Since the United States Supreme Court decided *KSR Int’l Co. v. Teleflex, Inc.* in April 2007,1 some patterns in the administrative agencies have begun to take shape. To be sure, the Federal Circuit’s rigid “teaching, suggestion, or motivation” (TSM) test as the sole basis for determining obviousness under 35 U.S.C. § 103 has been rejected. In its place, the administrative agencies have embraced the *Graham* factors created by the Supreme Court in 1966.

The *KSR* decision has affected different administrative agencies in different ways. At the U.S. Patent and Trademark Office (PTO), *KSR* represents a sea change in how the patent examiner and the Board of Patent Appeals and Interferences (BPAI) deal with obviousness rejections. For example, the PTO has published new examination and reexamination guidelines for determining obviousness under 35 U.S.C. § 103. In patent prosecution, the disposal and abandonment rates of patent applications have significantly increased post-*KSR*. In reexamination, claims are readily cancelled or amended post-*KSR*. At the other end, the impact on the International Trade Commission (ITC) has been much less pronounced—very few decisions have cited to this case.

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This chapter will explore statistics, trends, and emerging developments at the ITC and PTO in the aftermath of *KSR*. Understanding these elements will offer significant insight into the direction these agencies are heading in the wake of *KSR*. Part I discusses the effects of *KSR* on the ITC. Part II focuses on the impact of *KSR* at the PTO. Part III provides guidance on how to avoid obviousness determinations at the ITC and PTO.

I. INTERNATIONAL TRADE COMMISSION DETERMINATIONS POST-*KSR*

A. Overview of the International Trade Commission

The U.S. International Trade Commission (ITC) is a federal agency that investigates and administers U.S. trade remedies. One type of review is a Section 337 investigation, which examines whether imports into the United States violate intellectual property or unfair competition laws. Section 337 investigations are conducted pursuant to 19 U.S.C. § 1337. Remedies of a Section 337 investigation include exclusion orders that direct the U.S. Customs Service to stop infringing goods from entering the country and cease-and-desist orders that direct a respondent in the ITC investigation to cease its unfair acts.

There are two types of exclusion orders, general and limited. A general exclusion order excludes all articles from all sources. A limited exclusion order only excludes articles from the opposing party in the investigation. Of the two, limited exclusion orders are much more common.

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7. Id. at 22.
eral exclusion orders are given only when necessary to avoid the circum-
vention of a limited exclusion order or in the event that a pattern of viola-
tion makes it difficult to determine the source of the articles. Section 337 
investigations are conducted by administrative law judges (ALJs) and, by 
petition, can be reviewed by the full ITC Commission (Commission).9 
The ITC’s standard of review is to reverse only for clearly erroneous find-
ings of material fact, erroneous legal conclusions, or decisions contrary to 
Commission policy.10 Appeals from the ITC are heard by the U.S. Court 
of Appeals for the Federal Circuit.

B. General Statistics and Trends of ITC Cases Post-KSR

To date, ALJs at the ITC have issued nine initial determinations 
citing KSR when ruling on the validity of a patent. Five of those 
decisions found that all claims of the patent or patents-at-issue were 
valid;11 two found that all of the claims at issue were invalid;12 and

9. Id. at 15, 21.
and the ITC, available at http://www.buildingipvalue.com/n_us/163_166.htm (last 
visited Dec. 9, 2008).
11. In the Matter of Certain L-Lysine Feed Products, Their Methods of 
Production and Genetic Constructs for Production, Inv. No. 337-TA-571, Initial 
Determination (July 31, 2008), available at 2008 ITC LEXIS 1343; In the Matter of 
Certain 3G Mobile Handsets and Components, Inv. No. 337-TA-613, Initial 
Determination (Apr. 14, 2008), available at 2008 ITC LEXIS 600; In the Matter of 
Certain Connecting Devices (Quick-Clamps) for Use with Modular Compressed Air 
Conditioning Units, Including Filters, Regulators, and Lubricators (FRLs) That Are 
Part of Larger Pneumatic Systems and the FRL Units They Connect, Inv. No. 337-
In the Matter of Certain Endoscopic Probes for Use in Argon Plasma Coagulation 
Systems, Inv. No. 337-TA-569, Initial Determination (Jan. 16, 2008), available at 
2008 ITC LEXIS 111; In the Matter of Certain Mobile Telephone Handsets, Wireless 
Communication Devices, and Components Thereof, Inv. No. 337-TA-578, Initial 
12. In the Matter of Certain NOR and NAND Flash Memory Devices and 
Products Containing Same, Inv. No. 337-TA-560, Initial Determination (June 1, 
2007), available at 2007 ITC LEXIS 691; In the Matter of Certain Switches and 
Products Containing Same, Inv. No. 337-TA-589, Initial Determination (Nov. 7, 
two found that some of the claims were valid and others were invalid.13

The Commission, on the other hand, has issued four opinions citing KSR that ruled on the validity of a patent. Without exception, the Commission upheld the findings of the ALJ. The breakdown of the Commission’s obviousness findings is as follows: one decision affirmed an obviousness ruling,14 one decision affirmed a nonobviousness ruling,15 and two decisions affirmed a mixture of obviousness and nonobviousness rulings.16 Additionally, the Commission has refused to consider an obviousness argument where the party had failed to present an obviousness defense to the ALJ, even if the ALJ’s hearing was prior to KSR and the claims were likely nonobvious under the TSM test.17

The Federal Circuit has to date dealt with only one appeal of an ITC decision that cited KSR. In that case, the Federal Circuit refused to hear an obviousness argument that was not made before the ALJ.18 Thus, the Federal Circuit has yet to rule substantively on cases arising from the ITC involving issues of obviousness post-KSR.19


19. See id.
C. The Application of KSR

1. There Must Be a Reason to Combine References

The Supreme Court in *KSR* stated that prior art can be obvious to combine even if there is no teaching, suggestion, or motivation to do so, but the ITC and ALJs still require a reason to combine the references. In the *Quick-Clamps* case, the claim at issue was for a clamp with a rectangular flange and a pivoting side. Although there was prior art for semicircular flanges and hingelike connections on clamps, the ALJ determined that, because no evidence was presented on why these elements should be combined, the claim must be nonobvious under *KSR*. The ALJ’s analysis suggests that either (1) the combination was particularly easy to make or (2) a person skilled in the art would have expected that the combination would work may have resulted in a finding of obviousness.

The ALJ reiterated the need for a reason to combine the elements in the *L-Lysine Feed Products* case, noting that this is necessary to prevent impermissible hindsight bias. The claim in that case was a method of creating lysine from *E. coli*. The prior art stated that lysine could be created from *E. coli*, that the lysine biosynthesis pathway involved enzymes that are feedback-inhibited by lysine, and that there was a method of finding strains that were desensitized to feedback in a substance similar to *E. coli*. However, the ALJ framed the obviousness issue not as whether it would be obvious to create bacteria for creating lysine, but rather as whether it would be obvious to produce lysine from bacteria with a specific mutation at a specific location, which is what was

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20. In the Matter of Certain Connecting Devices (Quick-Clamps), for Use with Modular Compressed Air Conditioning Units, Including Filters, Regulators, and Lubricators (FRLs) That Are Part of Larger Pneumatic Systems and the FRL Units They Connect, supra note 11, at 85–86.
21. Id.
22. See id. at 86.
23. In the Matter of Certain L-Lysine Feed Products, Their Methods of Production and Genetic Constructs for Production, supra note 11, at 117.
24. Id. at 116.
25. Id. at 114.
claimed.\textsuperscript{26} Even though it may seem as though the inventor only followed logical steps with currently available techniques, obviousness must be determined at the time of the invention. The ALJ found it was not obvious.\textsuperscript{27}

\textbf{2. What Constitutes a Reason?}

Of course, knowing that the ITC requires a “reason” to combine prior art references is of little help if it is not defined. Because the TSM test has only been made more flexible, prior art that teaches, suggests, or motivates the combination of references to render the claimed invention obvious is a sufficient reason. Also, another reason to combine prior art references is if the references are closely related. In the \textit{NOR and NAND Flash Memory Device} case, the ALJ found that it would be obvious to apply prior art for improving EPROMs to a problem with EEPROMs because they were closely related.\textsuperscript{28}

Another reason to combine references is that the prior art is something that a person skilled in the art would have been aware of and would have understood how it applied to the problem.\textsuperscript{29} In the \textit{Switches} case, the issue was whether prior art relating to an automatic printer switch would make an automatic keyboard, video, or mouse switch obvious.\textsuperscript{30} The ALJ found that, because a person of ordinary skill in the art would have had an education and background in the communications industry, such a person would have knowledge of printers and how to adapt them for other applications, so the claim was obvious.\textsuperscript{31}

\textbf{3. The Use of a TSM Term Does Not Necessarily Lead to Reversal}

Although the Supreme Court in \textit{KSR} disclaimed the TSM test, the ITC has shown that it will not blindly reverse any initial determina-

\begin{itemize}
\item \textsuperscript{26} \textit{Id.} at 117.
\item \textsuperscript{27} \textit{Id.} at 124.
\item \textsuperscript{28} In the Matter of Certain NOR and NAND Flash Memory Devices and Products Containing Same, \textit{supra} note 12, at 206.
\item \textsuperscript{29} In the Matter of Certain Switches and Products Containing Same, \textit{supra} note 12, at 99–100.
\item \textsuperscript{30} \textit{Id.} at 98–99.
\item \textsuperscript{31} \textit{Id.} at 99–100.
\end{itemize}
tion in which the ALJ had used the TSM test to reject an obviousness argument. Under *KSR*, the same prior art that was previously rejected for lacking teaching, suggestion, or motivation may now be used to render the claimed invention obvious. However, the ITC has shown that it will fully examine the ALJ’s findings to determine nonobviousness, and not merely focus on the use of the now-disavowed TSM test. In *In the Matter of Certain Ink Cartridges and Components Thereof*, the ITC found that, even though the ALJ found that there was no “suggestion” to combine the references, the ALJ’s finding of nonobviousness would stand because the ALJ found that every feature of the asserted claims was not disclosed by the prior art.\(^{32}\) Such an action suggests that the ITC will analyze an ALJ’s opinion and decide whether the claims are obvious based upon the substance of the ALJ’s reasoning and not upon any superficial word choices.

### D. Emerging Developments in Post-KSR Decisions

The *KSR* decision has led to several emerging trends in the ITC. These include the renewed importance of the *Graham* factors, the use of a flexible TSM test, the waiver of obviousness claims that were not preserved at trial, and an increased likelihood of affirmation of the ALJ rulings.

1. **Renewed Importance of *Graham* Factors**

   With the Supreme Court’s rejection of a rigid TSM test in *KSR*, the Commission and ALJs have frequently cited the *Graham* factors, as clarified by *KSR*, as the standard for obviousness,\(^ {33}\) while citing few or no other cases. The *Graham* factors relied on by the Commission and ALJs to evaluate obviousness are: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3)

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\(^{32}\) *In the Matter of Certain Ink Cartridges and Components Thereof*, *supra* note 14 at 69.

\(^{33}\) *See, e.g.*, *In the Matter of Certain 3G Mobile Handsets and Components*, *supra* note 11, at 3–6; *In the Matter of Certain L-Lysine Feed Products, Their Methods of Production and Genetic Constructs for Production*, *supra* note 11, at 24–30; *In the Matter of Certain Switches and Products Containing Same, Initial Determination*, *supra* note 12, at 95–96.
the level of ordinary skill in the art; and (4) objective evidence of nonobviousness.\textsuperscript{34} Since Graham, as clarified by KSR, is currently the main focus of an obviousness inquiry at the ITC, future arguments made before the ITC in Section 337 proceedings should focus heavily on the Graham factors.

2. Flexible TSM

The ITC also has been using what is referred to in opinions as the “flexible TSM” test, which has been described in some opinions as whether “a person of ordinary skill in the art would have had reason to attempt to make the composition or device . . . and would have had a reasonable expectation of success in doing so.”\textsuperscript{35} It is clear that a claim is not obvious merely because every element of it exists in prior art; there must be evidence that shows that there was reason to combine them.\textsuperscript{36} However, as shown above, if someone skilled in the art would have been aware of the prior art and understood how to adapt it to create the claimed invention, the claim will be obvious.

3. Waiver of Obviousness Claims if Not Preserved

When KSR was decided, it was unclear how it would affect cases that were concurrently on appeal. There were several cases in which no obviousness challenge was brought because the claims were likely

\textsuperscript{34} See, e.g., In the Matter of Certain Connecting Devices (Quick-Clamps), for Use with Modular Compressed Air Conditioning Units, Including Filters, Regulators, and Lubricators (FRLs) That Are Part of Larger Pneumatic Systems and the FRL Units They Connect, 337-TA-587, Initial Determination, 52 (Feb. 13, 2008); In the Matter of Certain Switches and Products Containing Same, 337-TA-589, Comm’n Op., 21 (Feb. 29, 2008).

\textsuperscript{35} In the Matter of Certain 3G Mobile Handsets and Components, supra note 11, at 5, citing PharmaStem Therapeutics, Inc. v. ViaCell, Inc., 491 F.3d 1342, 1360 (Fed. Cir. 2007).

\textsuperscript{36} In the Matter of Certain Endoscopic Probes for Use in Argon Plasma Coagulation Systems, supra note 11, at 154; In the Matter of Certain L-Lysine Feed Products, Their Methods of Production and Genetic Constructs for Production, supra note 11, at 117; In the Matter of Certain Connecting Devices (Quick-Clamps), for Use with Modular Compressed Air Conditioning Units, Including Filters, Regulators, and Lubricators (FRLs) That Are Part of Larger Pneumatic Systems and the FRL Units They Connect, supra note 11, at 85–86.
nonobvious under the TSM test. However, with a new standard, there was a question as to whether a defense of obviousness that was not brought at trial could be brought later in the appeals process. The ITC and Federal Circuit have held that the obviousness argument is deemed waived and could not be added later on appeal if it was not presented to the ALJ. 37

4. Commission’s Trend of Affirming ALJ Rulings of Obviousness Based on KSR

Although there only have been four Commission rulings of obviousness based on KSR, the Commission has affirmed the ALJs’ orders each time. While certainly not a large statistical sample, the Commission appears to be accepting the ALJs’ interpretation of KSR. This trend is similar to the trend in the Federal Circuit post-KSR, which has emphasized deference to the findings of the trial courts. 38

E. Conclusion

Although there is not yet robust case law in the ITC interpreting KSR, several likely conclusions can be gleaned. ALJs and the Commission stopped using the strict TSM test and started using a broader “flexible” TSM test, which focuses on whether there is a reason to combine prior art. There is also a renewed focus on using the Graham factors to determine obviousness. The Federal Circuit and Commission will not hear an obviousness argument that was not made before the ALJ, even if the ALJ hearing was pre-KSR and the parties believed the claims were likely nonobvious under the TSM test. Finally, the Federal Circuit and Commission both appear generally to defer to the ALJs’ findings on obviousness.


II. PTO’S DECISIONS POST-KSR

The KSR decision has had a significant impact on the PTO. In the wake of the KSR decision, the PTO has published new examination and reexamination guidelines for determining obviousness under 35 U.S.C. § 103. Chief Judge Fleming of the BPAI commented that “KSR has been a huge change for the board. It has turned things upside down.”39 In fact, the BPAI has already cited to KSR in approximately 3,000 decisions. Undoubtedly, KSR has dramatically altered the patent prosecution and reexamination landscapes.

A. Patent Prosecution

1. PTO’s Reaction to KSR

Within four days of the landmark KSR decision, the Deputy Commissioner for Patent Operations, Margaret Focarino, issued a memo enumerating the salient points of the KSR ruling.40 The memo advised patent examiners to consider the Graham factors in determining obviousness under 35 U.S.C. § 103.41

Six months after the KSR decision, the PTO published examination guidelines to assist PTO examiners in making appropriate decisions on obviousness under 35 U.S.C. § 103.42 The guidelines described the KSR decision and principles of the law of obviousness, explained the basic factual inquiries of Graham v. John Deere, and provided examples of various rationales to support rejections under 35 U.S.C. § 103. In particular, the guidelines specified that obviousness analysis is now refocused on the Graham factors. In fact, the Commissioner for Patents,

39. Id. at 23 (at the July 2007 CLE Presentation in Northern Virginia, Chief Judge Fleming made the comment that, “KSR has been a huge change for the Board. It has turned things upside down.”).


41. Id.

John Doll, emphasized that the *Graham* factors would be the basis for every decision regarding obviousness.\(^{43}\)

The guidelines stressed that, in rejecting the claimed invention, the examiners must articulate the findings of fact and rationale for the rejection. Some examples of acceptable rationales are mentioned in the guidelines and include:

1. combining prior art elements according to known methods to yield predictable results;
2. simple substitution of one known element for another to obtain predictable results;
3. use of known techniques to improve similar devices (methods, or products) in the same way;
4. applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
5. “obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
6. known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; and
7. some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

### 2. PTO Examination Statistics

The five-year period from 2004 through 2008 saw a steady rise in the number of total patent applications filed with the PTO (see Exhibits 1-1 and 1-2). Over this five-year period, the total number of patent applications filed annually rose by 31 percent.

Chapter One

Exhibit 1-1
USPTO Statistics (2004–2008)\textsuperscript{44}

<table>
<thead>
<tr>
<th>FY</th>
<th>Total Applications Filed</th>
<th>Utility Applications Filed</th>
<th>Total Applications Pending</th>
<th>Total Patent Applications Disposed</th>
<th>Total Patent Applications Allowed</th>
<th>Total Abandoned</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>378,984</td>
<td>353,319</td>
<td>756,604</td>
<td>304,921</td>
<td>195,611</td>
<td>109,295</td>
</tr>
<tr>
<td>2005</td>
<td>409,532</td>
<td>381,797</td>
<td>885,002</td>
<td>298,838</td>
<td>182,254</td>
<td>116,564</td>
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<td>2006</td>
<td>445,613</td>
<td>417,453</td>
<td>1,003,884</td>
<td>332,535</td>
<td>186,593</td>
<td>145,912</td>
</tr>
<tr>
<td>2007</td>
<td>468,330</td>
<td>439,578</td>
<td>1,112,517</td>
<td>362,227</td>
<td>195,530</td>
<td>166,690</td>
</tr>
<tr>
<td>2008</td>
<td>496,762</td>
<td>466,147</td>
<td>1,208,076</td>
<td>396,228</td>
<td>187,607</td>
<td>208,610</td>
</tr>
</tbody>
</table>

Exhibit 1-2
Total Patent Applications Filed (2004–2008)\textsuperscript{45}

Despite the increase in patent applications, in FY 2008 the total number of patent applications allowed decreased while the total number disposed increased (see Exhibit 1-3). In fact, comparison of the number of


\textsuperscript{45} Id.
allowed patent applications to the number of disposed patent applications was noteworthy. The number of patent applications disposed was more than twice the number of patents allowed in FY 2008 (see Exhibit 1-2, previously).

Comparison of the number of abandoned patent applications to the number of allowed patent applications in FY 2008 discloses a similar picture. For the first time in five years, the number of patent applications abandoned was more than the number of patent applications allowed (see Exhibit 1-4).

46. Id.
47. Id.
A comparison of pre-KSR (FY 2006) and post-KSR (FY 2008) applications shows an even more obvious result. Between FY 2006 and FY 2008, the total number of patent applications filed with the PTO increased by 6 percent. However, the number of allowed patent applications increased by only 0.5 percent, while the number of patent applications disposed and abandoned increased by 19 percent and 43 percent, respectively. These results seem to suggest that the KSR decision may have some impact on the patent applications disposal and abandonment rates at the PTO.

3. Board of Patent Appeals and Interferences

(a) Trends and Statistics

The KSR decision may also have affected the BPAI,49 in terms of both the disposition rates of final decisions and the number of opinions rendered relating to KSR. As illustrated in Exhibit 1-5, the disposition rates reported post-KSR vary materially from pre-KSR periods.50 Specifi-

48. Id.
49. Applicants whose patent applications have been rejected by a patent examiner may appeal their cases to the Board of Patent Appeals and Interferences (BPAI). 35 U.S.C. § 6(b).