Certainly, the Secretary’s decision is entitled to a presumption of regularity.”); Hynes v. Grimes Packing Co., 337 U.S. 86, 101 (1949) (“An administrative order is presumptively valid.”); Thompson v. Consolidated Gas Utilities Co., 300 U.S. 55, 69-70 (1937) (“It is settled that to all administrative regulations purporting to be made under authority legally delegated there attaches a presumption of the existence of facts justifying the specific exercise. But, obviously, the proration orders would not be valid if shown to bear no reasonable relation either to the prevention of waste or the protection of correlative rights, or if shown to be otherwise arbitrary. The plaintiffs have assumed the heavy burden of overcoming the presumption and of establishing that the order is an arbitrary taking of their property.”); Pacific States Box & Basket Co. v. White, 296 U.S. 176, 186 (1935) (“where the regulation is within the scope of authority legally delegated, the presumption of the existence of facts justifying its specific exercise attaches alike to statutes, to municipal ordinances, and to orders of administrative bodies”); Martin v. Mott, 12 Wheat. 19, 32-33 (1827) (“When the President exercises an authority confided to him by law, the presumption is, that it is exercised in pursuance of law. Every public officer is presumed to act in obedience to his duty, until the contrary is shown; and, a fortiori, this presumption ought to be favourably applied to the chief magistrate of the Union.”).
statute, but it was not expressed in the old statute."\textsuperscript{47} Another drafter (who became a judge on the Federal Circuit) stated that “[s]ection 282 puts into the statute the presumption of validity for the benefit of those cynical judges who now say the presumption is the other way around."\textsuperscript{48} In other words, § 282 had the modest effect of clarifying that the general presumption of validity applicable to agency actions was also applicable to patent grants.

Reasonable minds can differ over whether this clarification was necessary. After all, courts might have reached the same conclusion applying ordinary background principles of administrative law. What seems clear, however, is that § 282 did not supplant the APA. Section 559 of the APA provides in part that a “[s]ubsequent statute may not be held to supersede or modify [the APA] … except to the extent that it does so expressly.”\textsuperscript{49} This prevents the displacing of the APA by implication.\textsuperscript{50} Nothing in § 282 suggests that it is superseding the requirements of the APA.\textsuperscript{51}

Even if § 559 did not exist, there would be little basis for treating § 282 as supplanting the APA. Organic statutes superseding the APA generally indicate that they are doing so and contain specific standards of review (e.g., “substantial evidence”).\textsuperscript{52} These provisions tell courts how


\textsuperscript{48} American Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1359 (Fed Cir. 1984). The drafter was Giles Rich, who became Judge Rich. In American Hoist, Judge Rich introduced the quotation in text by saying, “[t]he named author of this opinion, who also worked on the 1952 act with Mr. Federico, explained it to the New York Patent Law Association on November 6, 1952 (in a speech of limited publication) in these words.” Id. at 1359.

\textsuperscript{49} 5 U.S.C. § 559.

\textsuperscript{50} See, e.g., Marcello v. Bonds, 349 U.S. 302, 310 (1955) (“Exemptions from the terms of the Administrative Procedure Act are not lightly to be presumed in view of the statement in § 559 that modifications must be express.”); Ninilchik Traditional Council v. U.S., 227 F.3d 1186, 1193 (9th Cir. 2000) (quoting this language from § 559 and then stating: “This language leaves us to conclude that challenges to agency actions are subject to the APA’s judicial review standard unless Congress specifies a contrary intent.”).

\textsuperscript{51} The main line of cases in which the Supreme Court has found that an organic statute supplanted the APA is instructive. The statute (the Immigration and Naturalization Act) provides that “[t]he procedure (herein prescribed) shall be the sole and exclusive procedure for determining the deportability of an alien under this section.” 8 U.S.C. § 1252(b). As the Supreme Court held, that is the sort of express statement that does displace the APA. See Marcello 349 U.S. at 309 (relying on the quoted language in so holding); Ardestani v. I.N.S., 502 U.S. 129, 134 (1991) (same).

\textsuperscript{52} See, e.g., Toxic Substances Control Act, 15 U.S.C. § 2618(c)(1)(B)(i) (1982) (“[T]he court shall hold unlawful and set aside such rule if the court finds that the rule is not supported by substantial evidence in the rulemaking record.”); 15 U.S.C.A. § 78y(b)(4) (“The findings of the Commission as to the facts identified by the Commission as the basis, in whole or in part, of the rule, if supported by substantial evidence, are conclusive. The court shall affirm and enforce the rule unless the Commission’s action in promulgating the rule is found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law; contrary to constitutional right, power, privilege, or immunity; in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; or without observance of
much evidence (and, often, what kind) challengers must marshal to argue successfully for the invalidation of an agency action. Such specification both demonstrates that the organic statute is, indeed, intended to supersede the APA and also tells courts what sort of review to apply. A lack of specificity deprives courts of statutory language to guide them in reviewing agency action. Such lack of specificity thus underscores that the APA still applies. Without the APA, courts would have no meaningful statutory guideposts – the precise phenomenon that the APA was designed to eliminate. Neither § 282 nor any other section of the Patent Act contains any standards of review for patent grants (or patent denials, for that matter). There is no language putting forward the quantum of evidence necessary to support (or, conversely, overturn) an agency action. All we have is the bare statement of a presumption of validity, and that does not communicate the relevant standards to the courts.

If § 282 does not supersede the APA, might it nonetheless modify it? Again, § 559 imposes a barrier, because even a modification of the APA must be express – and, again, the bare language of § 282 does not so indicate. But let’s assume, as immediately above, that § 559 did not exist. How, exactly, would § 282 modify the APA? As we will discuss in greater detail in the following section, under the APA courts review factual determinations in informal proceedings under an “arbitrary, capricious, [or] an abuse of discretion” standard, and review findings of fact in formal proceedings under a “substantial evidence” standard. If the presumption of validity in § 282 modifies these standards, in which direction does it do so? Does it suggest more deference to the agency’s decisions, on the theory that the presumption was Congress’s way of saying, “Give more than usual deference to the agency”? That hypothesis seems unlikely. As we noted above, the longstanding presumption has been that agency actions are presumed valid, with the burden on the challenger to the agency’s action.

procedure required by law.”); 33 U.S.C.A. § 1319(g)(8) (“[The reviewing] court shall not set aside or remand such order unless there is not substantial evidence in the record, taken as a whole, to support the finding of a violation or unless the Administrator’s or Secretary’s assessment of the penalty constitutes an abuse of discretion”); 10 U.S.C. § 1558(f)(3) (“A court of the United States may review a recommendation of a special board or an action of the Secretary of the military department concerned on the report of a special board. In any such case, a court may set aside the action only if the court finds that the recommendation or action was--(A) arbitrary or capricious; (B) not based on substantial evidence; (C) a result of material error of fact or material administrative error; or (D) otherwise contrary to law.”); 12 U.S.C. § 1848 (1982) (“Any party aggrieved by an order of the Board under this chapter may obtain a review of such order in [a] United States Court of Appeals . . . . The findings of the Board as to the facts, if supported by substantial evidence, shall be conclusive.”); 5 U.S.C. § 7703(c) (1994) (directing courts to set aside conclusions of the Merit Systems Protection Board if they are “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law... or... unsupported by substantial evidence”); 5 U.S.C. § 552(a)(4)(B) (1994) (prescribing de novo review for agency determinations under the Freedom of Information Act).

53 5 U.S.C. §§ 706(2)(A) & (E); see infra notes ___ to ___ and accompanying text.
Meanwhile, in contrast to the sparse language of the Patent Act regarding review of patent grants, its standards for reviewing a patent denial are nonexistent. Section 282 does not apply to patent denials, and no other provision covers the review of patent denials. Thus, in the context of denials, nothing in the organic statute even arguably displaces the APA.

The foregoing is boilerplate administrative law. But the courts applying the Patent Act had other ideas. Despite the passage of the APA, courts did not apply the APA and instead developed common law to flesh out the spare language of the Patent Act. Before 1982 (when the Congress established the Federal Circuit to hear all patent appeals) regional courts ignored the APA and referred instead to § 282. Interestingly, when they applied § 282, they adopted a variety of different standards—representing a wide range of deference. Some regional courts of appeals took the presumption to mean that an issued patent could be invalidated only if the challenger showed “clear and convincing evidence” of invalidity.54 Others determined that issued patents could be invalidated under a preponderance of the evidence standard.55 That is, as the discussion above suggests, § 282 did not give courts much guidance and accordingly the courts that applied § 282 had varying interpretations of the amount of deference that it entailed.

The 1982 legislation creating the Court of Appeals for the Federal Circuit did not flesh out, or alter, the § 282 standard. The Federal Circuit has continued the common law trend started by the regional courts—ignoring the APA and citing § 282. Unlike the regional courts, the Federal Circuit has, however, uniformly upheld a strong presumption of validity. Specifically, the court has held that the presumption of validity can be overturned only through clear and convincing evidence, even in cases where the alleged infringer uncovers information that was not considered by the PTO.56 In the context of patent denials, the Federal Circuit has also (at least until recently) ignored the APA.

B. Applying Administrative Law Doctrine to PTO Actions

Assuming, then, that the APA applies to the PTO, how precisely does it operate? Agency actions are conventionally broken down into three categories: fact, law and policy (with policy sometimes divided into policy decisions and discretionary acts).57 Although the distinctions between these

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54 See 2 DONALD S. CHISUM, PATENTS Section 5.06 n.84 (2003) (collecting cases).
56 See American Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350 (Fed Cir. 1984).
57 As we discuss at greater length infra notes ___ to ___ and accompanying text, policy choices are discretionary, and the decisions that fall into the “discretionary” category in administrative law are applications of policy choices. So they can be considered as two parts of one category. But there is a difference, in that policy decisions are broad legislative-like choices, and discretionary decisions are specific implementations of policy choices.
categories can of course get blurry at the margins, they do represent very useful mechanisms for characterizing different types of agency action. Each category has its own standards of review, so we consider each separately here.

1. Factual Determinations

Factual determinations play a major role in PTO decisionmaking, as they are central to many of the inquiries in which the PTO engages. For example, as we noted in Part I, the Patent Act requires that a patented invention be nonobvious. As the Supreme Court emphasized in the 1966 case *Graham v. John Deere*, the statute specifies a number of factual inquiries that are necessary to resolve the question: what the ordinary skill in the art was at the time of invention; what the relevant prior invention was; and the “differences between the prior art and the claims at issue.”

Turning, then, to judicial review of PTO factfinding, § 706 of the APA provides the relevant standard. Under § 706, courts review agency findings of fact in informal proceedings to determine if they are “arbitrary, capricious, [or] an abuse of discretion,” and review agency findings of fact in formal proceedings to determine if they are “unsupported by substantial evidence.”

In light of the absence of different standards in the Patent Act, these are the relevant provisions applicable to the PTO.

This conclusion would seem unexceptional to administrative law scholars. Until the Supreme Court’s intervention in 1999, however, the Federal Circuit explicitly rejected the application of § 706 to PTO factfinding. The Federal Circuit instead applied the “clearly erroneous” standard, which is less deferential to the agency than either of the standards articulated in § 706. The Federal Circuit articulated its rationale for this decision as follows:

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**Notes:**

58 The lines can get particularly blurry in cases where (as is often the case in decisions regarding patent validity) law is being applied to factual determinations. Indeed, some administrative cases from the pre-Chevron era tended to assimilate application of law to fact to the category of fact. However, the more recent trend in administrative law has been to treat applications of law to fact as legal determinations. See infra ___.


60 5 U.S.C. §§ 706(2)(A) & (E). The Supreme Court has not resolved the question whether these sections differ in the quantum of evidence necessary to support an agency factfinding. When he was on the D.C. Circuit, then-Judge Scalia wrote an opinion holding that “arbitrary [or] capricious” under § 706(2)(E) entailed the same degree of judicial scrutiny as did “substantial evidence” under § 706(2)(E). Association of Data Processing Service Organizations, Inc. v. Board of Governors of Federal Reserve System, 745 F.2d 677, 683-684 (D.C. Cir. 1984) (Scalia, J.). Note that even if the two provisions entail the same level of deference, they clearly differ as to the kind of record that is involved. As then-Judge Scalia emphasized, formal proceedings are confined to the evidence presented at the hearing, but informal proceedings are not so limited. Id. As it happens, this distinction has become quite important for the Federal Circuit. See infra notes ___ to ____ and accompanying text.

conclusion in *In re Zurko*. It noted that § 559 of the APA provides in part that the statute does “not limit or repeal additional requirements imposed by statute or otherwise recognized by law.” The Federal Circuit opinion in *Zurko* court stated that, prior to the enactment of the APA, courts reviewed PTO findings of fact under the clearly erroneous standard, and it concluded that this judicial practice constituted an “additional requirement[... ] recognized by law.” Accordingly, the Federal Circuit concluded that the clearly erroneous standard applied to the PTO notwithstanding § 706.

This reasoning was striking, as a total of only eight federal cases had invoked the “repeal additional requirements” language in the more than 50 years between the passage of the APA and *Zurko*. Moreover, in each of those cases the “additional requirements” took the form of a statutory provision (in the relevant organic statute) that conflicted with a provision of the APA, rather than a line of judicial opinions that conflicted with the APA. Indeed, in all of the cases the court found that the statutory provision in the organic statute controlled. The court’s invocation of § 559 simply buttressed the general rule that the organic statute controls where it provides specific standards of review.

That the Federal Circuit’s position lacked a judicial antecedent made it unprecedented, but not necessarily wrong. It might be that the best reading of “additional requirements imposed by statute or otherwise

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62 732 F.2d at 1452-53.
63 5 U.S.C. § 559. Note that this is the section of the APA that also provides that a subsequent statute will not supersede the APA unless it does so expressly. See supra notes ___ to ___ and accompanying text.
64 *Zurko*, 732 F.2d at 1452-53.
65 *Id.*, at 1457.
66 See infra note ___ [next note].
67 The eight cases were: United States v. Florida East Coast Ry. Co., 410 U.S. 224, 238 (1973) (citing § 559 for the proposition that a provision in the organic statute could require the agency to hold an oral hearing even though the APA did not so require); Pan-Atlantic S. S. Corp. v. Atlantic Coast Line R. Co., 353 U.S. 436, 446 n.5 (1957) (citing § 559 in support of its statement that “An earlier special statute controls over a later general statute”); United States v. Menendez, 48 F.3d 1401, 1409 (5th Cir. 1995) (citing § 559 for the proposition that the specific language in the Endangered Species Act controlled); Gostovich v. Valore, 257 F.2d 144, 145-46 (3d Cir. 1958) (citing § 559 in support of its holding that a statutory limitation of $10.00 for compensation to an attorney handling a veteran’s claim controlled over a general provision of the APA regarding representation by counsel); SEC v. Morgan, Lewis & Bockius, 209 F.2d 44, 48-49 (3d Cir. 1954) (citing § 559 in support of its holding that a specific statute regarding attorneys’ representation before the SEC controlled over a general provision of the APA regarding representation by counsel); Willapoint Oysters v. Ewing, 174 F.2d 676, 696 (9th Cir. 1949) (citing § 559 for the proposition that a general provision of the APA does not control in light of a specific provision in the organic statute); Rolla Cable System, Inc. v. City of Rolla, 761 F. Supp. 1398, 1404 (E.D.Mo.1991) (noting one party’s argument that application of the APA would override a more specific statute and thus run afoul of § 559); SEC v. Morgan, Lewis & Bockius, 113 F. Supp. 85, 90 (E.D. Pa. 1953) (citing § 559 in support of its holding that a specific statute regarding attorneys’ representation before the SEC controlled over a general provision of the APA regarding representation by counsel).
recognized by law” encompasses standards of review arising from an established line of cases. However, as we noted earlier, and as the Supreme Court’s decision in Zurko emphasized, the problem for the Federal Circuit was that the pre-APA cases did not establish clearly erroneous review as the relevant standard.\(^\text{68}\) The cases used varying word formulations, rather than using “clearly erroneous” as a term of art. Indeed, with respect to the CCPA cases reviewing patent denials, “not one of the 89 opinions actually uses the precise words ‘clear error’ or ‘clearly erroneous,’ which are terms of art signifying court/court review.”\(^\text{69}\) Similarly, as we noted earlier, pre-APA cases reviewing patent grants did not establish consistent standards of review.

The absence of a consistent standard of review for patent-related factfinding is not surprising. A big part of the impetus behind the passage of the APA was that courts had not created clear standards to govern their review of agency actions.\(^\text{70}\) As it turns out, review of the PTO was no exception. So, more than half a century after the enactment of the APA, the Supreme Court instructed the Federal Circuit that the APA does indeed provide the governing standards for judicial review of PTO factfinding.

The Federal Circuit managed to find the path of less deference, however. The Supreme Court in Zurko was not squarely presented with, and hence did not address, the specific question of whether PTO factfinding should be reviewed under the “arbitrary [or] capricious” standard applicable to informal proceedings or the “substantial evidence” standard applicable to formal proceedings. When the issue arose at oral argument, Justice Breyer suggested that arbitrary or capricious review was the proper choice given the ex parte, informal nature of the PTO proceedings.\(^\text{71}\) But Justice Breyer’s opinion for the majority addressed only the threshold issue of APA applicability briefed by the parties.

In In re Gartside, the Federal Circuit confronted the question whether “arbitrary [or] capricious” or “substantial evidence” was the appropriate standard.\(^\text{72}\) The court began its analysis by stating that “arbitrary [or] capricious” is the most deferential standard of review under the APA, “analyz[ing] only whether a rational connection exists between the agency’s

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\(^{68}\) See Zurko, 527 U.S. at 155 (“we have examined the 89 cases which, according to respondents and supporting amici, embody the pre-APA standard of review, and we conclude that those cases do not reflect a well-established stricter court/court standard of judicial review for PTO factfinding, which circumstance fatally undermines the Federal Circuit’s conclusion.”)(internal citation omitted).

\(^{69}\) Id. at 158.

\(^{70}\) As the Supreme Court noted in Zurko, “[t]he APA was meant to bring uniformity to a field full of variation and diversity. It would frustrate that purpose to permit divergence on the basis of a requirement ‘recognized’ only as ambiguous.” Id. at 155.


\(^{72}\) In re Gartside, 203 F.3d 1305 (Fed. Cir. 2000).
factfindings and its ultimate action."\textsuperscript{73} The court characterized "substantial evidence," by contrast, as "a less deferential review standard than \textquoteright{}arbitrary, capricious,\textquoteright{} one that required more than a rational connection.\textsuperscript{74}

This is a contested construction of \textquoteright{}arbitrary \textquoteright{}or capricious\textquoteright{} and \textquoteright{}substantial evidence\textquoteright{}. As the opinion in \textit{Gartside} noted, there is some case law in support of it. But the court did not acknowledge, much less discuss, case law indicating that the two terms provide exactly the same level of deference. Indeed, the most widely cited - and followed - case on this question, by then-Judge Scalia for the D.C. Circuit, held that \textquoteright{}arbitrary \textquoteright{}or capricious\textquoteright{} and \textquoteright{}substantial evidence\textquoteright{} entail the same (very great) level of deference to agency factfinding.\textsuperscript{75}

The \textit{Gartside} court\textapos;s distinction between the deference entailed by \textquoteright{}substantial evidence\textquoteright{} and that entailed by \textquoteright{}arbitrary \textquoteright{}or capricious\textquoteright{} proved to be significant, in light of the court\textapos;s subsequent determination regarding which standard applies to PTO. Section 706(2)(A) provides \textquoteright{}arbitrary \textquoteright{}or capricious\textquoteright{} review as the default, and § 706(2)(E) sets out a particular circumstance where \textquoteright{}substantial evidence\textquoteright{} instead will apply: \textquoteleft{}in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute.\textquoteright\textsuperscript{76} Determining which provision applies to the PTO might seem easy: section 706(2)(E) applies to formal proceedings, which means oral hearings in which evidence is presented to a presiding officer (usually an administrative judge), the parties have the right to present evidence, present rebuttals, and to cross-examine, and the officer\textapos;s decision must be based on the record. \textsuperscript{77} That is what §§ 556 and 557 require. On this reading, the second half of § 706(2)(E) would apply to similar oral hearings that are created by an organic statute but are not specifically subject to §§ 556 and 557. That is, the two halves of § 706(2)(E) appear to apply to formal hearings, whether covered by §§ 556 and 557 or by the relevant organic statute. On this understanding, no PTO

\textsuperscript{73} Id. at 1312.
\textsuperscript{74} Id.
\textsuperscript{75} Association of Data Processing Service Organizations, Inc. v. Board of Governors of Federal Reserve System, 745 F.2d 677, 683-684 (D.C. Cir. 1984) (Scalia, J.); see Borough of Columbia v. Surface Transp. Bd. 342 F.3d 222, 241 n.3 (3\textsuperscript{rd} Cir. 2003) (adopting this conclusion from \textit{Association of Data Processing Service Organizations}); IBP, Inc. v. Herman, 144 F.3d 861, 866 (D.C. Cir. 1998) (same); Coteau Properties Co. v. Department of Interior, 53 F.3d 1466, 1483 (8\textsuperscript{th} Cir. 1995) (same); Olenhouse v. Commodity Credit Corp., 42 F.3d 1560, 1575 (10\textsuperscript{th} Cir. 1994) (same); see also supra note ___.
\textsuperscript{76} 5 U.S.C. §706(2)(E). Note that § 706(2)(A) is the catch-all default not only for factual findings, but also for other determinations. See \textit{Association of Data Processing Service Organizations}, 745 F.2d 684-85; infra notes ___ to ___.
\textsuperscript{77} See 5 U.S.C. §§556(b) & (d), §557.
\textsuperscript{78} Some formal hearings do not have to be oral, but none of the exceptions apply to patent decisions. Specifically, § 556(d) provides that \textquoteleft{}[i]n rule making or determining claims for money or benefits or applications for initial licenses an agency may, when a party will not be prejudiced thereby, adopt procedures for the submission of all or part of the evidence in written form.\textquoteright{} (Emphasis added.)
action would not be subject to § 706(2)(E), because there are no formal, on-the-record hearings in the PTO.\textsuperscript{79}

The Federal Circuit had other ideas, however. In \textit{Gartside} it acknowledged that that PTO did not conduct proceedings under §§ 556 and 557. It found, however, that PTO proceedings satisfied the second half of § 706(2)(E) because one statutory provision (35 U.S.C. § 144) says that the Federal Circuit “shall review the decision from which an appeal is taken on the record before the Patent and Trademark Office”\textsuperscript{80} and another provision (35 U.S.C. § 7(b), which discusses the role of the PTO’s internal appellate board, the Board of Patent Appeals and Interferences, or BPAI), refers to an appeal being “heard,” and to a “rehearing,”\textsuperscript{81} though it does not use the word “hearing.” One problem with this reasoning, as Justice Breyer noted at oral argument in \textit{Zurko}, is that it is inconsistent with the longstanding practice of reviewing factfinding in informal rulemakings and informal adjudications under arbitrary or capricious review.\textsuperscript{82} In addition, 35 U.S.C. § 7(b) provides that the BPAI shall “review” examiners’ decisions, rather than requiring a “hearing.” This may seem like a small point, but in a closely related context it has loomed large: Courts have found that the absence of an explicit requirement of a “hearing” means that an adjudication is informal under § 554 of the APA.\textsuperscript{83} Statutes routinely require an agency “hearing,” and courts have found that the absence of that magic word is significant. It also bears noting that, if the substantial evidence standard were appropriate for review of PTO patent denials, that would probably

\textsuperscript{79} See Thomas G. Field, Jr., \textit{Zurko, Gartside and Lee: How Might They Affect Patent Prosecution?}, 44 IDEA 221, 225 (2004) (“35 U.S.C. § 32 cases aside, all PTO adjudications, statutory and non-statutory, are ‘informal.’ 35 U.S.C. § 32 deals with suspending or excluding lawyers from practice before the PTO if they have committed some transgression, and so is not relevant to the PTO determinations on which we focus in this Article.

\textsuperscript{80} 35 U.S.C. § 144 (“The United States Court of Appeals for the Federal Circuit shall review the decision from which an appeal is taken on the record before the Patent and Trademark Office.”).

\textsuperscript{81} 35 U.S.C. § 7(b) (“The Board of Patent Appeals and Interferences shall, on written appeal of an applicant, review adverse decisions of examiners upon applications for patents and shall determine priority and patentability of invention in interferences declared under section 135(a) of this title. Each appeal and interference shall be heard by at least three members of the Board of Patent Appeals and Interferences, who shall be designated by the Commissioner. Only the Board of Patent Appeals and Interferences has the authority to grant rehearings.”).


\textsuperscript{83} See John F. Stanley, \textit{The Magic Words of § 554: A New Test for Formal Adjudication Under the Administrative Procedure Act}, 56 Hastings L.J. 1067, 1073-76 (2005). Indeed, the debate has been whether a statute needs to require a “hearing” or a “hearing on the record” in order to entail formal, rather than informal, adjudication. \textit{Compare} Seacoast Anti-Pollution League v. Costle, 572 F.2d 872, 875-78 (1st Cir. 1978) (holding that a statute requiring a “hearing” thereby entails formal adjudication) with City of West Chicago v. NRC, 701 F.2d 632, 644-45 (7th Cir. 1983) (finding that a statute must require a “hearing on the record” in order to entail formal adjudication); see also Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 414-15 (1971).
mean that patent denials would be the sort of adjudication to which the Federal Circuit had to give *Chevron* deference – that is, significant deference on the ultimate legal question of validity.

Although the substantial evidence standard is, when applied properly, relatively lenient, the standard is supposed to apply only to formal adjudicative proceedings, where witnesses are called, evidence is taken, and a full evidentiary record developed. Highly aggressive application of this standard to the PTO’s informal proceedings – where the only formal evidence on which the PTO can rely to make the case against patentability is written prior art – yields the paradoxical result of rigorous review.

Consider, for example, the determination of nonobviousness. To the traditional interpretation of the nonobviousness standard set out by the Supreme Court in *Graham v. John Deere*, the Federal Circuit has added a controversial requirement – now the subject of case on which the Supreme Court has granted certiorari in its 2006 term – that the examiner show a motivation to combine prior art references. Like many inquiries surrounding nonobviousness, questions regarding motivation to combine are questions of fact. In the 2002 case of *In re Lee*, a panel of the Federal Circuit applied the substantial evidence standard to mandate that the PTO include in the record explicit documentary evidence of a motivation to combine. In that case, the PTO argued that “common knowledge and common sense” would motivate the ordinary artisan who wanted to produce a demonstration mode for adjusting a video display to combine prior art containing such a video demonstration mode with prior art showing a menu display that could be used to adjust pictures. The *Lee* court rejected the PTO’s argument, holding that such “[c]ommon knowledge and common sense,” even if assumed to derive from [the PTO’s] expertise” did not represent the sort of evidence within “the four corners of the record” required by *Gartside*. Under boilerplate administrative law, however, informal adjudications simply do not produce formal records subject to substantial evidence review.

Additionally, even assuming substantial evidence were the appropriate standard, *Lee* fails to apply this standard properly. In proceedings subject to substantial evidence review, the APA specifically

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84 See infra notes ___ to ___.
85 While patent applicants can submit affidavits authored by their own experts, the PTO cannot get affidavits from its own outside experts.
86 383 U.S. 1, 17 (1966).
89 277 F.3d 1338 (Fed. Cir. 2002).
90 Id. at 1341.
91 Id. at 1344-45.
allows administrators to take official notice of certain facts.\(^92\) Moreover, under standard administrative law doctrine, official notice is broader than judicial notice. Although both doctrines allow adjudicators to take account of commonly acknowledged facts, official notice also allows an administrative agency to take notice of technical or scientific facts that are known within the agency’s area of expertise.\(^93\) The Federal Circuit’s predecessor, the CCPA, had endorsed a limited form of the official notice doctrine in its review of PTO decisionmaking.\(^94\) In *Lee*, however Judge Newman rejected even the limited form of official notice recognized by the CCPA.\(^95\) *Lee* is, therefore, squarely inconsistent with standard administrative law.\(^96\)

The *Lee* case is not an isolated phenomenon. The *Zurko* litigation itself represents a situation where the Federal Circuit rejected the PTO’s specialized expertise. On remand, the Federal Circuit applied the *Gartside* standard and found that the PTO could not use statements of “basic knowledge” possessed by one having ordinary skill in the art to meet its evidentiary burden of showing a motivation to combine.\(^97\) Similarly, in its

\(^{92}\) 5 U.S.C. §556 (c ).

\(^{93}\) See *McLeod v. Immigration and Naturalization Service*, 802 F.2d 89, 93 n.4 (3d Cir.1986) (“Official notice, rather than judicial notice, is the proper method by which agency decisionmakers may apply knowledge not included in the record. The Administrative Procedure Act allows a decisionmaker to take ‘official notice’ of material not appearing in the evidence in the record. Official notice is a broader concept than judicial notice. Both doctrines allow adjudicators to take notice of commonly acknowledged facts, but official notice also allows an administrative agency to take notice of technical or scientific facts that are within the agency’s area of expertise.”); *de la Llana-Castellon v. I.N.S.*, 16 F.3d 1093, 1096 (10th Cir. 1994) (quoting *McLeod* and applying similar reasoning); *City of Erie v. Pap’s A.M.*, 529 U.S. 277, 298 (2000) (opinion of O’Connor, J.) (stating that agency is not confined to the evidence in the record and may take official notice of facts within its special knowledge); *Jim Rossi, Judicial Review of Issues of Fact in A GUIDE TO POLITICAL AND JUDICIAL REVIEW OF FEDERAL AGENCIES* 171-75 (John Duffy & Michael Herz, eds. 2004) (discussing the breadth of official notice).

\(^{94}\) See, e.g., *In re Bozek*, 416 F.2d 1385, __ (CCPA 1969) (noting that the examiner could, in reaching a conclusion of obviousness, rely on “common knowledge and common sense of the person of ordinary skill in the art”). *Bozek* notwithstanding, the official notice doctrine endorsed by the CCPA generally extended only to facts generally known to lay persons, of the type that could be recognized under judicial notice. See, e.g., *In re Ahlert*, 424 F.2d 1088, 1091 (CCPA 1970) (using the term “judicial notice” and stating that it extends only to facts that “are capable of such instant and unquestionable demonstration as to defy dispute”); see also John R. Thomas, *The Responsibility of the Rulemaker: Comparative Approaches to Patent Administration Reform*, 17 BERKELEY TECH.L.J. 727, 753 (arguing that certain CCPA cases may allow for aggressive use of official notice in rejecting patents on trivial business methods).

\(^{95}\) *Lee*, 277 F.3d at 1345 (rejecting PTO’s arguments regarding CCPA decisions)

\(^{96}\) At certain points in the *Lee* opinion, Newman attempts to find support in Supreme Court case law on “reasoned decisionmaking.” See id. at 1344 (citing *Motor Vehicle Manufacturers Ass’n v. State Farm Mutual Automobile Ins. Co.*, 469 U.S. 29, 43 (1983). But this case law on reasoned decisionmaking involves judicial review of policy determinations not factual ones, and in any event it in no way calls into question the doctrine of official notice.

\(^{97}\) *Zurko*, 258 F.3d at 1386.
2004 In re Beasley decision, a panel of the Federal Circuit emphasized that the PTO must have documentary evidence to support arguments that an ordinary artisan would have been motivated to combine references. As Judge Dyk’s dissent in that case pointed out, the majority opinion failed to allow any room for the PTO’s specialized knowledge regarding what an ordinary artisan would know, even in a case where this knowledge was clearly presented to the applicant and left uncontradicted by anything other than “lawyer argument.”

To be sure, as Judge Dyk’s dissent indicates, Federal Circuit judges are hardly unanimous in resisting the deferential review mandated by the Supreme Court decision in Zurko. Indeed, as we discuss further, in Part IV (C), we believe that the Supreme Court decision has made a difference in Federal Circuit decisionmaking. Post-Zurko, various Federal Circuit judges have authored opinions that are quite deferential to PTO factfinding. Some of these opinions even appear to apply, at least de facto, a standard of arbitrary and capricious review. For example, in the 2003 case In re Berg, a Federal Circuit panel affirmed a decision by the PTO to reject as obvious, over the combination of various prior art references, an applicant’s claim to a novel fusion protein. The Berg court did not specifically invoke the “motivation to combine” requirement, instead stating that it would defer to the PTO’s expert judgment regarding what the prior art references would motivate the person skilled in the art of biotechnology to do. And a 2006 opinion, In re Kahn, noted that the PTO can find motivation to combine in sources other than documentary evidence. The Kahn court agreed with the PTO’s assertion that the nature of the problem to be solved provided the requisite motivation to combine references for creating the advanced reading machine for the blind claimed in the case.

Kahn is, however, simply a panel opinion, with no greater precedential value than any other panel opinion. Moreover, the opinion cites Lee approvingly. And the PTO appears to have erred on the side of caution in interpreting the somewhat confusing signals sent by the Federal Circuit. Its Manual of Patent Examination and Procedure prominence

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99 Id. at 745-46.
100 320 F.3d 1310 (2003).
101 441 F.3d 977 (2006).
102 Id. at 989.
103 Id. at 988.
104 A forthcoming article reviewing cases in which the Federal Circuit has explicitly discussed a motivation to combine requirement argues that the court tends to require written documentation if the case involves complex technology. Christopher Cotropia, Patent Law Viewed Through an Evidentiary Lens: The “Suggestion Test” as a Rule of Evidence, available at www.ssrn.com. Leaving aside the issue of normative attractiveness (it is not clear, for example, why artisans in complex areas should be required to provide written documentation of knowledge that represents common sense any more than artisans in less complex areas), this argument is open to question as a descriptive matter. The Kahn case arguably involves technology that is quite complex. Moreover, cases such as Berg are
cites the statements in Lee and the Zurko case on remand to caution examiners against statements of office notice that are “unsupported by documentary evidence.”\textsuperscript{105}

Thus far, our discussion of administrative doctrine has largely treated PTO factfinding, whether done in the context of patent denials or patent grants, as one category. However, administrative law doctrine allows – and, indeed, may require – differentiation between grants and denials. There is good reason to believe that courts, including the Supreme Court, sometimes tailor review of agency decisions to the rigor of the agency process. Indeed, in the Dickinson v. Zurko case itself, the Court noted that “the presence of internal agency review [is one factor] that will often prove more influential in respect to outcome than will the applicable standard of review.”\textsuperscript{106} At the PTO, factfinding in the context of denials goes through precisely the sort of internal agency review to which the Zurko opinion alludes. As discussed further below,\textsuperscript{107} a denial by the patent examiner is reviewed by the Board of Patent Appeals and Interferences, and this Board reverses a very significant percentage of examiner determinations. Moreover, unlike appeals of patent denials, which do not typically involve new prior art, challenges to patent grants generally involve new prior art (or other factual information) on which the PTO has not articulated a position. Under standard administrative law doctrine (and as a matter of logic), no deference can be owed to factfinding that the PTO has not done. Thus, to the extent that, as a normative matter, we want courts to treat factfinding in PTO denials and grants asymmetrically, administrative law doctrine provides for that result. We discuss these issues further in Part IV.

\textsuperscript{105} MPEP Section 2144.03 (B).
\textsuperscript{106} 527 U.S. at 163.
\textsuperscript{107} See infra ____.
2. Legal Determinations

With respect to judicial review of legal determinations, the language of the APA itself has played a relatively small role in the major Supreme Court cases. *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*\(^{108}\) did not even cite the APA, and in *United States v. Mead Corp.*\(^{109}\) the Court invoked the APA but did not primarily rely on it.\(^{110}\) This does not mean, however, that the broad application of administrative law standards that characterizes review of factfinding is absent in the case of review of legal determinations. On the contrary, the Supreme Court has put forward a set of standards of review for agency legal interpretations that apply to all such interpretations by all agencies, unless Congress specifically provides otherwise. Thus, as with findings of fact, lower courts are not free to fashion their own standards or modify existing ones in the context of particular agencies. The same broad principles of administrative law apply to all agencies – including, of course, the PTO.

Before 2000, many courts and commentators believed that *Chevron* applied when an agency interpreted a statute that it administered in the course of a final, authoritative agency action.\(^{111}\) The only significant exception to this rule involved legal interpretations made in regulations by agencies that did not have authority to issue regulations.\(^{112}\) Under *Chevron*, for both a "pure" legal interpretation and an application of law to fact, if the statute is clear, then courts do not defer and instead must give effect to Congressional intent; if the statute is silent or ambiguous on the specific issue, then courts defer to the agency’s interpretation as long as it is reasonable.\(^{113}\) The relevance for entities like the PTO was that, before 2000, it seemed that its interpretations of the Patent Act (which it is authorized to administer through adjudication) would generally be subject to *Chevron* deference when those interpretations were contained in its adjudications of patent validity.\(^{114}\)


\(^{111}\) See, e.g., Thomas W. Merrill and Kristin E. Hickman, *Chevron’s Domain*, 89 Geo. L.J. 833, 838-39 (2001) (describing the very broad role that most courts and commentators assumed *Chevron* played); Cass Sunstein, *Law and Administration After Chevron*, 90 Colum. L. Rev. 2071, 2093 (1990) (“whenever an agency is entrusted with implementing power – whether to be exercised through rulemaking or adjudication – agency interpretations in the course of exercising that power are entitled to respect so long as they are reasonable”).

\(^{112}\) See EEOC v. Arabian Am. Oil. Co., 499 U.S. 244, 257 (1991) (holding that EEOC regulations interpreting Title VII statutory language did not deserve deference because EEOC did not have authority to issue rules or regulations).

\(^{113}\) See *Chevron*, 467 U.S. at 842-44; INS v. Cardoza-Fonseca, 480 U.S. 421, 446 (1987) (applying *Chevron* to an agency’s application of law to fact).

\(^{114}\) See Rai, *supra* note ___, at 226 (citing INS v. Aquirre-Aquirre, 526 U.S. 415, 424 (1999) for the proposition that nonrulemaking agencies entrusted with adjudicatory power were entitled to deference for interpretations issued during adjudication).
In the 2000 case of Christensen v. Harris County, the Supreme Court held that agency opinion letters were not entitled to Chevron deference. More dramatically, in its 2001 Mead opinion the Court clarified (and narrowed) the scope of Chevron deference, holding that the default judicial treatment of agency legal interpretations of an unclear statute is that articulated in the 1944 case Skidmore v. Swift & Co. Mead found that Skidmore applies except “when it appears that Congress delegated authority to the agency generally to make rules carrying the force of law, and that the agency interpretation claiming deference was promulgated in the exercise of that authority.” In those circumstances, Chevron applies. The emphasis that the Mead Court placed on Congressional intent to delegate authority led it to conclude that the precise determination of when Chevron deference applies would be specific to particular statutes. Nonetheless, the Court stated “[i]t is fair to assume generally that Congress contemplates administrative action with the effect of law when it provides for a relatively formal administrative procedure tending to foster the fairness and deliberation that should underlie a

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116 If a statute is clear, then courts do not defer to the agency’s legal determination. This is known as “Chevron step one,” because that case articulated two steps (the second entails very great deference to agency interpretations of an unclear statute). The notion that courts do not defer if the statute is clear did not start with Chevron. Chevron’s innovation was its holding that, if the statute does not speak to the precise question at issue, then courts permit any reasonable agency interpretation.

It may be that the level of clarity necessary to satisfy Chevron step one (meaning that Congress has already answered the relevant question) is different from the level of clarity necessary to satisfy the clarity question for Skidmore/Mead, but the Court did not address this question in Mead. For an argument that step one is the same in both contexts, see Ronald M. Levin, Mead and the Prospective Exercise of Discretion, 54 Admin. L. Rev. 771, 778-81 (2002).

117 323 U.S. 134 (1944). The Court’s focus on Skidmore is significant for another reason. Some pre-Chevron cases other than Skidmore had distinguished pure questions of law from applications of law to fact (sometimes called mixed questions of law and fact), according no deference to the former and substantial deference to the latter. See NLRB v. Hearst Publications, Inc., 322 U.S. 111 (1944) (a pre-APA case according no deference to a pure question of law and substantial deference to an application of law to fact); Gray v. Powell, 314 U.S. 402 (1941) (same). But see Packard Motor Car Co. v. NLRB, 330 U.S. 485 (1947) (accordning no deference to an application of law to fact, involving the same statute that was at issue in Hearst); Gary Lawson, Federal Administrative Law 433-35 (3rd ed. 2004) (noting that “Even today, Packard is widely viewed as inconsistent with at least Hearst,” because it did not defer to the NLRB’s application of law to fact). Mead did not cite to any of those cases or mention the possible revival of that distinction, and instead applied Skidmore deference to the legal determination in that case – a legal determination that was an application of law to fact. See Mead, 533 U.S. at 237-38. Thus Mead does not support drawing a distinction for purposes of judicial review between pure legal questions and mixed questions. See David J. Barron & Elena Kagan, Chevron’s Nondelegation Doctrine, 2001 SUP. CT. REV. 201, 226 (stating that “Mead does not revive the distinction between pure questions of law and mixed questions of law and fact that in part determined the level of deference prior to Chevron”).

118 533 U.S. at 226-27.
pronouncement of such force.” The Court then suggested that either informal rulemaking or formal adjudication would ordinarily satisfy this standard.

As a conceptual matter, the difference between the approach taken by *Skidmore* and *Chevron* deference is nontrivial. *Skidmore* stated that “[t]he weight [accorded to an administrative] judgment in a particular case will depend upon the thoroughness evident in its consideration, the validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control.” As the Court noted in *Mead*, *Skidmore* entails a sliding scale of weight for an agency’s determination from “great respect” to “near indifference,” depending on factors like the agency’s consistency in maintaining its interpretation and the thoroughness of its procedures. By contrast, under *Chevron*, courts will defer to “a reasonable interpretation” of an unclear statute, regardless of the thoroughness of its reasoning or its consistency with earlier or later pronouncements. Indeed, in *Chevron* itself the agency legal interpretation at issue conflicted with earlier interpretations the agency had made (and thus would have been entitled to little deference under *Skidmore*), but the Supreme Court deferred nonetheless. Unsurprisingly, agency interpretations of unclear statutes are

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119 Id. at 230.
120 Id. at 230-31.
121 323 U.S. at 140; see also *Mead*, 533 U.S. at 228 (stating that “Justice Jackson summed things up in *Skidmore v. Swift & Co.*” and then quoting this exact language); id. (“The fair measure of deference to an agency administering its own statute has been understood to vary with circumstances, and courts have looked to the degree of the agency’s care, its consistency, formality, and relative expertness, and to the persuasiveness of the agency’s position.”).
122 Id. at 228. Justice Scalia, in his *Mead* dissent, suggested that *Skidmore* deference is more apparent than real. See id. at 250 (“*Skidmore* deference gives the agency’s current position some vague and uncertain amount of respect”); id. (“the rule of *Skidmore* deference is an empty truism and a trifling statement of the obvious”); id. at 241 (“The Court has largely replaced *Chevron*, in other words, with that test most beloved by a court unwilling to be held to rules (and most feared by litigants who want to know what to expect): th’ol’ totality of the circumstances’ test.”); id. at 239 (referring to “so-called *Skidmore* deference”). But Scalia overstates the case. *Skidmore* is not across-the-board deference like *Chevron* is, to be sure, but it still directs courts to defer to judgments that they would not reach in the first instance where the agency has followed procedures that tend to show that the agency itself has acted with care.
123 *Chevron*, 467 U.S. at 844.
124 Id. at 853-59 (noting changes in EPA interpretations of the statutory term “source”). *Matz v. Household Intern. Tax Reduction Inv. Plan*, 265 F.3d 572 (7th Cir. 2001), presents a particularly clear example of the difference in outcomes that can result from the application of *Skidmore* deference instead of *Chevron* deference. In that case, the Seventh Circuit (shortly before *Mead* was decided) found that *Chevron* deference applied to an IRS interpretation (presented in an amicus brief) and it found the interpretation reasonable under *Chevron*. The Supreme Court remanded the case for reconsideration in light of *Mead*. On remand, the Seventh Circuit held that, in light of *Mead*, the IRS interpretation was entitled only to *Skidmore* deference, and it found the interpretation unpersuasive under *Skidmore*. Id. at 575-76.
almost always “reasonable,” and thus permissible, under the *Chevron* analysis. In fact, in the more than twenty years since the *Chevron* test has been in force, only two Supreme Court cases have held that an administrative interpretation of an unclear statute was unreasonable and hence invalid.

For many agencies, the relevant organic statutes often do not speak precisely to the question at issue. Similarly, the patent statute’s standards for patent validity allow for some legal interpretation. For example, as discussed earlier, the Federal Circuit has interpreted the language of the patent statute’s nonobviousness standard to allow for patentability where an invention is “obvious to try” but nonetheless has only a limited possibility of success. In the context of nonobviousness, the Supreme Court has also engaged in legal interpretation. It has held that courts may invoke various “secondary factors” – “commercial success, long felt but unsolved needs, failure of others, etc.” as proxies for technical nonobviousness. Although these secondary factors are not mentioned in the statutory language, the Supreme Court treats them as a mechanism for getting at the issue of technical obviousness that is mentioned in the statute. Legal interpretation also comes into play because many patent validity determinations, including nonobviousness, require the application of legal standards to underlying factual findings. Under the Supreme Court’s jurisprudence, *Chevron* applies both to pure questions of legal interpretation and to the interpretation involved in applying legal standards to factual findings, and nothing in *Mead* suggests a differentiation between pure and applied interpretations.

When the PTO makes a determination of patent validity, it engages not only in factfinding but also in application of legal interpretation – the application of law to fact. So how does the choice between *Chevron* and *Skidmore* play out for the PTO? In contrast to most agencies that regulate areas characterized by technical complexity, the PTO engages in neither of the proceedings – informal rulemaking or formal adjudication – that the *Mead* Court indicated would merit deference. First, unlike most significant agencies, the PTO does not have substantive rulemaking authority. Federal statutes give the PTO authority to make rules on a variety of procedural matters (e.g., how much money to charge applicants) and in a few specified substantive contexts (e.g., with respect to rejected patent applications, “[t]he Director shall prescribe regulations to provide for the continued examination of applications”).

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125 As many commentators have noted, the central hurdle in *Chevron* cases is clarity – i.e., did Congress answer the relevant question, so that there is no reason to look to the agency’s interpretation. See Merrill, *supra* note 123.

126 See AT&T Corp. v. Iowa Utilities Bd., 525 U.S. 366 (1999), and Whitman v. American Trucking Ass’ns, 531 U.S. 457 (2001). This is not to suggest, however, that agencies always win under *Chevron*. Agencies often lose under *Chevron*’s first step, which asks whether Congress has directly spoken to the relevant issue.


128 See INS v. Cardoza-Fonseca, 480 U.S. 421, 446 (1987) (applying *Chevron* to an agency’s application of law to fact); *supra* note 123.
of applications for patent at the request of the applicant." But the statutes contain no general grant of substantive rulemaking authority, and thus the PTO lacks the power to issue binding rules setting out general requirements for patents. Second, the PTO does not conduct adjudications that would quality as formal adjudications for APA purposes. Formal adjudications under the APA are trial-type oral hearings conducted by an impartial presiding officer in which the parties are entitled present evidence and to cross-examine, and the officer’s decision must be based solely on the record. The PTO does have explicit authority to administer the patent statute through adjudications of individual patents, but it has no proceedings that bear these hallmarks of formal adjudication.

The Mead Court did explicitly leave open the possibility that Chevron deference could apply to agency actions that did not constitute either informal rulemakings or formal adjudications but nonetheless did entail a congressional “delegate[on] [of] authority to the agency generally to make rules carrying the force of law.” And the PTO is of course authorized to make legally binding determinations via informal adjudication. But Mead indicates that authority to proceed via informal adjudication is insufficient. Mead requires a congressional intent that the agency make rules with the force of law, and the PTO statute does not reveal such an intent. Thus PTO legal interpretations are subject to the sliding scale of Skidmore deference. Moreover, as we discuss in Part IV, Skidmore provides for a normatively attractive result – more deference in the case of a denial, where

129 § 132(b).
130 See Merck & Co. v. Kessler, 80 F.3d 1543, 1549-50 (Fed. Cir. 1996).
131 See 5 U.S.C. § 556. As we noted above, the APA permits some formal hearings to be based on written submissions, but none of the exceptions apply to patent decisions. See supra note ___ and accompanying text.
132 35 U.S.C. Section 6 (authorizing PTO to execute “all duties required by law respecting the granting and issuing of trademarks.”)
134 Might the presumption of validity of 35 U.S.C. § 282 create its own standard of review of legal determinations, such that neither Skidmore nor Chevron applies? No. Many organic acts have similar language, and nothing in Mead suggests that such language is sufficient to create its own standard. Indeed, the Court’s opinions indicate that the opposite is true, as the Court has consistently applied its own tests (i.e., Skidmore and Chevron), and rarely has found that a statute was explicit enough to create its own standard for the treatment of an agency’s legal interpretations. Cf. United States v. Haggar Apparel Co., 526 U.S. 380, 389-90 (1999) (holding that regulation providing that “[n]othing in these regulations purports or is intended to restrict the legal right of importers or others to a judicial review of the matters contained therein” … does not suffice to displace the usual rule of Chevron deference,” because it “may be thought surplusage in that it merely confirms the existence of judicial review”). And, as we discussed above, § 282 is not specific at all. The sparse language of § 282 simply gives no indication that Congress was indicating its desire that PTO legal interpretations would have any special status. (Indeed, as we also noted, § 282 has a very modest effect, as courts already apply a presumption of validity to ordinary agency actions – and, of course, legal determinations made in the course of such agency actions are subject to review under Skidmore and Chevron.) See supra notes ___ to ___ and accompanying text.
the PTO’s decisionmaking has gone through several layers of internal agency review, and less deference in the case of a grant, where such internal processes do not exist.

The Federal Circuit’s actual decisions with respect to PTO legal determinations tell an interesting story. In 1997, the Federal Circuit held that *Chevron* did not apply to PTO adjudications.\(^\text{135}\) Perhaps this demonstrated acumen: the Supreme Court never held that the sort of informal adjudications implemented by the PTO – with some elements of formality but clearly falling short of the requirements of a formal adjudication under §§ 556 and 557 – would in fact receive *Chevron* deference. Commentators, and other circuits, widely believed that *Chevron* deference applied in such situations, but maybe they were not as careful as the Federal Circuit.\(^\text{136}\) The alternative explanation is that the Federal Circuit was not prescient but lucky: it did not apply *Chevron*, as it did not apply the APA, because it mistakenly believed that ordinary principles of administrative law did not govern its review of the PTO. On this theory, *Zurko* disabused the Federal Circuit of that notion, but *Mead* allowed it to avoid the strong form of deference delineated in *Chevron*. We cannot know, of course, which explanation is the correct one, but the latter seems more consistent with the Federal Circuit’s actions with respect to other aspects of administrative law.

It is also more consistent with the Federal Circuit’s behavior regarding PTO legal determinations. Both before and after *Zurko*, the Federal Circuit has repeatedly stated that it grants no deference whatsoever to PTO legal interpretations. Prior to *Zurko*, many Federal Circuit cases simply stated flatly that they reviewed PTO legal determinations *de novo*.\(^\text{137}\) *Zurko* did little to change this pattern; even after *Zurko*, the Federal Circuit frequently states that it owes no deference to PTO legal determinations.\(^\text{138}\) Although the Federal Circuit does apply *Skidmore* deference to the actions of other agencies that it reviews,\(^\text{139}\) it rarely cites to *Skidmore* itself (or to

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\(^\text{135}\) In re Portola Packaging, Inc., 110 F.3d 786, 789 (Fed. Cir. 1997). The Federal Circuit had earlier held (consistent with Supreme Court precedent) that because the PTO did not have substantive rulemaking authority, *Chevron* deference did not apply to PTO regulations. Merck & Co. v. Kessler, 80 F.3d 1543, 1549-50 (Fed. Cir. 1996).

\(^\text{136}\) See supra notes ___ to ___ and accompanying text.

\(^\text{137}\) See, e.g., DH Technology, Inc. v. Synergystex Intern., Inc., 154 F.3d 1333 (Fed. Cir. 1998) (“Statutory interpretation is a question of law, which we review de novo.”); In re Portola Packaging, Inc., 110 F.3d 786, 788 (Fed.Cir.1997) (“Whether the rejection based on the combined teachings of the Faulstich and Hunter patents was permissible under the reexamination statute raises an issue of statutory interpretation, a question of law which we review de novo, without deference to the Commissioner’s interpretation”) (internal citation omitted).

\(^\text{138}\) See, e.g., Arnold Partnership v. Dudas, 362 F.3d 1338 (Fed. Cir. 2004) (“This court reviews statutory interpretation, the central issue in this case, without deference. Merck & Co. v. Kessler, 80 F.3d 1543, 1549-50 (Fed.Cir.1996).”).

\(^\text{139}\) See, e.g. Cathedral Candle Co. v. U.S. Intern. Trade Com’n, 400 F.3d 1352, 1365-66, 1370-72 (Fed. Cir. 2005) (discussing the potential application of *Skidmore* to an International Trade Commission interpretation, and finding that the interpretation was
Skidmore’s progeny in the Supreme Court) when it reviews PTO actions. Instead the court relies on its own pre-Mead cases which it then construes as providing for no deference whatsoever.\footnote{There are two post-Zurko cases in which the Federal Circuit has applied Skidmore deference to PTO actions. Bayer AG v. Carlsbad Technology, Inc., 298 F.3d 1377 (Fed. Cir. 2002); BlackLight Power, Inc. v. Rogan, 295 F.3d 1269 (Fed. Cir. 2002). In Bayer, the Federal Circuit stated that “district court properly accorded deference to the PTO’s implementing regulations and to the PTO’s interpretative ‘Decision,’” and cited Skidmore, Merck, and, strikingly, Judge Dyk’s dissent in Dethmers Mfg. v. Automatic Equip. Mfg., 272 F.3d 1365, 1379 (Fed.Cir.2001), treating the dissent as if it were the majority. We discuss Dethmers in the text. BlackLight Power also cited Skidmore and gave some deference to the PTO. While that is inconsistent with the Federal Circuit’s ordinary practice, on a more fundamental level BlackLight Power continues an important Federal Circuit practice (which we discuss in more detail infra notes ___ to ___ and accompanying text): it treats actions that have a policy element simply as a legal interpretation. The agency action at issue in that case was the PTO’s decision to withdraw a patent application based on its concerns about the correctness of the underlying scientific theory. The PTO relied on 35 U.S.C. § 151, which provides that “[i]f it appears that applicant is entitled to a patent under the law, … the patent shall issue.” The PTO’s decision relied on a legal interpretation (that § 151 allowed them to withdraw the application) and on factual determination (that this application was based on an incorrect scientific theory). The latter aspect of the decision would ordinarily be reviewed under the deferential test applied to factual findings. The Federal Circuit, however, treated both the statutory interpretation and the factual finding as questions of legal interpretation. In giving any deference to PTO legal interpretations, it went beyond what that court usually does with respect to the PTO. But in choosing to lump the entire PTO action in the “legal interpretation” box, it avoided granting the greater deference that would apply to factfinding.}

Thus far, we have discussed the Federal Circuit’s refusal to apply Skidmore deference to PTO interpretations of the statute it administers. What about the PTO’s interpretation of its regulations, which are entitled to very strong deference under the Supreme Court decision in Bowles v. Seminole Rock & Sand Co.?\footnote{325 U.S. 410, 414 (1945) (holding that “the ultimate criterion” for judicial construction of an unclear agency regulation “is the administrative interpretation, which becomes of controlling weight unless it is plainly erroneous or inconsistent with the regulation”); see also Ehlert v. United States, 402 U.S. 99, 105 (1971) (deferring to the agency’s “plausible construction of the language of the actual regulation”); Pauley v. Bethenergy Mines, Inc., 501 U.S. 680, 702 (1991) (stating that “the Secretary’s view [of the agency regulation] need only be reasonable to warrant deference”).}

Before Zurko, the Federal Circuit had similarly stated that it granted no deference to PTO interpretations of its own regulations. After Zurko, the Federal Circuit confronted this question again in Dethmers Manufacturing Co. v. Automatic Equipment Manufacturing Co.\footnote{272 F.3d 1365 (Fed.Cir.2001).} And the Federal Circuit decided that it would continue to grant no deference. Judge Dyk issued a dissent cogently arguing that Zurko changed the analysis by reminding the Federal Circuit that ordinary principles of administrative law applied to its review of the PTO.\footnote{272 F.3d. at 1378-79 (Dyk, J., dissenting).}
As he noted in his dissent from the Federal Circuit’s denial of the petition for rehearing en banc, “[o]ur decision … declining to give deference to the PTO interpretation, is directly inconsistent with Supreme Court decisions concerning other agencies and with our own decisions concerning other agencies.” Strikingly, the majority’s only response was to rely on its pre-
Zurko opinions refusing to defer. For the majority of the Federal Circuit, 
Zurko apparently changed fairly little, and the administrative law rules that apply to every other agency still do not apply to the PTO.

Of course, given the language of patent law’s central statutory provisions, many important determinations in patent law will turn on factfinding and policy rather than law. Nonetheless, the Federal Circuit’s failure to mention Skidmore deference in its review of PTO decisions, and to instead adopt de novo review, is very important. This is because the court tends to turn facts and policy into law. For example, the court has, in a variety of important cases, reviewed de novo, as questions of law, technical (and factual) claims about what constitutes prior art and level of ordinary skill in the art. By turning facts into law, and then ignoring Skidmore, the court is able to avoid deferential review altogether. As for policy, the Federal Circuit’s position (discussed in the next section) is that the PTO does not make such determinations. The upshot is that the Federal Circuit often reviews PTO policy determinations de novo.

3. Policy Decisions and Exercises of Discretion

As we noted above, all agency decisions are divided into a few categories: findings of fact, legal interpretations and policy determinations (which include exercises of discretion). Policy and discretion are sometimes treated separately, but more often are put together in one category. After all, all policy choices are, by definition, discretionary choices. The basis for a differentiation between the two is that some discretionary decisions have the effect of making policy for the agency, and other decisions are specific determinations whose effect is limited to the particular case. There can be a blurring of the categories at the margins (if a specific decision is consistently applied in all cases, it may reflect – or become – agency policy), but we can usually differentiate narrow implementations from broader, legislative-like policy choices.

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145 See notes ___ to ___ and accompanying text; Rai, supra note ___ (reviewing cases).
146 See, e.g., In re Deuel, 51 F.3d 1552 (Fed. Cir. 1995) (reviewing de novo, and reversing, the PTO determination regarding that methods routinely used by biotechnologists are appropriate prior art for claims to gene sequences).
147 See, e.g., GARY C. BRYNER, BUREAUCRATIC DISCRETION: LAW AND POLICY IN FEDERAL REGULATORY AGENCIES 6 (1987) (defining “two basic kinds of discretionary authority given to administrative agencies: (1) authority to make legislative-like policy decisions, and (2) authority to decide how general policies apply to specific cases”).
When do policy and discretionary decisions arise? There has probably never been a statutory scheme that left no room for discretion. An agency that is directed to issue a particular regulation still has to decide on what date to issue it.\textsuperscript{148} To pick an example from a case involving the PTO, a law that permits an agency to impose sanctions against someone who fails to comply with the agency’s procedural regulations\textsuperscript{149} leaves the agency’s decisionmakers with some discretion to determine whether a particular action constitutes such a failure.\textsuperscript{150} Policy decisions are less obviously inevitable. Although it is hard to imagine a statute that leaves no discretion whatsoever, it seems possible to imagine a statute that makes all the policy judgments, so that the only job of the agency is to ascertain the legislature’s policy choices and implement them. In reality, though, legislatures generally give agencies room to make their own judgments about how best to advance Congress’s goals.\textsuperscript{151} In such situations, the question for a reviewing court is that of the limits (if any) on the agency’s exercise of its policymaking authority.

This last point highlights the difference between legal determinations and policy decisions. Although there is no bright-line distinction between the two categories, law and policy do tend to fall on opposite sides of a spectrum. Sometimes a statute is ambiguous, and the job of an interpreter (in the first instance, the administering agency) is to put forward its best reading of the statute. On other occasions a statute uses terms that are so broad that rules of statutory construction provided limited guidance, and leave the agency with a wide range of choices. So the agency does not engage in statutory construction but instead makes value judgments in light of the law’s goals. Agency actions often incorporate some such policy decisions. For example, when Congress directs an agency to regulate consistent with the public interest, convenience, and necessity, it is giving the agency broad policy discretion to implement those goals.\textsuperscript{152} Even when a

\textsuperscript{148} Even if the agency is directed to issue regulations by a certain date, it still has the discretion to decide whether to issue them on that date or at some earlier point. We are aware of no statute specifying the exact date (no later, no earlier) on which a regulation must be issued.

\textsuperscript{149} As we noted earlier, see supra notes ___ to ___ and accompanying text, the PTO does have authority to issue regulations governing its own procedures.

\textsuperscript{150} See Gerritsen v. Shirai, 979 F.2d 1524 (Fed. Cir. 1992) (reviewing such a determination by the PTO Board of Patent Appeals and Interferences for abuse of discretion, and finding in this case that the determination was not an abuse).


\textsuperscript{152} See, e.g., 47 U.S.C. § 303 (empowering the FCC to regulate consistent with “public convenience, interest, or necessity”); see also, e.g., 30 U.S.C.A. § 1017 (“The Secretary is hereby authorized, on such conditions as he may prescribe, to approve operating, drilling, or development contracts made by one or more lessees of geothermal leases, with one or more persons, associations, or corporations whenever, in his discretion, the conservation of natural products or the public convenience or necessity may require or the interests of the United States may be best served thereby.”).
statute is more specific, and directs an agency to regulate to protect the public health, the agency still must decide how to construct a dose-response curve and where to draw the line, consistent with the public health tradeoffs in doing so. 153 In the case of the patent statute, a number of provisions arguably allow for some policymaking. 154 For example, one of the criteria for patenting in the Patent Act is that an invention be “useful.” But the statute does not explain in any way what “useful” means. 155 Courts, including the Supreme Court, have long interpreted utility in light of policy concerns – specifically, concerns that patents on basic research might hinder cumulative innovation. 156 In 2001, in response to concerns that patents over certain types of upstream genetic information could lead to transaction cost heavy patent thickets, the PTO issued guidelines stating that utility should be given a relatively rigorous interpretation, particularly in cases involving upstream genetic information. 157 In so doing, it was making a policy determination.

As with findings of fact and legal interpretations, administrative law creates a scheme for review of agency policy decisions and exercises of discretion. If the organic statute provides a standard of review, then it controls. Otherwise, the APA serves as a gap-filler. Specifically, § 706(2)(A) is a catch-all provision that applies not only to challenges to agency factfinding but also to challenges to agency policy decisions and exercises of discretion. 158

This is not to suggest that these statutes impose no limits on the agency. Even broad terms like “public interest” rule out some agency actions. See, e.g., NAACP v. Federal Power Commission, 425 U.S. 662 (1976) (holding that a statutory mandate to advance the “public interest” did not enable the Federal Power Commission to prohibit employment discrimination by regulated firms, because such a regulation was beyond the purposes of the authorizing legislation). But a term like “public interest” is still quite capacious, and within its ambit an agency will have many policy options. 155 See, e.g., Industrial Union Dep’t, AFL-CIO v. American Petroleum Inst., 448 U.S. 607 (1980). There, the statute was a good deal more specific, but still it ultimately involved a policy decision. See id. at 618 (noting that the statute required the agency to assure, “to the maximum extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity,” and reviewing the agency’s judgment as a policy decision).

Rai, supra note __, at 1118-19, 1126-27 (discussing provisions regarding patent scope that could be used in a manner sensitive to the need for follow-on research); Burk & Lemley, Policy Levers, supra note ___ (discussion of patent standards that the authors argue could be interpreted in a manner sensitive to policy).


See Utility Examination Guidelines, 66 Fed. Reg. 1092, 1097-99 (Jan. 5, 2001); See generally Burk & Lemley, Policy Levers, supra note ___ (discussing the use of the utility standard as a policy tool). Although the PTO guidelines do not specifically state that they apply to upstream genetic information only, the teaching examples in the guidelines are drawn from this category of information.

5 U.S.C. § 706 (“The reviewing court shall … (2) hold unlawful and set aside agency action, findings, and conclusions found to be—(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law”).
How do the standards of § 706(2)(A) apply in these contexts? For exercises of discretion, § 706(2)(A) specifically provides for invalidation based on “an abuse of discretion.” The standard that courts of appeals use in implementing this provision with respect to agency action is very lenient and very familiar to courts of appeals, as it is the standard that they routinely use in evaluating discretionary decisions of a lower court.

Section 706(2)(A) does not include a distinct provision for review of “policy.” But courts have found that its provision for setting aside actions that are “arbitrary [or] capricious” is applicable to review of policy decisions. How is the “arbitrary [or] capricious” standard of § 706(2)(A) applied? Under settled principles of administrative law, the answer is what is known as “hard look” review. Under such review, a court will invalidate an agency action if the court determines that the agency failed to take a hard look at the significant considerations against its position. If an agency fails to offer an adequate explanation for its rejection of such countervailing considerations, or promulgates a regulation that fails to take into account relevant factors, a court will invalidate the action. Thus, to return to the example above, if a reviewing court applying ordinary administrative law were to decide that the PTO’s utility guidelines did not adequately consider arguments that there may be mechanisms for working around thickets created by patents on upstream information, the court might reject the PTO action.

Just as deference to factual and legal determinations is not complete, so, too, deference to policy determinations leaves a court with room to reach its own conclusions about the agency’s handling of the policy decisions.

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160 See id. (adopting hard look review); El Conejo Americano of Texas, Inc. v. Department of Transp., 278 F.3d 17, 19-20 (D.C. Cir. 2002) (applying hard look).

161 As the Supreme Court elaborated in State Farm, the scope of review under the “arbitrary and capricious” standard is narrow and a court is not to substitute its judgment for that of the agency. Nevertheless, the agency must examine the relevant data and articulate a satisfactory explanation for its action including a “rational connection between the facts found and the choice made.” … An agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise. Id. At 43 (quoting Burlington Truck Lines v. United States, 371 U.S. 156, 168 (1962)). Thus, an agency’s failure to respond to alternatives to its regulation or arguments that undercut its action is “arbitrary [or] capricious” within the meaning of 5 U.S.C. § 706(2)(A).

162 Sierra Club v. EPA, 356 F.3d 296 (D.C. Cir. 2004), provides a useful instantiation (and discussion) of the differences between Chevron and hard look review.

Indeed, of the three forms of review, hard look review has proved to have the most bite in the ordinary administrative law context (i.e., outside of the world of Federal Circuit review of the PTO). Invalidations based on faulty factfinding are fairly uncommon. And when *Chevron* applies to an agency’s legal interpretation, courts very rarely invalidate agency action on the grounds that the agency’s interpretation of an unclear statute was unreasonable.\(^{164}\) Actions entitled to *Skidmore* deference receive less deference, but most agencies (though not the PTO) are entitled to *Chevron* deference and generally receive such deference for their key actions (because they are embodied in informal rulemaking). The most common basis courts invoke to strike down agency actions is that the agency failed to take a hard look at the arguments for it to act otherwise.\(^{165}\)

How does the Federal Circuit treat PTO policy decisions and exercises of discretion? The court does recognize that the PTO exercises discretion.\(^{166}\) However, with few exceptions, the court has not merely failed to apply the well-established principles of hard look review to PTO policy decisions. More fundamentally, in contrast to the court’s treatment of other agencies that it reviews, it has failed to recognize policy decisions as a separate category of PTO behavior.\(^{167}\) Rather, it treats PTO decisions as encompassing fact and law, or sometimes fact, law and discretion.\(^{168}\)

\(^{164}\) See *supra* notes ___ to ___ and accompanying text.

\(^{165}\) See Frank B. Cross, *Shattering the Fragile Case for Judicial Review of Rulemaking*, 85 Va. L. Rev. 1243, 1265 (1999) (stating that the most common basis for rejecting agency action is “judicial second-guessing of the policy wisdom of administrative decisions”); Patricia M. Wald, *Judicial Review in Midpassage: The Uneasy Partnership between Courts and Agencies Plays On*, 32 Tulsa L.J. 221, 234 (1996) (stating that the D.C. Circuit’s most frequent cause for overturning agency action is that the agency did not give adequate reasons for its policy decisions); Murray J. Horn, *The Political Economy of Public Administration* 64 (James E. Alt & Douglass C. North eds., 1995) (reporting that “most agency decisions are reversed because of inadequate reasoning from the facts”).

\(^{166}\) See, e.g., *Star Fruits S.N.C. v. United States*, 393 F.3d 1277 (Fed. Cir. 2005) (identifying the relevant question as whether the PTO abused its discretion, although most of its analysis addressed questions of law (specifically, whether a regulation permitted the PTO to require submission of certain information, whether the PTO’s interpretation was entitled to substantial deference, and whether a different regulation allowed a regulated power to refuse the PTO’s request for information); but at the end of the opinion did the court consider whether the PTO had abused its discretion).

\(^{167}\) In its review of PTO decisions, the Federal Circuit rarely cites to the foundational Supreme Court case on hard look review – *State Farm* – or refers to its language delineating the sort of review in which appellate courts are supposed to engage. Interestingly, in the case involving the PTO in which the Federal Circuit most squarely appears to rely on *State Farm* (and thus apparently recognizes the existence of policy decisions), the Federal Circuit applies the doctrine incorrectly. See *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002). In that case, the Federal Circuit reviewed, and rejected, the PTO’s decision (through its Board of Patent Appeals and Interferences) to combine two references to find obviousness. Specifically, the court rejected the Board’s statement that “‘[t]he conclusion of obviousness may be made from common knowledge and common sense of a person of ordinary skill in the art without any specific hint or suggestion in a particular reference.’” *Id.* at 1341 (quoting the Board of Patent Appeals and Interferences’ opinion in the case). Although the Federal Circuit did not explicitly state that the Board’s statement was a policy decision (indeed, as we discussed
In a recent case, *In re Fisher*, the Federal Circuit provided a telling example of the court’s extreme discomfort with a policy category as applied to PTO decisions. In that case, the court reviewed the PTO’s decision to apply its 2001 utility guidelines in a manner that rejected a patent application on a gene fragment of unknown function. The *Fisher* court viewed the PTO’s utility determination as a simple factual finding that it reviewed for substantial evidence. The court was highly dismissive of policy arguments advanced by the PTO and its supporting *amicis* to the effect that allowing patents on gene fragments without demonstrated utility would delay scientific progress by creating patent thickets. Ignoring the reality that the Patent Act and administrative law permit agencies to make policy decisions, the court viewed these arguments as “public policy considerations which are more appropriately directed to Congress as the legislative branch of government . . .” Moreover, the court determined that the PTO’s Utility Guidelines were simply advisory. They could “be given judicial notice to the extent they do not conflict with the statute.”

Interestingly, the PTO would not have needed to draft utility guidelines driven by policy concerns if the Federal Circuit had allowed it to conduct its ordinary, nonobviousness-related factfinding. As Judge Rader pointed out in his *Fisher* dissent, the utility guidelines arose in large part because Federal Circuit cases in the area of genetic information have disabled the PTO. Specifically, the Federal Circuit has overturned PTO determinations that routine methods for generating genetic information constitute relevant prior art. Judge Rader’s dissent underscores a point we above, see *supra* notes___ to ___ and accompanying text, motivation to combine in any particular case is a factual question, and the court treated motivation partly in that way), the court did invoke *State Farm*. But to the extent the *Lee* court invoked hard look to reject reliance on common sense, its decision squarely contradicts the well-settled doctrine of official notice. See *supra* ___.

Also striking is the fact that the Federal Circuit has straightforwardly applied *State Farm* in reviewing agencies other than the PTO. See, e.g., Timken U.S. Corp. v. United States, 421 F.3d 1350 (Fed. Cir. 2005) (applying *State Farm* to a policy decision made by the International Trade Commission). See, e.g., *In re Bogese*, 303 F.3d 1362, 1366 (Fed. Cir. 2002) (“Our review of a decision of the Board is governed by the Administrative Procedure Act, 5 U.S.C. § 706. Dickinson v. Zurko, 527 U.S. 150, 165 (1999). Under that statutory provision, we will set aside legal actions of the Board that are ‘arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,’ and set aside factual findings that are ‘unsupported by substantial evidence.’ 5 U.S.C. § 706.”); *In re McDaniel*, 293 F.3d 1379 (Fed. Cir. 2002) (using identical language). Note that the quotation uses the odd phrase “legal action.” We assume that “legal action” means “legal interpretation,” as that sets up the parallelism with “factual findings” in the same sentence; if so, then the courts are, indeed, talking only about legal interpretations and factual findings. If, however, “legal action” means “final agency action” as that term is used in administrative law, then “legal action” might encompass policy decisions as well as discretionary actions.

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169 421 F.3d 1365 (Fed. Cir. 2005).
168 Id. at 1378.
170 Id. at 1372 (citing prior Federal Circuit cases).
171 Id. at 1382.
made earlier – that, done properly, the type of technical factfinding required by the patent statute often serves economic policy goals reasonably well.\textsuperscript{173}

Nonetheless, it bears emphasis that there will some situations where technical standards will not comport with considerations of economic policy. For example, given the rapid advance of biotechnology, it might be technically obvious to identify a gene that could be used therapeutically. In this case a patent right might be useful for development purposes – without a patent no one would have the incentive to develop the potential therapeutic product through the expensive clinical trial process. Indeed, the Federal Circuit’s decision essentially to eliminate the nonobviousness standard in the area of gene sequencing (by stating that methods do not count as prior art for gene sequence patents) could be rationalized as a response to the fear of such a scenario.\textsuperscript{174} The problem with the Federal Circuit’s approach is that it does not, and cannot, distinguish between situations in which elimination of the nonobviousness standard is likely to create patent thickets and those in which such elimination may be useful for promoting drug development. Moreover, as a matter of patent doctrine, the Federal Circuit’s approach to nonobviousness leads inexorably to the conclusion that such patents must be unusually narrow.\textsuperscript{175} Consequently, in the therapeutic context, the Federal Circuit’s approach would not provide the sort of protection necessary for further clinical development.\textsuperscript{176} Only explicit consideration of policy allows for distinctions that provide the requisite level of protection at the appropriate stage of research.

Some commentators have argued that the nonobviousness requirement – and particularly the doctrine of secondary considerations – could be expanded to take explicit account of economic policy arguments.\textsuperscript{177} As we discussed earlier, the current secondary considerations doctrine aims to assist with the inquiry into technical nonobviousness set out in the statute.\textsuperscript{178} Thus this doctrine is best seen as a legal interpretation of the statute. An economic nonobviousness criterion, by contrast, would be driven entirely by policy: it would have no statutory hook. But the language of the

\textsuperscript{173} See supra notes ___ to ___ and accompanying text.

\textsuperscript{174} Although they do not use this particular example, some commentators have argued that the Federal Circuit decision effectively to eliminate the obviousness standard in the area of gene sequencing may have been a \textit{sub rosa} attempt to incorporate economic considerations. See, e.g., Karen I. Boyd, \textit{Nonobviousness and the Biotechnology Industry: A Proposal for a Doctrine of Economic Nonobviousness}, 12 BERK. TECH. L.J. 311 (1997); see also Burk & Lemley, supra note ___.

\textsuperscript{175} See Regents of the University of California v. Eli Lilly & Co., 199 F.3d 1559 (Fed. Cir. 1997). A full discussion of the reasons for this link between a low nonobviousness standard and narrow patent scope is beyond the purview of this article. Briefly, however, when the nonobviousness standard is low because the field is purportedly uncertain or risky, the scope of the inventive terrain the patent applicant can claim will be correspondingly narrow.

\textsuperscript{176} See Rai, supra note __, at 1072-73.

\textsuperscript{177} Merges, \textit{supra} note __.

\textsuperscript{178} See \textit{supra} notes ___ to ___ and accompanying text.
nonobviousness requirement is arguably sufficiently capacious to allow for
an economic nonobviousness criterion driven entirely by policy. Thus, for
example, if the PTO were faced with a grant application on a therapeutic
gene that was technically obvious, it could determine, as a matter of policy,
that the patent was necessary to promote development. The PTO might also
point out that such a patent grant would be unlikely to lead to patent
thickets. Indeed, one of the reasons that the patent would be necessary in the
first instance was that the likelihood of additional downstream patents was
small. The Federal Circuit would (or should) then review the PTO’s policy
determination using the “hard look” approach – did the PTO consider all of
the economic arguments for and against the need for such a patent?

III. Comparative Institutional Analysis and Judicial Review

The prior two Parts have discussed the existing structure for judicial
review of PTO decisionmaking (or at least what, as a matter of formal legal
analysis, such judicial review should look like.) The discussion so far thus
answers the descriptive question of how existing administrative principles
apply to the Federal Circuit’s review of the PTO answers. That answer is
sufficient to guide courts and is valuable in its own right, but it does not
answer the normative question of how we would want the relationship
between the Federal Circuit and the PTO to be structured. In this section, we
turn to normative concerns: what sort of judicial review of the PTO should
we want?179

This entails a comparative analysis of the PTO and the Federal
Circuit. After all, the question is what role we want each institution to play –
and that is a comparative question among institutions. If we conclude, for
example, that both agencies and courts do a good (or bad) job of making
some set of decisions, that still leaves us with the question of how much
authority we want each to have relative to the other. In what follows, we
address this question through a pragmatic lens. There is an allure to
concocting a deus ex machina – in this case, an ideal court and agency – but
that would elide the harder task of making comparative institutional choices
among realistic alternatives.

A. Judicial Review Generally

A fair amount has been written on the broad topic of comparative
institutional analysis, providing a foundation for consideration of the
relative strengths and weaknesses of administrative agencies and federal

179 We focus here on functional normative considerations – for example, trade-offs
between expertise and capture – as contrasted with structural normative considerations (e.g.
democratic accountability and separation of powers). It bears mention, however, that some
concerns about how administrative law doctrine, particularly the Chevron doctrine, may
contravene structural constitutional values are arguably addressed by cases like Mead, which
diminishes the domain of Chevron.
courts. In broad outline, agencies generally have an advantage over courts in terms of institutional competence. One of the central rationales for creating administrative agencies was that they would have greater expertise and focus than generalist legislatures or courts. The idea was to create expert agencies that would concentrate on a particular area, and thereby bring technocratic rigor to the decisionmaking process. Even if the head (or heads) of an agency is not an expert, agencies usually have large staffs and significant research capabilities. And the agencies can request information from third parties (e.g., think tanks and academic societies) to supplement their internal expertise. In contrast, courts have modest staffs, and the vast majority of the information judges receive is from self-selected interested parties. Judges can seek information from disinterested parties, but such procedures are ad hoc and, in part for that reason, fairly cumbersome. Agencies thus generally have a greater ability than courts to amass expertise and make decisions on complex, data-intensive matters.

The advantages in competence that flow from specialization may have other drawbacks, however. The agency might be so narrowly focused that it develops tunnel vision—i.e., it focuses on benefiting its own sector of the economy even though the costs imposed on society more broadly may

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182 See, e.g., James M. Landis, The Administrative Process 6-46 (1938) (discussing the ideas behind the development of the administrative state in the United States); Louis L. Jaffe, James Landis and the Administrative Process, 78 Harv. L. Rev. 319 (1964); Cass R. Sunstein, Law and Administration After Chevron, 90 Colum. L. Rev. 2071, 2079 (1990) (“For the twentieth century reformers, courts lacked the flexibility, powers of coordination, initiative, democratic accountability, and expertise necessary to deal with complex social problems.”).

183 See Kenneth Culp Davis, Judicial, Legislative, and Administrative Lawmaking: A Proposed Research Service for the Supreme Court, 71 Minn. L. Rev. 1, 10-17 (1986); Frederick K. Beutel, Some Implications of Experimental Jurisprudence, 48 Harv. L. Rev. 169, 180-81 (1934).


185 See, Thomas W. Merrill, Judicial Deference to Executive Precedent, 101 Yale L.J. 969, 972-75 (1992) (“[C]ourts are generalists, whereas agencies are specialists. Specialists usually have a better grasp of technical terms or the practical consequences of a decision, and thus their views should be given deference by the generalists.”).
outweigh those benefits. More disturbingly, it may be biased, as a result of capture by narrow interests. This latter concern flows in significant part from the logic of collective action: small groups of players with concentrated interests will have an easier time organizing, and influencing decisionmakers, than will large, diffuse groups. Concentrated costs (or benefits) make for more effective action than do diffuse costs (or benefits).

This concern about capture is not limited to agencies, however. Although many early capture theorists saw agencies as particularly prone to capture by narrow interests, the rise of public choice theory – which assumes that all government actors maximize, at least in part, private goals to which narrow interests can cater – extends concerns about the power of narrow interests to all government actors. The idea is that powerful interests will do a good job of supplying whatever it is that government actors seek (e.g., incumbency protection in the case of representatives), and so we would expect those interests to prevail in whatever forum they appear. On this theory, all government actors – including courts – will be subject to capture, at least to some degree.

As the work of Neil Komesar among others illustrates, concerns about government actors being captured by narrow interests are not limited to those who accept the motivational presuppositions of public choice. Even for those who are agnostic about motivation, or believe that government actors pursue public-regarding objectives, capture by narrow interests seems a plausible account of the result that will obtain if these interests are the most vigorous participants in the processes of governance.

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186 See, e.g., Stephen Breyer, Breaking the Vicious Circle: Toward Effective Risk Regulation 11 (1993) (“Tunnel vision, a classic administrative disease, arises when an agency so organizes or subdivides its tasks that each employee’s individual conscientious performance effectively carries single-minded pursuit of a single goal too far, to the point where it brings about more harm than good”).


188 Id.


190 See Noll, supra note ____.

191 See Komesar, supra note ____.

In the case of courts, this translates into the unexceptional proposition, long noted in the legal literature, that those repeat players with the strongest interest in the precedential and/or preclusive effects of a case will have a significant advantage in judicial proceedings.\footnote{Galanter, \textit{supra} note \_; Daniel Kessler, Thomas Meites & Geoffrey Miller, \textit{Explaining Deviations from the Fifty-Percent Rule: A Multimodal Approach to the Selection of Cases for Litigation}, 25 J. LEGAL STUD. 233 (1996).}

But just as the degree of competence is a comparative one between courts and agencies, so too is the likelihood of bias (in the form of capture). Saying that courts may be subject to capture does not mean that the danger of capture is as great for courts as it is for agencies. Although a few commentators have suggested that courts are more easily controlled by factions than are agencies,\footnote{See Frank B. Cross, \textit{Shattering the Fragile Case for Judicial Review of Rulemaking}, 85 VA. L. REV. 1243 (1999) (suggesting that agencies are less likely to be controlled by factions because they are guided by the President, and “the President’s broad and heterogeneous constituency renders the Executive relatively less vulnerable and creates greater concern for the broad public interest.”).} the more widely held view is that courts are less likely to be captured.\footnote{See \textit{Robert D. Cooter, The Objectives of Private and Public Judges}, 41 PUB. CHOICE 107, 129 (1983) (suggesting that judges tend to seek to maximize their prestige among litigants and thus are less subject to capture); \textit{Komesar, supra} note \_.} This result flows in significant part from the fact that agencies usually have a somewhat narrow focus; that agency officials often come from, and plan to return to, the industry that they regulate; and that powerful interest groups can help to provide agency members with benefits that they prize (budgetary clout on Capitol Hill and future employment are the two most often cited).\footnote{See \textit{William A. Niskanen, Jr., BUREAUCRACY AND REPRESENTATIVE GOVERNMENT} 114 (1971) (“[T]he coterminous relation of a bureaucrat’s rewards and his position implies that bureaucrat will maximize the total budget of his bureau....”).} By contrast, judges have life tenure and thus less concern about their future employment, have salaries and budgets that are largely free from congressional meddling, and may have a greater desire for prestige (which powerful interest groups cannot easily provide).\footnote{See \textit{Richard A. Posner, ECONOMIC ANALYSIS OF LAW} 520-21 (4th ed. 1992) (noting the value of judges’ “aloof disinterest” in the outcome of cases). This does not necessarily mean that judges are insulated from their private interests so much as that their private interests may more closely comport with public interests. Assuming, for example, that their private interest is in their reputation and esteem among their colleagues and litigants, those interests might be fairly closely aligned with the public interest.} It thus seems that, as a comparative matter, agencies have greater competence but are more likely to be subject to the blandishments of well-funded interest groups. This is not a huge surprise, of course. The theory of capture grew out of studies of agency behavior in the first place.\footnote{See \textit{Marver H. Bernstein, REGULATING BUSINESS BY INDEPENDENT COMMISSION} 79-87 (1955).}

What does this suggest for administrative law? The standard answer is that courts should give great deference to agencies’ findings of fact, and
less deference to their legal interpretations and policy determinations. As to facts, the idea is that accurate factfinding in complex areas requires specialized knowledge and intimate familiarity with the underlying circumstances, so competence looms particularly large.\textsuperscript{199} The advantage that courts have in terms of capture is outweighed by their difficulty in sifting through complicated technical information. The possibility of an agency’s bias affecting its factfinding suggests that deference should not be complete, but the agency’s great advantage in competence suggests that deference should be very great.

As contrasted with agency factfinding, an agency’s legal interpretations and its policy decisions are not as dependent on the understanding of technical data. Accordingly, they can be more effectively reviewed by courts. In addition, legal and policy determinations that sweep broadly are likely to be the subject of the most intensive lobbying and thus may be the determinations we most want to insulate from the possibility of capture.\textsuperscript{200} These considerations suggest less judicial deference for agencies’ legal and policy determinations than for their findings of fact.

The deference scheme suggested by this comparative institutional analysis is close to the system we have. As we discussed earlier, courts give very great deference to agency factfinding and less deference to policy decisions and many legal determinations.\textsuperscript{201} The exception to this general conformity with comparative institutional analysis is \textit{Chevron} deference, in particular with respect to informal rulemaking.\textsuperscript{202} As cabined by \textit{Mead}, \textit{Chevron} deference applies to legal interpretations made in informal rulemakings or formal adjudications.\textsuperscript{203} The trial-type context of formal adjudications, with the parties presenting evidence and rebutting their opponents’ evidence, and with the hearing officer’s decision based solely on the material presented at the hearing, alleviates the fear of powerful interests presenting arguments privately to the decisionmaker, and more generally reduces concerns about bias affecting the agency’s decision.\textsuperscript{204} Informal rulemaking, by contrast, allows for precisely this sort of private communication, because the agency’s decision need not be based on the record, and the result has been that the most important decisions are made by the agency outside of the routinized comment process – all of which raise serious concerns about the influence of powerful interest groups.\textsuperscript{205}

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\item\textsuperscript{199} See, e.g., Benjamin, \textit{supra} note ____, at 332-35.
\item\textsuperscript{200} See Rai, \textit{supra} note ____.
\item\textsuperscript{201} See \textit{supra} notes ____ to ____ and accompanying text.
\item\textsuperscript{202} See \textit{supra} notes ____ to ____ and accompanying text.
\item\textsuperscript{203} See United States v. Mead Corp., 533 U.S. 218, 226-27 (2001); \textit{supra} notes ____ to ____ and accompanying text.
\item\textsuperscript{204} See \textit{supra} notes ____ to ____ and accompanying text.
\item\textsuperscript{205} See E. Don Elliott, \textit{Reinventing Rulemaking}, 41 \textsc{Duke L.J.} 1490, 1492-93 (1992) (“Notice and comment rulemaking is to public participation as Japanese Kabuki theater is to human passions – a highly stylized process for displaying in a formal way the essence of something which in real life takes place in other venues”); Stuart Minor Benjamin,
that one exception of deference to legal determinations in the context of informal rulemaking, the current regime is close to the one suggested by normative considerations.

B. Judicial Review in the Existing Patent System

The PTO does not engage in informal rulemaking, so the exception noted immediately above is not an issue. But that still leaves the larger question: Does this comparative institutional analysis play out differently in the specific context of the Federal Circuit and the PTO? The short answer is a qualified “yes.” Is the Federal Circuit’s specialization, and the PTO’s relative weakness, sufficiently anomalous that the PTO should be subject to a special deference regime? The short answer is, quite emphatically, “no.” Although there might be reasons for the relationship between the PTO and the courts to diverge somewhat from the traditional agency/court relationship, there is no reason for major departures. In what follows, we consider what judicial review of the PTO should look like.

We begin with law and policy. The repeated exposure of Federal Circuit judges to appeals from the PTO – and appeals in patent cases more generally – means that they have greater familiarity with the underlying statutory regime and the PTO’s implementation of its authority under that regime than a generalist judge would about a typical agency that she reviews. As a result, Federal Circuit judges probably have greater than average expertise about the PTO’s legal interpretations and policy decisions.

However, concerns about bias and tunnel vision are also quite salient in the context of legal and policy determinations. Because of specialization, the possibility of bias is greater for the Federal Circuit than for the regional United States Courts of Appeals. Just as agencies can suffer from tunnel vision, so too can specialized courts. Moreover, unlike generalist courts of appeals, the Federal Circuit is closely connected with a particular bar, the patent bar. Although the patent bar has members who represent both plaintiffs and defendants in patent cases, patent lawyers generally have an interest in a patent system that is relatively robust. Thus the Federal Circuit is not likely to hear many arguments that raise fundamental legal and policy questions about the system. Notably, various empirical studies indicate that the Federal Circuit is substantially less likely to find patents invalid than were its predecessor regional courts of appeals. While this is hardly definitive evidence of capture – the regional

Enhancing Public Participation in Agency Rulemaking Via the Internet: Institutions and the Virtues of Skeptical Experimentation, ___ DUKE L.J. ___ (forthcoming 2006).
208 Glynn S. Lunney, Patent Law, the Federal Circuit, and the Supreme Court: A Quiet Revolution, 11 SUPREME COURT ECONOMIC REVIEW 1 (2004); Allison & Lemley, supra note __, at 205-06; Glynn S. Lunney, E-Obviousness, 7 MICH. TELECOMM. & TECH. L. REV.
courts of appeals may well have been too demanding in their validity standards, and some empirical studies also suggest that the Federal Circuit may be more likely than its predecessors to read patents narrowly and hence find them not infringed— it is suggestive of capture.

This is not to suggest that the PTO is unbiased. To the contrary, the problem of capture arises with respect to the PTO as well. It is favorably disposed to patent holders. Not only is the incentive system of individual examiners strongly tilted towards granting patents, but the agency as a whole is funded by applicant fees.

The point is simply that just as expertise is relative, so too is bias. In this case, it appears that having a specialized court that reviews PTO decisions has produced in the Federal Circuit— relative to the regional courts of appeals— both greater bias and greater expertise about the statutory scheme and PTO processes.

So how, if at all, should the Federal Circuit’s somewhat greater bias and expertise about legal and policy determinations change the deference calculus outlined in the previous section? The problem with answering that question is that expertise and capture pull in opposite directions, and it is difficult to determine whether one outweighs the other. What seems clear, though, is that the change from the deference template discussed in Part III.A would be fairly small. That is, given that bias and expertise counteract one another, it seems unlikely that either would be so much greater than the other that it would change significantly the normatively attractive standard of review.

What about factfinding? As we discussed above, the expertise factor is most important in the area of factfinding. In the context of nonobviousness, for example, expertise is necessary not only for purposes of applying the so-called Graham factors (e.g., the relationship of the invention to the prior art, the ordinary skill in the field), but it also may be important in guarding against hindsight bias. The judges of the Federal Circuit are certainly more steeped in patent jurisprudence than generalist judges, and the Federal Circuit does have a small technical staff. But it is not clear that Federal Circuit judges know more about any given technology than a generalist judge would. The specialization required to understand the underlying technologies is so great that a background in patent law— or even


Lunney, supra note __; Henry and Turner, supra __.

See infra notes __ to __ and accompanying text.

We discuss the desirability of very small changes to the level of deference in Part IV.C.

Gregory Mandel, Patently Non-obvious: Empirical Demonstration that the Hindsight Bias Renders Patent Decisions Irrational (arguing, based on experiment with law students, that hindsight bias is pervasive, but noting studies indicating that it may be less pervasive among experts).
a general science background – will provide little advantage when a judge is
dealing with factual findings on a complex technological matter.\textsuperscript{213} Thus,
the few Federal Circuit judges with technical training will likely find that
training relevant in relatively few cases (and the Federal Circuit judges
without such training will not even have that modest benefit).\textsuperscript{214}

Moreover, even if Federal Circuit judges did, on average, have more
factfinding expertise than generalist judges, that expertise still pales in
comparison to that of the PTO. In contrast to the judges’ limited technical
backgrounds and small staffs, the PTO has thousands of patent examiners
with training in multiple different fields of technology. Any increase in
expertise of the Federal Circuit over a generalist court is so marginal, in
light of the greater resources of the PTO, that such specialization should
make little if any difference in the deference accorded to the PTO on factfinding.\textsuperscript{215}

There is a different consideration, though, that suggests a bigger
relative change from the generic deference template outlined above – the
context for PTO patent denials versus patent grants. The structure of patent
law makes PTO denials sufficiently difficult that there is strong reason to
believe that false positives (patent grants that should be denials) are much
more common than false negatives (denials that should be grants). Under the
patent statute, the patent examiner has the burden of demonstrating lack of
patentability. Moreover, because of the severe resource constraints under
which the patent office operates, the examiner must typically meet this
burden in about 18 hours.\textsuperscript{216} Career-related incentives also militate in favor
of grants rather than denials: specifically, the existence of continuation
proceedings, which make a “final” rejection of a patent virtually
impossible,\textsuperscript{217} also make it more difficult for examiners to secure career-
advancing “disposal” counts through patents denials than through patent

\textsuperscript{213} See Rai, supra note ___ [Engaging Facts and Policy], at 1069 (“because scientific
knowledge is highly localized, training in one area of science or technology simply does not
transfer into other areas”); Jay P. Kesan, Carrots and Sticks to Create a Better Patent System,
17 BERKELEY TECH. L.J. 763, 766 (2002). Technical training may be particularly relevant to
factfinding in patent law because there is reason to believe that individuals with technical
training may be less likely than laypersons to suffer from hindsight bias in their
determinations of whether an invention is obvious. See Mandel, supra note ___.

\textsuperscript{214} Judges Linn, Gajarsa, Newman, and Lourie have technical backgrounds. See U.S.

\textsuperscript{215} And, as we discuss in Part IV.C, those small changes are likely not worth the trouble.

\textsuperscript{216} See supra note.

\textsuperscript{217} See generally Mark A. Lemley & Kimberly A. Moore, Ending Abuse of Patent
Continuations, 84 B.U. L. REV. 63 (2004). Of course, to the extent that continuation
proceedings were curtailed considerably (as is the current PTO plan), or incentives to grant
patents otherwise altered, this argument would no longer militate in favor of accuracy in
patent denial. Even with reform of continuations or grant incentives, however, the other
arguments in the text supporting accuracy of patent denials would still counsel in favor of
significant deference.
grants. Most importantly, a patent denial diverges from a patent grant in that it goes through significant appellate review even before it reaches the Federal Circuit. Such review is conducted by three-judge panels of the Board of Patent Appeals and Interferences (“BPAI”). Notably, review by BPAI judges, who are familiar with the relevant law and frequently have some skill in the relevant science, is far from a rubber stamp for examiner denials. To the contrary, in fiscal year 2004, the BPAI affirmed examiner denials in only 37.1% of cases. Moreover, even those denials that were actually reviewed by the BPAI represent only a very select subset of all patent denials. In fiscal year 2004, examiners from most technology classes reopened the case, or simply allowed the application, more than 50% of the time after an appeal brief to the BPAI had been filed.

The flip side of the costs of denial is that decisions to grant patents should be subject to less deference. That is, the much greater likelihood of false positives than false negatives counsels courts to treat grants more warily than would an ordinary court reviewing an ordinary agency. The disincentives for PTO patent denials are sufficiently great that bifurcated, or asymmetric, review of would be attractive – with patent denials subject to much more deference than patent grants.

IV. Bringing Administrative Law Doctrine and Normatively Attractive Standards Together

A comparative institutional analysis of the Federal Circuit and the PTO suggests that a normatively attractive level of deference could differ in certain ways from the deference provided by administrative law doctrine. Thus the last remaining questions are how (if at all) the normatively attractive levels of deference could differ from the deference provided by administrative law doctrine.

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219 In total, 59.4% of appeals resulted in either allowance or reopening of the case. Examiner Actions after Submission of Appeal Brief (on file with author) In Section IV, we discuss trends in BPAI reversals and appeals to the BPAI as a function of changing standards of review by the Federal Circuit.
220 One might favor a policy of deference to PTO factfinding in an ordinary patent denial but nonetheless ask whether such a policy will have much impact. After all, only about 1% of patent dispositions ultimately get appealed to the BPAI. Approximately 1% of BPAI dispositions then get appealed to the Federal Circuit. Interview with James Toupin, USPTO General Counsel, Oct. 13, 2004 (available from the authors). The small numbers notwithstanding, direct appeals from the BPAI to the Federal Circuit appear to be the cases that are most “visible” to patent examiners, as well as to the higher-level PTO administration. Unlike appeals from district court litigation, which tend to be decided many years after the original patent decision, appeals from the BPAI are decided soon after the patent decision is made. Indeed, they may be decided within the tenure of the average patent examiner. Additionally, these appeals represent the most direct evaluation of the PTO. By contrast, in cases appealed from district courts, the factfinding that is at issue is generally that of the district court. And our review of the cases emphasized by the Manual of Patent Examination and Procedure fortifies the argument that the PTO pays disproportionate attention to direct appeals.
attractive answer might converge with the doctrine, and whether such convergence is worth the trouble.

A. Statutory or Judicial Alteration of the Standards of Review

The most straightforward and safest way to create particular levels of deference is for Congress to change the statutory scheme. The degree of deference courts should accord to agency decisions is subject to congressional control, and Congress can exercise it by specifying the standards of review that the Federal Circuit should apply when considering various kinds of PTO actions. The APA, after all, is just a set of default rules, and agencies’ organic acts often contain their own specific rules that govern. So Congress could amend the Patent Act to create whatever particular rules for review of the PTO that it desired.

In fact, the statutory tweaks could be fairly minor. The default APA-level deference for PTO factfinding mandated by Dickinson v. Zurko, if applied properly by the Federal Circuit, would work well for patent denials. As for deference on questions of law, Skidmore explicitly allows for a sliding scale of deference. As we noted above, ordinary patent denials occur only after significant and careful agency internal review. This is important under Skidmore, which looks first to “the thoroughness evident in [the agency’s] consideration” in determining how much deference to grant to the agency’s decision. As Mead elaborated, under Skidmore courts look to “the degree of the agency’s care, its consistency, formality, and relative expertness, and to the persuasiveness of the agency’s position.” The level of care and thoroughness entailed in patent denials is considerable (as is the PTO’s relative expertness). As a result, Mead and Skidmore suggest a fair amount of deference to agency legal determinations made in the course of such denials — and less deference in the context of patent grants, which do not entail significant internal review. As for policy determinations, a “hard look” approach would favor patent denials over patent grants. To the extent the PTO engages in economic reasoning, it is much more likely to do so comprehensively in the context of the fairly extensive procedures involved in patent denials than in its routine patent grants.

Only the level of deference accorded to factfinding in patent grants would have to be altered. Moreover, § 282 of the Patent Act, by focusing on

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221 See supra notes ___ to ___.
222 See supra notes ___ to ___.
223 See Skidmore, 323 U.S. at 140 (“The weight [accorded to an administrative] judgment in a particular case will depend upon the thoroughness evident in its consideration, the validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control.”); Mead, 533 U.S. at 228 (quoting this language).
224 Mead, 533 U.S. at 228.
225 See supra notes ___ to ___.

patent grants, already distinguishes grants from denials. It would be easy to make small modifications to the language of § 282 so as to create less deference for factfinding in ordinary patent grants than in patent denials. Indeed, the FTC report specifically argued that the factfinding in ordinary patent grants should be subject to being overturned under a relatively low-threshold “preponderance of the evidence” standard.

Lowering the evidentiary burden for patent invalidation is a straightforward solution. But current patent reform bills in Congress do not so propose (at least outside the context of post-grant review discussed below). Absent statutory change, could the Federal Circuit (if it was so inclined) adopt the analysis of this Article and announce that, henceforth, it would increase or decrease the deference it accorded to PTO actions (or instructed lower courts to accord to PTO actions) based on normative considerations of comparative institutional analysis? As we have discussed in this Article, the Federal Circuit’s review of the PTO should be guided by administrative law doctrine. One of the central points of our Article, and of Dickinson v. Zurko, is that ordinary rules of administrative law apply to the Federal Circuit and PTO. So the real question is whether, as a matter of administrative law doctrine, a court can take into account considerations of institutional analysis in deciding what standards of review to apply.

Neither the Supreme Court nor any circuit court has explicitly stated that courts should calibrate the level of deference to agency factfinding based on an agency’s likelihood of capture or its incentives to decide matters in a particular way. But there is some judicial support for the proposition that courts take into account an agency’s expertise and the structure of an agency’s processes in determining how much deference is owed to a particular decision. Interestingly, the clearest such statement from the Supreme Court appears in Dickinson v. Zurko itself. There the Court noted the “importance of case-specific factors, such as a finding’s dependence upon agency expertise or the presence of internal agency review, which factors will often prove more influential in respect to outcome than will the applicable standard of review.”

Given the structure of PTO incentives, factfinding in denials is much more likely to take advantage of PTO expertise than is factfinding in grants. Moreover, unlike a grant, a denial goes through precisely the type of internal agency review to which the Zurko Court refers. Thus, if the Zurko language were

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226 35 U.S.C. § 282 (providing that “[a] patent shall be presumed valid” and that “[t]he burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity”).

227 FTC Report, supra note __, at


230 527 U.S. at 163.

231 See supra notes ___ to ___ and accompanying text.
taken seriously, that would mean that judicial deference to PTO factfinding would be asymmetric: factfinding in patent denials would be given more deference than the factfindings in patent grants.

There is another, quite practical, reason that proper application of administrative law principles would entail substantially greater overall deference to factfinding in patent denials than in patent grants. The empirical literature suggests that when patent grants are challenged in litigation, it is often at least in part on the basis of prior art that the PTO never reviewed.\footnote{See John Allison and Mark Lemley, \textit{On the Empirical Validity of Litigated Patents}.} Under boilerplate administrative law, a court cannot defer to agency factfinding if the agency has not even passed on the factual question – the agency has not considered the factual question, so there is nothing for the court to defer to. In contrast, when a patent applicant appeals a patent denial, the appeal is unlikely to introduce new prior art: like appellate decision makers generally, the Federal Circuit decides the case on the basis of the factual record put forward by the PTO.\footnote{The Federal Circuit does, however, sometimes step out of its appellate role and supplement the PTO record. \textit{See} William C. Rooklidge & Matthew F. Weil, \textit{Judicial Hyperactivity: The Federal Circuit’s Discomfort With Its Appellate Role}, 15 \textit{Berkeley Tech. L.J.} 725 (2000) (discussing cases).}

\begin{itemize}
\item \textbf{B. Combining New Procedures with Existing Administrative Law Principles}
\end{itemize}

As we noted at the outset of this Article, our aim is not to describe the relationship between an idealized court and agency. But we do want to consider realistic changes. We noted in the previous section that judicial application of existing administrative law principles, without any action by Congress, could bring review of PTO decisions closer to a normatively attractive position. As we also noted above, Congress could pass legislation specifying normatively attractive standards of review. A different possibility would be for Congress to create new PTO procedures and then either specify the review applicable to those procedures or, more simply, let the application of existing administrative law principles complete the move to more normatively attractive standards of review.

\begin{itemize}
\item \textbf{1. Post-Grant Review and Deference}
\end{itemize}

There are two modest changes to PTO procedures that fit the bill. The first is post-grant opposition proceedings. As other commentators have noted, such proceedings could improve patent quality.\footnote{See infra text accompanying notes \_\_ to \_\_.} What others have failed to recognize, however, is that the collective action problem that might chill use of such proceedings can be mitigated through the application of existing administrative law doctrines. Indeed, only through administrative review can these proceedings approximate the advantages of the European system of post-grant review.
i. Cost-Effective Post-Grant Review

We noted earlier in this Article the widespread belief that the large number of poor quality patents currently being issued by the PTO are imposing substantial costs.\textsuperscript{235} There is some uncertainty about the extent of such costs, but most commentators believe that they are considerable.\textsuperscript{236} Thus, despite some uncertainty about the costs, many commentators (including the Federal Trade Commission, the National Academy of Sciences, and the American Intellectual Property Law Association) have argued in favor of the cost-effectiveness of post-grant opposition proceedings – that is, trial-type proceedings before an administrative patent judge where competitors of the patentee could bring prior art to bear and other types of written and oral evidence could be taken, and the administrative judge would make a decision based on the evidence presented.\textsuperscript{237} Like ordinary patent denials, denials in post-grant review would be subject to immediate appeal to the Federal Circuit. Absent such appeal, or if the patent denial was upheld on appeal, the patent would be taken out of the system.

To the extent that post-grant opposition proceedings are used on a regular basis to target those patents that are economically important (and evidence from the European experience suggests that post-grant review indeed targets such patents),\textsuperscript{238} such opposition proceedings are likely to be cost-effective.\textsuperscript{239} More specifically, post-grant review proceedings could be valuable if two conditions obtain: 1) these proceedings are actually used on a reasonably regular basis; and 2) the proceedings thereby address the deleterious consequences imposed by patents of uncertain validity, such as

\textsuperscript{235} See supra text accompanying notes ___ to ___.
\textsuperscript{236} See supra text accompanying notes ___ to ___.
\textsuperscript{237} See supra notes ___ to ___ and accompanying text. The NAS proposal, which suggests that district courts could also refer valid questions to an administrative “open review” process, would take us down the road towards the European system of having all validity determinations made administratively. See NAS Proposal, supra note ___. In addition to the FTC, the NAS, and AIPLA, the academic commentary in favor of post-grant review has been overwhelming. Janis, Kesan, Merges, Merges & Farrell, Rai, Thomas. Notably, Mark Lemley, perhaps the most prominent academic proponent of addressing poor quality patents at the litigation state, has recently endorsed improved administrative procedures. See Mark Lemley et al., What to Do About Bad Patents, REGULATION 10-12 (2005-2006).
\textsuperscript{238} See supra note ___.
\textsuperscript{239} Some commentators have argued that post-grant oppositions might be less effective than pre-grant oppositions to the extent that the PTO may be reluctant to question the validity of a patent that it has already approved. See Jay Kesan, Carrots and Sticks to Create a Better Patent System, 17 BERKELEY TECH. L.J. 763, 778 (2002). As Kesan notes, however, this concern can be addressed by clearly separating the post-grant review function from the examination function. Jay Kesan, Why “Bad” Patents Survive in the Market and How Should We Change? The Private and Social Costs of Patents, 55 EMORY L.J. 61, 111 (2006). As we noted earlier, see supra ___, the Board and Patent Appeals and Interferences, which has a function clearly separate from the examination process, has been quite aggressive in its review of patent denials by examiners.
the need for expensive litigation before a trial court decision maker (a lay judge and jury) of questionable competence; unnecessary licensing; wasteful "inventing around;" chilling effects; and races to accumulate defensive portfolios.

The most readily quantifiable of these costs is the actual out-of-pocket expense of litigation. The obvious category of cases where litigation will be avoided is those cases in which the patents are invalidated during the opposition proceeding. In a recent benefit/cost analysis, Bronwyn Hall and Dietmar Harhoff focus on this ability of reexamination proceedings to eliminate litigation over dubious patents. In their analysis, they point out that if we assume a relatively high revocation rate, and we further assume that revoked patents would otherwise be litigated, the benefit/cost analysis weighs heavily in favor of having post-grant review. Perhaps needless to say, however, much turns on the cost of the review and the revocation rate. For example, assuming a revocation rate of 35% (the rate of revocation under the European Opposition Office process), a post-grant review cost of $100,000, and a trial cost of $2 million, the benefit/cost ratio is 7:1. On the other hand, if we assume a revocation rate of 11% (the rate under the existing patent re-examination process) and a post-grant review cost of $500,000, the benefit/cost ratio is unfavorable (0.44:1). Table 1 summarizes these calculations.

<table>
<thead>
<tr>
<th>Cost of post-grant review</th>
<th>Revocation probability</th>
<th>Non-revocation probability</th>
<th>Cost of Litigation</th>
<th>Benefit of Litigation Avoided Through Revocation</th>
<th>Benefit of Litigation Avoided (Non-revocation)</th>
<th>Benefit/Cost Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100,000</td>
<td>.35</td>
<td>.55</td>
<td>$2,000,000</td>
<td>$700,000</td>
<td>$0</td>
<td>7:1</td>
</tr>
<tr>
<td>$500,000</td>
<td>.11</td>
<td>.89</td>
<td>$2,000,000</td>
<td>$220,000</td>
<td>$0</td>
<td>0.44:1</td>
</tr>
</tbody>
</table>

As indicated by the table, Professors Hall and Harhoff do not focus on additional cost savings that might be generated by the avoidance of litigation on patents that survive the examination process. But cost savings from such patents may also prove important, particularly to the extent that the cost of post-grant review is high, and the PTO revocation rate

\[240\] Indeed, for reasons that are unclear, they suggest that patents that survive the examination process might, in certain scenarios, increase litigation costs. Hall and Harhoff at 1012-1013. They do include several scenarios possible benefits from averted litigation in cases where the patent has been amended. See id.
low (a plausible scenario to the extent, for example, that opposed patents are generally solid but sufficiently valuable that they merit challenge). Thus, even if we assumed a revocation rate of 11%, and a post-grant review cost of $500,000, the benefit/cost ratio might become favorable if in the other 89% of cases the post-grant review would render a patent that would otherwise have been challenged in litigation less likely to be challenged. If, for example, post-grant review reduced by even 25% the chances of the patent being challenged, then benefits from litigation avoided would increase to \([220,000 + (0.25)(0.89)(2,000,000)]\), or $665,000. With a low cost of post-grant review, and relatively high revocation probability, benefits would increase to \([700,000 + (0.25)(0.55)(2,000,000)]\), or $975,000. Table 2 summarizes these calculations.

<table>
<thead>
<tr>
<th>Cost of post-grant review</th>
<th>Revocation probability</th>
<th>Non-revocation probability</th>
<th>Cost of Litigation</th>
<th>Benefit of Litigation Avoided Through Revocation</th>
<th>Benefit of Litigation Avoided (Non-revocation yields 25% in litigation)</th>
<th>Benefit/Cost Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100,000</td>
<td>0.35</td>
<td>0.55</td>
<td>$2,000,000</td>
<td>$700,000</td>
<td>$275,000</td>
<td>9.75:1</td>
</tr>
<tr>
<td>$500,000</td>
<td>0.11</td>
<td>0.89</td>
<td>$2,000,000</td>
<td>$220,000</td>
<td>$445,000</td>
<td>1.33:1</td>
</tr>
</tbody>
</table>

Not surprisingly, then, many of the current proposals for post-grant review attempt to obviate trial court litigation on patents that survive examination. Generally speaking, these proposals use estoppel-based approaches. In other words, if an opponent loses a particular issue of fact or law in the post-grant review, it is estopped from raising the issue in subsequent litigation. For example, patent reform legislation introduced in the House in 2005 specifically provides that when the decision of a panel in an opposition proceeding becomes final (and finality can be achieved whether or not the patentee chooses to appeal), “the determination with respect to an issue of invalidity raised by an opposer shall bar that opposer from raising, in any subsequent proceeding involving that opposer under this title, any issue of fact or law actually decided and necessary to the determination of that issue.”

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241 See Patent Reform Act, H.R. 2795, 109th Cong. (2005). Another version of this bill limits the time window during which post-grant oppositions can be brought, but does not alter
The problem with estoppel is that it exacerbates the collective action problem that already lurks in the post-grant review proceeding. In litigation, collective action problems exist because the rules on non-mutual defensive issue preclusion enunciated by the Supreme Court effectively cause the challenger who successfully invalidates a patent to provide a public good.\textsuperscript{242} Under the issue preclusion doctrine, the challenger invalidates the patent not only for itself but for the world at large. Thus, in the litigation context, patent challenges are likely to be brought less often than is socially optimal.\textsuperscript{243} As Professor Jay Thomas has cogently argued, the inability of a patent challenger fully to appropriate the benefits of an invalidity ruling creates the same disincentive to bring an opposition challenge as it poses in the litigation context.\textsuperscript{244} Although the lower cost of an opposition proceeding reduces the scale of the disincentive, the disincentive is still there. Meanwhile, estoppel against an unsuccessful challenger (which is also a feature of litigation under the Supreme Court’s approach) significantly exacerbates the disincentive. Not only does the challenger provide a public good if it wins, but the challenger is uniquely disadvantaged if it loses. Only the challenger is barred from raising again questions of invalidity. In patent litigation, victory has a hundred fathers but defeat is an orphan. The addition of estoppel transfers all of the problems of litigation into the administrative context.

Indeed, many patent lawyers argue that the estoppel provision in the existing \textit{inter partes} re-examination proceedings represents a major reason that such proceedings have not been used.\textsuperscript{245} To be sure, current proposals for estoppel emerging from post-grant review limit such estoppel to issues actually decided; in contrast, the \textit{inter partes} re-examination estoppel

\textsuperscript{243} See Joseph Scott Miller, \textit{Building a Better Bounty: Litigation-Stage Rewards for Defeating Patents}, 19 BERK. TECH. L.J. 667, 688-695 (2004) (discussing collective action problems raised by \textit{Blonder Tongue} but also noting that the problem can sometimes be mitigated if the accused infringer has blocking patents). Joseph Farrell and Robert Merges point out that the public good aspects of a patent challenge do not represent the only reason that such challenges are likely to be brought less frequently than is socially optimal. As they note, in certain situations involving oligopolistic competition between licensees that pay sales-based royalties to the patentee, the potential for pass-through of such royalties may make the licensees’ combined loss from paying royalties smaller than the patentee’s gain from the patent. Joseph Farrell and Robert P. Merges, \textit{Incentives to Challenge and Defend Patents: Why Litigation Won’t Reliably Fix Patent Office Errors and Why Administrative Review Might Help}, 19 BERK. TECH. L.J. 943 (2004). Administrative law can not address the latter problem. However, while the public good problem is likely to arise in most potential validity challenges, the pass-through problem may arise in only a subset of such challenges.
\textsuperscript{245} See, e.g., M. Patricia Thayer et al., \textit{Examining Reexamination: Not Yet An Antidote to Litigation}, 5 SEDONA CONF. J. 23, 24 (noting that estoppel makes “\textit{inter partes} re-examination something of a double or nothing gamble.”)
provision embraces all issues that the re-examination requester raised or could have raised.\footnote{Section 315(c) provides: “A third party requester whose request for an inter partes reexamination results in [an order for such reexamination] is estopped from asserting at a later time, in any civil action . . . the invalidity of any claim finally determined to be valid and patentable on any ground which the third-party requester raised or could have raised during the inter partes reexamination proceedings.” Legislation currently pending in the House would delete the “could have raised” language, thus bringing the inter partes reexamination language into conformity with the language on the proposed post-grant opposition proceeding.} Even so, for reasons discussed above, an estoppel-focused approach is likely to restrict the attractiveness of post-grant review proceedings.

A second problem with an estoppel-based approach is that, if the patent survives post-grant review, estoppel obviates the need for only a limited amount of litigation – litigation against the party who brought the opposition. Other competitors are free to challenge the patent unhindered.\footnote{It is possible that courts and/or juries might give some weight to the fact that the patent survived an adversarial examination. But what weight they will give to this fact is unclear.}

The reform proposal by the National Academy of Sciences attempts to reduce the impact of estoppel by proposing that it become operative only if appeal is taken to the Federal Circuit.\footnote{See NAS Report, supra note __, at ___. In a somewhat similar vein, Joseph Farrell and Robert Merges contend that an administrative opponent who loses should not be precluded from raising the same arguments in litigation. See Farrell & Merges, supra note ___.} This proposal makes some sense: if the challenger that loses the opposition wants to avoid estoppel effects, it can simply refrain from appealing to the Federal Circuit. Indeed, as a matter of doctrine, estoppel is appropriate only after an appeal to the Federal Circuit: estoppel is a rule of civil procedure and it should presumptively apply only to results that emerge from actual litigation. But low-cost review without estoppel merely reduces the scope of the collective action problem. The successful opposer still provides a public good.

One mechanism for addressing the lingering collective action problem would be through some type of reward or bounty system. For example, the current system under which generics challenge pharmaceutical patents has an exclusivity reward (the successful generic challenger is allowed to market its generic exclusively for a 180-day period). Recognizing the collective action problem, Professor Thomas has proposed a bounty, charged against patent applicant, for those who bring successful administrative oppositions.\footnote{Thomas, __. Thomas sets up his bounty system in the context of a pre-grant opposition. It could readily be adapted, however, to post-grant oppositions.} However, rewards and bounties are subject to problems of collusion and are also notoriously difficult to calibrate appropriately.\footnote{For discussions of such problems, see Thomas, supra note __.} The social cost that would have been imposed by the invalidated patent is an obvious criterion to use in calculating rewards. At
the post-grant review stage, however, the patent might be early in its life cycle. Thus while potential third-party opposers may be able to guess that the patent has some commercial significance, the patent’s precise social impact might be difficult to assess.  

In contrast with rewards or bounties, a one-way fee shifting proposal of the type advanced by Professor Jay Kesan might provide a more administrable mechanism for addressing collective action problems. Under Kesan’s proposal, opponents who successfully invalidated a patent based on prior art that should have been discovered by the patentee would recover their fees. However, fee shifting would address the collective action problem only in part, as fee recovery would allow the successful opposer to recover only a small portion of the public good it had provided.

ii. Improving Post-Grant Review Through Deference

An option short of bounties that might be used in addition to one-way fee shifting is strong judicial deference. Such deference could reduce the intensity of the collective action problem. Deference to the results of post-grant review would have to operate with respect to both fact and law: although facts are particularly critical to patent validity, deference on legal determinations would also be important because patent validity has been deemed ultimately to be a question of law. Specifically, once the PTO had ruled a patent valid in a post-grant review, the PTO’s factfinding on evidence it had considered would be subject to APA level deference, and the determination of patent validity as a whole (again, with respect to the evidence considered) would be subject to *Chevron* deference. Both deference on factfinding and *Chevron* deference would obviously apply irrespective of the identity of the party against whom it was asserted. Such deference would mean that unless the administrative opponent had pursued an appeal to the Federal Circuit (and was therefore subject to estoppel), it would be no worse off than any other potential infringer. Moreover, even if the administrative opponent were uniquely subject to estoppel, other potential infringers would also feel the negative effects of the deference. *Ex ante,* that would mean that all potential infringers would have an incentive

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251 Professor Miller emphasizes the valuation problem in arguing against the Thomas bounty and in favor of a litigation-stage bounty calculated on the basis of the patentee’s past profits. *Id.* at 695-701. A bounty based on past profits does not, however, necessarily track well the social cost of a bad patent. For example, such a bounty would not work against the much-discussed problem of non-practicing patentees who assert patents for “hold-up” purposes. More generally, there are multiple problems, well rehearsed by many commentators, with waiting until the litigation stage to weed out bad patents. See *supra* __.

252 See Kesan, *supra* note __, at 787, 795-97.

253 See *supra* notes ___ to ___ and accompanying text. Deference with respect to legal questions would also mitigate any tendency on the part of courts to turn fact into law in order to assert more aggressive review.
to help the administrative opponent. After all, if the opponent lost, the consequences of such a loss would be visited not only upon the opponent but also upon other potential infringers. Such assistance could be provided through a variety of mechanisms. For example, even without any additional change to the patent statute, competitors might be able to use 35 U.S.C. § 301, which allows “any person at any time” to submit to the PTO prior art patents and printed publications that the person “believes to have a bearing on the patentability of any claim of a particular patent.” Better yet, post-grant review could specifically provide mechanisms for multiple challengers to oppose a patent.

A strongly deferential approach to review of patents that survive patent examination would address collective action problems. It would also presumably lead to diminished litigation over these patents. As we noted earlier, even a 25% reduction in likelihood of litigation would considerably improve the efficiency gains that could be realized through post-grant review. Moreover, to the extent that a trial-type administrative proceeding is likely to be more accurate than a judicial proceeding, a strongly deferential approach would also improve accuracy. Numerous commentators have noted the difficulties raised by the reality that the complicated technical factfinding that provides the underpinning for determinations of validity must, under conventional Seventh Amendment doctrine, be done by a lay jury. But the Seventh Amendment does not bar a requirement of strong jury deference to an agency determination of validity.

The intuition behind a deference-based approach – taking administrative procedure seriously and not treating it simply as a subset of procedures used in litigation – is also found in the apparently successful European system of post-grant review. Under the European system, post-grant review is the major venue for any party that wishes to challenge validity. Deference would similarly make post-grant review the main avenue for challenging validity in the United States.

The FTC report addresses the question of judicial review of post-grant oppositions by recommending that Congress include in its legislation authorizing such oppositions a provision for *Chevron* deference to the results. But a specific statutory provision regarding *Chevron* deference is not necessary: ordinary principles of administrative law would provide

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254 Under this section, if the person “explains in writing the pertinency and manner of applying such prior art to at least one claim of the patent, the citation of such prior art and the explanation thereof will become a part of the official file of the patent.” Moreover, “at the written request of the person citing the prior art, his or her identity will be excluded from the patent file and kept confidential.” Reform legislation currently pending in the House provides additional mechanisms for third parties to submit information.

255 Similarly, in the Japanese system, which for a 5-year period had a dual system allowing validity questions to be raised in both post-grant review at the Japanese Patent Office and in the courts, the trial for invalidation was initiated at the JPO in 90% of cases. See Kesan, *supra* note ___ [“Bad” Patents], at 120.

256 See FTC Report at __.
Chevron deference even if Congress were to omit any reference to a standard for judicial review.

The various post-grant review proceedings that have been proposed would be trial-type procedures on the record that bear the hallmarks of formal adjudication – most notably, a proceeding before an administrative judge at which the parties present evidence and cross-examine, with the judge’s decision based on the record. Such proceedings would have sufficient formality to satisfy Mead’s test for application of Chevron deference. Thus, if Congress created these procedures and said nothing more, Chevron deference would seem to apply to them. Congress could of course avoid any confusion by specifically so stating, but that would not be necessary.

Chevron deference is greater than the Skidmore deference that applies to other PTO actions. Application of Chevron to post-grant review will thus bring about a real change in the standards applicable to PTO legal determinations. Such a change is normatively attractive for the reasons suggested in Part III.B: a decisionmaking process like post-grant review would entail sufficient rigor that we should have more confidence in it than we would other PTO actions. Post-grant review would have the hallmarks of formality that make formal adjudication less problematic as a normative matter. That makes the very great deference of Chevron appropriate.

2. Selecting Into Rigorous Examination

The preceding section raises the possibility of Congress creating a post-grant procedure for formal adjudications that would be entitled to deference under existing administrative law principles. Congress could also provide for the same rigorous review of patents at the examination stage, rather than after the patent has been granted. That is, in addition to creating post-grant review, Congress could create an option for a patent applicant to have the initial consideration of its application undergo the same sort of rigorous evaluation that post-grant review would entail. The formal adjudication envisioned as part of post-grant review would simply occur at the examination stage. And the deference accorded to formal adjudication discussed in the previous section would apply here as well. As with post-grant review, Congress would not need to create special deference rules, but instead could rely on ordinary principles of administrative law. Patent

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257 See supra notes ___ to ___ (discussing the requirements of 5 U.S.C. §§556 & 557).
258 See supra notes ___ to ___ (discussing Mead).
259 See supra notes ___ to ___ (discussing Skidmore).
260 Procedures for rigorous initial review would be in addition to procedures for post-grant review because the rationale for post-grant review would still apply to patent applications that did not go through this searching review at the initial stage.
261 Mandating rigorous review, rather than allowing applicants to choose it, would not be attractive. Our arguments would not support such a mandate, and it would not be cost-effective, given the greater costs of formal adjudication.
262 See supra notes ___ to ___ and accompanying text.
applicants would be able to opt into this formal adjudication, knowing that it would be a more searching review but also that it would be subject to more deference as a matter of administrative law.\footnote{Jay Kesan has previously raised the option of selecting into more rigorous examination. Kesan, \textit{supra} note \__, at 770-75 [\textit{Carrots and Sticks}]. In a recent article, Mark Lemley, Doug Lichtman, and Bhaven Sampat briefly outline a similar possibility. Lemley \textit{supra} note \__ [\textit{What to Do About Bad Patents}]. These articles do not, however, frame their proposals in administrative law terms.} For those types of invention for which firms might need early certainty about their patent rights (for example, drug inventions), this type of formal adjudication might be particularly useful. In contrast, those inventions that had not gone through formal adjudication \textit{ex ante} would presumably be subject to such adjudication \textit{ex post} throughout the life of the patent.

There are two obvious differences between post-grant review and rigorous examination \textit{ex ante}: first, the former entails two steps (ordinary examination and post-grant review) and the latter entails only one. Second, rigorous examination would be initiated by the applicant, whereas post-grant review would be initiated by someone opposing the applicant. This second difference raises a question as to whether the examination will always be rigorous. Congress should allow opponents of a patent grant to participate in the rigorous examination – as they would participate in the post-grant review – and the threat of deference should attract opponents in this context as well. It might be, however, that some such examinations would not draw opponents – and that might raise concerns about a lack of rigor.

The degree of rigor is, however, something that Congress can control in creating the procedure. Congress could, for instance, place a greater evidentiary burden on the applicant (for example, mandating not only disclosure of prior art but also a statement of the relevance of the prior art)\footnote{Jay Kesan has suggested a rigorous examination system in which patent applicants who submitted a detailed disclosure indicating not only the prior art but also the relevance of each piece of prior art that they had submitted would receive a specific presumption of validity – the court would not invalidate the patent based on the disclosed prior art unless it was “convinced that no reasonable examiner would have allowed the patent in light of the disclosed prior art.” Kesan, \textit{supra} note \__ [\textit{Carrots and Sticks}], at 774.} or mandate that the PTO undertake a more extensive search for prior art if there was no opposition. These might not be perfect substitutes for an opponent – just as there are perceived benefits to having opposing litigants in the judicial context, there may be benefits to having opponents in formal adjudications over patents – but we do not need perfect substitutes. The idea is to have a grant procedure with sufficient rigor to give us higher confidence in the outcome of the process, and that seems achievable.

Moreover, insofar as there would be a fear that patent applicants would too freely utilize this rigorous examination process – perhaps because they did not fully bear its costs – Congress could very easily adjust those costs. The most obvious mechanism would be to require that applicants
reimburse the PTO for the extra costs entailed in the more searching examination process.\footnote{That said, it is not clear that there would be any reason for such a fear. Formal adjudication imposes significant costs on applicants, akin to those for litigation (which it closely resembles).}

In any event, the appeal of this more rigorous examination process is that it would offer significant potential benefits and require only a modest legislative change – Congress’s creation of a formal adjudication procedure as an option for patent applicants. As with post-grant review, and all other formal adjudications, Congress would not need to specify any particular levels of deference. Ordinary principles of administrative law would provide for the same normatively attractive levels of deference applicable to post-grant review, including \textit{Chevron} deference for legal conclusions and substantial evidence review of factual findings.

\textbf{C. Are Changes to the Standards of Review Worth the Trouble?}

As we have seen, administrative law is centrally concerned with standards of review – the exact formulation of words that govern the level of deference (or lack thereof) that courts give to agencies. One might reasonably wonder whether changes in the level of deference due administrative decision makers actually have an effect on court decision making, and thus whether such changes are worth the trouble. After all, even the mere step of having the Federal Circuit apply ordinary principles of administrative law imposes some costs (the court must determine what those principles are and change its approach accordingly). Meanwhile, a legal realist might predict that courts would pay lip service to the relevant standard of deference but continue to review cases in the same manner, either by simply failing to apply the relevant standard or by arguing that the agency action fell into a category to which less deference was owed.

Because of the Supreme Court decision in \textit{Zurko}, we have an opportunity to test the realist claim in the specific context of the Federal Circuit. Cases like \textit{In re Lee}, \textit{In re Beasley}, and the \textit{Zurko} case on remand, discussed in Part I, represent clear examples of the Federal Circuit straining to achieve aggressive review despite purportedly deferential standards. In the \textit{Lee} case, aggressive review was also achieved in part by attempting to push facts into the category of policy.\footnote{277 F.3d at 1338 (Fed. Cir. 2002). To buttress its case against use of examiner “common sense,” \textit{Lee} cited in passing to the \textit{State Farm} line of “hard look” policy cases. 277 F.3d at 1444-45; see supra notes \_\_ to \_\_ and accompanying text (discussing \textit{Lee}).} Similarly, on at least four occasions following the Supreme Court decision in \textit{Zurko}, the Federal Circuit has appeared to evade deference by recasting an appeal on a factual question into a determination of claim construction (which according to the court is an issue of law to be reviewed \textit{de novo}).\footnote{See, e.g., \textit{In re Baker-Hughes}, 215 F.3d 1297 (2000); \textit{In re Beigel}, 7 Fed.Appx.959 (2001); \textit{In re McNeil}, 232 F.3d 914 (2000); \textit{In re Simpson}, 63 Fed.Appx.455 (2003).}
On the other hand, cases like *In re Lee*, or cases in which an issue of fact is transformed into a question of claim construction, do not represent the entirety of Federal Circuit decision making. Post-*Gartside*, a fair number of Federal Circuit affirmances of PTO factfinding have specifically referred to the importance of deference.\(^{268}\) In the context of the much-discussed issue of motivation to combine or modify prior art references, the efforts of some Federal Circuit panels to take deference seriously are particularly interesting. Some Federal Circuit panels have agreed with the PTO’s determination that one or more of its cited references provided a motivation to combine.\(^{269}\) On occasion, these panels have found this motivation in a reference that the PTO itself did not cite for that purpose.\(^{270}\) In other cases, a panel has found the requisite motivation to combine in the “nature of the problem to be solved.”\(^{271}\) In yet other cases, the panel has ignored the “motivation” test entirely and simply indicated it will defer to the PTO’s expert decision about what multiple references would teach a person having ordinary skill in the art.\(^{272}\) The court has also stated that a written reference is not necessary to satisfy the motivation to combine or modify test.\(^{273}\)

To investigate the issue more comprehensively, one of us collected all appeals from the PTO, decided in the five-period immediately preceding the Supreme Court decision in *Zurko* and the five year period immediately following the Federal Circuit decision in *Gartside*, in which the Federal Circuit explicitly used language on fact-oriented standards of review (i.e. the terms “clearly erroneous” or “substantial evidence”).\(^{274}\) We then read these cases to identify the subset that involved at least a Federal Circuit acknowledgment that it had been called upon to review a factual question (as opposed to use of fact-oriented review language as boilerplate). With


\(^{270}\) *In re Huston*, 308 F.3d 1267 (Fed. Cir. 2002).

\(^{271}\) *In re Pfeiffer*, 243 F.3d 565 (Fed. Cir. 2000).

\(^{272}\) *In re Berg*, 320 F.3d 1310 (Fed. Cir. 2003).

\(^{273}\) In *Kahn*, Judge Newman, the author of the *Lee* case, and Judge Lourie, the author of the *Beasley* case, lie firmly within the camp that wants to construe the Supreme Court’s deference mandate as narrowly as possible. Other judges, perhaps most notably Judges Dyk and Bryson appear inclined to give substantial deference.

\(^{274}\) To retrieve these cases, we searched both Westlaw and Lexis using two search algorithms. The search algorithm “clearly /2 erroneous,” “patent,” before “6/19/99” and after “6/19/94” extracted cases decided in the five year period before the Supreme Court decision in *Zurko*. The search algorithm “substantial /2 evidence,” “patent,” after “2/15/2000” and before “2/15/2005” extracted cases decided in a five year period after the *Gartside* decision. Of course, as discussed further in the text, our search would not retrieve those cases that did not explicitly specify use of either clearly erroneous or substantial evidence review. We thank David Almeling for his tremendous assistance in finding and reading these cases.
respect to this subset, we coded as a separate unit of analysis, or observation, the Federal Circuit’s resolution of each challenged PTO finding on a claim or set of claims. Thus, for example, if a case involved challenges to PTO factfinding in the areas of both written description and nonobviousness, we coded each challenge (and resolution thereof) as a separate observation. This coding sometimes involved difficult judgment calls with respect to whether the Federal Circuit was “really” reviewing a factual issue – for example, as we noted earlier, in some cases the Federal Circuit turns what began as an appeal of a factual issue into a question of claim construction. In order to encompass situations where the Federal Circuit was endeavoring to evade deference, we determined that if the Federal Circuit had at least initially acknowledged the existence of a factual question, we should include it within our analysis.

Upon completion of the sorting process, our pre-*Zurko* sample comprised 71 observations and our post-*Gartside* sample comprised 74 observations. In the pre-*Zurko* sample, 49 of the 71 observations, or 67% represented affirmances. In the post-*Gartside* sample, 69 of 85 observations, or 81% represented affirmances.

This difference in affirmance percentages is not statistically significant at the .05 level traditionally used in making predictive claims based on samples.\(^\text{275}\) More generally, because of small sample size; judgment calls associated with coding; the fact that our search would pull up only cases in which the Federal Circuit acknowledged it had been called upon to review facts; and the significant selection bias problems that accompany all analyses based on litigated cases,\(^\text{276}\) we hesitate to draw any strong quantitative conclusions. Nonetheless, our analysis does suggest that at least in cases where the Federal Circuit acknowledges that it has been called upon to review PTO factfinding, *Dickinson v. Zurko* has, on balance, had some impact. Our analysis is in accord with other empirical evidence that changes in standards of review produce shifts in outcome. The most studied shift has been the one created by *Chevron*. *Chevron* is a particularly fruitful context in which to examine the impact of changed standards of review: in contrast to *Dickinson v. Zurko*, *Chevron* created a clear shift in deference that applies in a very large number of cases.\(^\text{277}\) As we just noted, there is always a question of selection bias, but a number of scholars have

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\(^{275}\) Fisher’s exact test yields a two-tailed P value of .0931. A chi-square test yields a P value of 0.1152 (chi-squared equals 2.481, 1 degree of freedom).

\(^{276}\) In the specific context of empirical studies that assess the impact of changes in standards of review, selection bias might result because, after a more lenient standard has been adopted, parties choose to appeal only those agency decisions that involve particularly egregious lapses. Thus a reviewing court might be acting more deferentially but would nonetheless have the same affirmance rate as before the change in standard. This is a particular problem with studies that require examination over a relatively long period of time in order to create adequate sample size. Over this period of time, parties can adjust their decisions to the change in standard of review.

\(^{277}\) See *supra* notes ___ to ___ and accompanying text.
done careful empirical studies on the impact of *Chevron*, and they have generally found that it has, indeed, changed judicial behavior, resulting in greater deference to agency decisions by lower courts.\textsuperscript{278}

Meanwhile, the costs of most of the changes discussed in this Article are fairly low. Insofar as we are suggesting that the Federal Circuit adopt existing standards from administrative law, the costs of such a move are not significant. The standards are familiar terms of art that have been fleshed out in scores of cases, so judges seeking to apply them can draw on a wealth of materials. Indeed, these standards are better established than the ones that that the Federal Circuit has devised on its own.

Recall, though, that in Part III.B we suggested that a normatively attractive relationship might entail some very small changes in the level of deference that the Federal Circuit accords to PTO decisions. The discussion immediately above suggests why the costs of attempting to implement such finely calibrated changes in standards of review are probably not worth the trouble. First, the changes would be so slight that their impact (assuming full, good-faith implementation) would likely be small. Second, they would move the standards of review out of the existing terms of art. The idea would be to tweak the existing categories just slightly, so that they apply a bit differently. But such a tweak means that the many cases delineating the existing standards would not apply, and instead the Federal Circuit would have to craft its own slightly modified interpretations. In light of the small probable benefits (i.e., the few case outcomes that these small tweaks would be intended to change), the costs of developing a modified jurisprudence for the new categories loom large, and probably outweigh the benefits.

Thus, at the end of the day, moving patent law to apply existing administrative law categories, and then modestly changing PTO practices to change how those categories actually apply to PTO actions, seems the best course of action. The costs of such an approach are low and the benefits considerable. Even without remaking patent law, we can use administrative law to push patent law in a useful direction.

Conclusion

The Federal Circuit, and many commentators, has long treated administrative law as tangential (at best) to patent law. But the PTO is an administrative agency, and the APA applies to the PTO, and to the Federal Circuit’s review of PTO decisions. Bringing the APA (and administrative law) into the equation in a useful way can provide new leverage for those seeking to move toward a more coherent system of administrative law. 

law doctrine more generally) to bear on patent law regularizes patent law, by applying established standards of review. Thus the APA, and the voluminous case law interpreting it, replaces ad hoc standards created by the Federal Circuit.

Application of administrative law principles also brings into focus possibilities for making realistic and normatively attractive changes to PTO procedures, and the Federal Circuit’s review of the PTO. It is tempting for academics, and daunting for policymakers, to posit radical changes in existing law that would create an ideal system. Such a recasting of patent law is not necessary, however, for us to move patent law a considerable distance toward normatively attractive standards of review. First-best solutions are (by definition) the most attractive, but second-best solutions fare well if they are much more realistic and give us much of what we want. The application of administrative law principles outlined in this Article presents such a second-best. So, while we wait (indefinitely) for an ideal PTO and Federal Circuit to be created, principles of administrative law offer real improvement based on a huge body of experience in other areas of complex, technical regulation. To put the point more sharply, application of administrative law is the sort of “fully enabled” improvement that the patent system is designed to foster.279

More broadly, examination of possible improvements to the patent system highlights the downside of treating an area of law as sui generis, and thus not subject to a general regime like administrative law. Not only is the specialized area subject to capture by powerful interests, but also it fails to benefit from well-established standards that could fairly straightforwardly be applied. Application of a broad regime like administrative law allows us to recognize, and build on, the commonalities between agencies. It also paves the way for more scrutiny of patent law. A specialized legal regime creates obstacles for non-specialists who want to understand and evaluate it; reducing that specialization reduces those barriers. Application of administrative law removes some of the mystique from patent law – but that is a feature, not a bug.

279 See 35 U.S.C. § 112 (requiring enablement for patent to issue). The “enablement” here refers to the fact that the Federal Circuit appears to apply standard administrative principles when it review agencies other than the PTO. See supra notes ___ to ___ and notes ___ to ___ and accompanying text.