Jeffrey M. Gold, Esq. (pro hac vice)
Morgan, Lewis & Bockius, LLP
101 Park Avenue
New York, New York 10178-0060
Tel: (212) 309-6000
Fax: (212) 309-6001

J. Kevin Fee, Esq. (D.C. Bar No. 494016)
Morgan, Lewis & Bockius, LLP
1111 Pennsylvania Avenue, NW
Washington, D.C. 20004
Tel.: (202) 739-3000
Fax: (202) 739-3001

Scott D. Stimpson, Esq. (pro hac vice)
The Law Office of Scott D. Stimpson
445 Hamilton Avenue -- Suite 1102
White Plains, New York 10601
Tel: (203) 258-8412

Attorneys for Plaintiff and Counter- Defendant Casio Inc. and Counter-Defendant Casio Computer Co., Ltd.

UNITED STATES DISTRICT COURT
DISTRICT OF COLUMBIA

CASIO INC., **Plaintiff** **v.** **PAPST LICENSING GMBH & CO. KG** **Defendant.**	**Case No. 1:06-CV-01751** **Judge: Gladys Kessler** **Magistrate Judge: Deborah Robinson**
PAPST LICENSING GMBH & CO. KG, **Counter-Plaintiff** **v.** **CASIO INC. and CASIO COMPUTER CO., LTD.** **Counter-Defendants**	**Next status conference: December 4, 2007**

REPLY MEMORANDUM IN SUPPORT OF CASIO'S MOTION TO STRIKE PAPST'S DISCOVERY REQUESTS AND FOR SANCTIONS

The operative event giving rise to this motion was the signature of the Papst lawyers on its discovery requests. Papst cannot escape responsibility for this discovery abuse or the needless expense and burden it caused to Casio, by much later claiming it reduced the scope of its requests. And Papst's Opposition, which claims to have now reduced the scope of documents it is seeking, is completely inconsistent with its co-pending motion to compel, which literally asks this Court to order everything produced, including every document related to digital cameras from dozens of Casio companies all over the world.[1]

II. THE PAPST REQUESTS

A. Technical Documents -- Papst Section II(A)

Papst claims that it limited the scope of digital cameras to cameras sold since October 22, 2002. But the Casio Japan definition had no date restriction, and included not only cameras, but also individual parts of cameras, and every model, version, revision, and even every "method" related to that broad scope. Exhibit C to Prin. Mem., page 4, definition 10.

Papst also claims to have limited its requests to certain aspects of the cameras listed at pages 2-3 of its memorandum. But Papst has not done so, and in fact its motion to compel asks this Court to order that "all non-privileged materials responsive to Papst Licensing Document Requests 1, **2, 3, 4, 5, 6**, 7, **10, 11, 12** . . ." be produced. Exhibit A hereto, ¶6 (emphasis added). And in any event, the question before this Court is not whether Papst later narrowed its requests

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[1] Papst's proposed order for its motion to compel is attached as Exhibit A hereto, see ¶6, e.g., Document Request 6. With these requests and its corresponding motion to compel, Papst is trying to deliberately increase Casio expenses as much as possible in the hope that Casio will take a license rather than litigate. Please see Federal Trade Commission's report "To promote Innovation: The Proper Balance of Competition and Patent Law and Policy" (pertinent pages attached as Exhibit B) at pages 38-43. This report, recently cited by Justices Souter and Breyer in their concurring opinion in *eBay Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837, 1842 (2006), refers to numerous observations that non-practicing entities attempt to set licensing fees below the cost of litigation, "so as to make the taking of a license the only economically sensible alternative, regardless of the strength of the patent." The report refers to such practices as "hold ups".

when faced with a sanctions motion. Rule 26(g) is focused on the signature on the original requests, and whether it was executed in good faith.

B. Communications With Customers – Papst Section III(B)

Papst claims that customer comments can be relevant. Even if the case law would support production of customer comments all over the world, the Papst request is not limited to customer comments. Rather, it demands every communication with every customer all over the world, regardless of the content of the communication.

C. Foreign Activities – Papst Section III(C)

Papst claims that Casio could be liable for sales outside the United States. But Papst knows that Casio Japan has an established channel for sales to the United States, through Casio America. The cases it cites are directed to the established channels of the defendants in those cases, and there is no support for the wild fishing expedition relating to Casio Japan selling to other countries and whether some of those cameras somehow might end up in the United States outside the Casio Japan established American channel. None of the foreign documents are reasonably calculated to lead to the discovery of admissible evidence. Moreover, Papst does not even attempt to explain why it requested every document from every Casio related company all over the world.

Papst also claims that foreign commercial success justifies its document requests. Papst should be precluded from asserting any secondary considerations, however. See Casio's co-pending motion for sanctions for failure to comply with the Court orders. And in any event, foreign commercial success would not justify anywhere near the documents Papst seeks.[2]

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[2] *See, e.g., Minnesota Mining and Manufacturing Co. v. Smith & Nephew et. al.*, 3-91 CIV 274, 1992 U.S. Dist. LEXIS 22785, *6-7 (N.D. Ill. July 27, 1992) ("limited discovery of . . . foreign sales information").

D. Financial Documents – Papst Section III(D)

The only argument Papst makes is that sales and profitability information can be relevant to a reasonable royalty analysis. But Papst requested every document that relates to Casio's sales, costs, and profits from every Casio company in every country of the world. Requests 19-22, 29, 30, Definitions 1, 4. Indeed, the requests for sales were not even limited to cameras. Request 19.[3]

E. Other Casio Companies – Papst Section III(E)

Papst only argues that Casio Computer has control over documents of these third parties, and thus circumvents the issue before the Court: Was it reasonable and in good faith for counsel for Papst to sign discovery requests that sought every bit of digital data and every scrap of paper on cameras from every Casio company all over the world?

F. Other Lawsuits – Papst Section III(F)

Papst claims that these could be relevant admissions on claim interpretations. This makes no sense because there was no other lawsuit on these patents. Papst also argues that this could show the operation of the cameras, but Casio has already agreed to produce documents fully showing the operation of the cameras. Papst's assertion that these documents could be relevant to damages is also off the mark because there is no case on the worth of the technology at issue (transfer of data to a PC). And the Papst claim that there could be other relevant documents is nonsense – they have already sought every document at every Casio company, so how could there be more?

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[3] Papst demands documents relating to any conceivable cost that might be related to the cameras, not just those normally applied to the cameras. If Papst succeeds in making Casio produce these mountains of tangential costs, Casio's profits and hence Papst's potential damages will be reduced. This is one example, like Papst's insistence that Casio collect all prior art even if Casio won't rely on it, that shows the Papst motive: Papst does not need the documents it is seeking, and in some cases they could only harm Papst – the point of seeking such a scope of production is only to increase Casio's litigation expenses.

Papst again misses the issue at hand: was it reasonable and in good faith for Papst to seek every document having any relation to any digital camera litigation all over the world, regardless of whether the litigation had any relation to intellectual property, the patents-in-suit, or even the technology at issue?[4]

G. Agreements – Papst Section III(G)

The question Papst does not answer is why it demanded every agreement (not limited to licensing agreements) concerning Casio Digital Cameras made by any Casio-related company world-wide, including all documents related to events that led to every agreement. Request 13, Definitions 1, 4.

H. Shipping Documents – Papst Section III(H)

The Papst explanation for requesting every document relating to every shipment and receipt is not credible. Sales and costs summaries are backed up by ledgers and the like – a document showing a shipment to a specific customer on a specific date is no help. And Papst does not even attempt to explain what relevance shipments in foreign countries could have to this case. Nor does it explain why it requested every document related to every shipment and every receipt of every camera part all over the world. Requests 8, 9, Definitions 1, 4, and 10.

I. Other Papst Document Requests – Papst Section III(I)

Papst Exhibit H is nothing but a conclusory checklist with absolutely no explanations or backup – it says nothing about why Papst sought the scope of these requests.

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[4] In another litigation, Papst objected to producing documents from other litigations. *In re: Papst Licensing, GmbH, Patent Litigaiton,* No. 99-MD-1298, 2001 U.S. Dist. LEXIS 10012, at *41 (D.La. July 12, 2001) (Papst's objection to producing documents in other courts sustained in part, limiting the request to litigations on the patents-in-suit).

J. Casio Japan Interrogatory 1 – Papst Section III(J)

Papst does not address why it needed the corporate details, including identities of every officer and director of all of Casio's parts suppliers and retailers all over the world. As for the rest of this request, Casio's reading of the interrogatory is not "hyper-technical" – this is literally what Papst requested.

K. Casio America Interrogatory 1 – Papst Section III(K)

Nothing in the Papst opposition explains why Papst sought a description of every document from every Casio-related company all over the world that concerns the operation or construction of a Casio Digital Camera, nor does Papst adequately explain any of the other problems addressed by Casio.

L. The Requested Sanctions

Casio's requested sanctions are entirely appropriate. Papst had its opportunity to serve discovery requests in good faith, and severely abused that opportunity. It should not be given another chance.

III. CONCLUSION

For all the foregoing reasons, we respectfully request that the Court enter our Proposed Order.

Respectfully submitted,

DATED: July 10, 2007

/s/ Scott Stimpson

Jeffrey M. Gold, Esq. (pro hac vice)
Morgan, Lewis & Bockius, LLP
101 Park Avenue
New York, New York 10178-0060
Tel: (212) 309-6000
Fax: (212) 309-6001

J. Kevin Fee, Esq. (D.C. Bar No. 494016)
Morgan, Lewis & Bockius, LLP
1111 Pennsylvania Avenue, NW

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Suite 1102
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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

CASIO INC., 570 Mount Pleasant Avenue, Dover, New Jersey 07801 Plaintiff, v. PAPST LICENSING GMBH & CO. KG, Bahnhofstrasse 33, 78112 Georgen, Germany Defendant.	Civil Action No. 1:06 CV 01751 Judge: Gladys Kessler Magistrate: Deborah Robinson Next status conference: December 4, 2007
PAPST LICENSING GMBH & CO. KG, Bahnhofstrasse 33, 78112 Georgen, Germany Counter-Plaintiff, v. CASIO INC. and CASIO COMPUTER CO., LTD. Counter-Defendants	Civil Action No. 1:06 CV 01751 Judge: Gladys Kessler Magistrate: Deborah Robinson Next status conference: December 4, 2007

DECLARATION OF JEFFREY M. GOLD, ESQ.

I, Jeffrey M. Gold, hereby declare as follows:

1. I am a partner at the law firm of Morgan, Lewis & Bockius LLP in the New York Office located at 101 Park Avenue, New York, New York 10178.

2. I have been admitted to practice law in the State of New York since 1997. I am further admitted to practice in the Southern and Eastern Districts of New York, the Federal Circuit Court of Appeals and before the Patent and Trademark Office. I am also currently admitted pro hac vice before this court as part of this action.

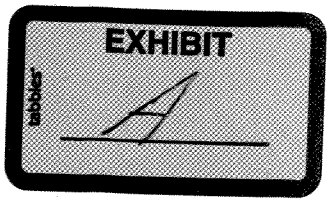
3. Attached hereto as Exhibit A, is a true and correct copy of Defendant Papst Licensing GMBH & Co. KG's Proposed Order regarding its Motion to Compel the Production of Documents.

4. Attached hereto as Exhibit B is a true and correct copy of the Federal Trade Commission's report "To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy", Ch. 3, pp. 38-43, October 2003.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Dated: July 10, 2007

By: _____
Jeffrey M. Gold



UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

CASIO INC.

Plaintiff,

v.

PAPST LICENSING GMBH & CO. KG,
Defendant.

PAPST LICENSING GMBH & CO. KG,
Counter-Plaintiff

v.

CASIO INC. and
CASIO COMPUTER CO., LTD.

Counter-Defendants

Civil Action No. 1:06 CV 01751

Judge: Gladys Kessler

Magistrate Judge: Deborah A Robinson

[PROPOSED] ORDER GRANTING MOTION TO COMPEL THE PRODUCTION OF DOCUMENTS

Upon consideration of the motion of Defendant and Counter-Plaintiff Papst Licensing GMBH & Co, KG, to compel discovery the production of documents from Casio Inc. and Casio Computer Co., Ltd. (collectively "Casio"), it is hereby

ORDERED that the Motion to Compel The Production of Documents is **granted**.

In particular, it is ordered that:

1. All documents and materials hereby ordered shall be produced within 10 calendar days of this Court order.

2. Casio shall respond to discovery request Nos. 1-5, 7, 10-15, 17-58, 62-74, as further explained below.

3. For purposes of this Order, the term "Casio Digital Cameras" shall be defined as Casio digital cameras capable of transferring picture data to another device, which were used, manufactured, sold, offered for sale, licensed or imported into the United States since October 22, 2002.

4. Casio must produce all non-privileged documents in response to Request Nos. 2-5 and 10-12 in connection with the following aspects of the Casio Digital Cameras:

1. The acquisition and processing of light images by cameras including, for example, the conversion of light images into electrical signals representative of the light images.
2. The processing by a camera of electrical signals representative of light images including, for example, the conversion of analog signals representative of light images into digital electrical signals, and the transfer of those digital electrical signals to an electronic memory.
3. The operation of any computer program stored in a memory of a camera as it concerns any of the other subject matters set forth in this list.
4. The storage of information in a memory of a camera, including but not limited to external memory cards and other electronic memory intended to be attached to a camera.
5. The interconnection of a camera to a personal computer.
6. The transfer of digital electrical signals representative of light images from a camera to a personal computer including, for example, the process by which the personal computer recognizes how to communicate with and receive data from the camera.
7. The process by which a camera communicates with and transfers information to or from a personal computer.
8. The acquisition and processing of sound waves by cameras, how the sound waves are converted to digital electrical signals by the camera, how those digital electrical signals are processed and stored by the camera, and how those digital electrical signals are downloaded from the camera to a personal computer.

5. Casio shall respond to all discovery requests with respect to each of its Casio Digital Cameras, and Casio's discovery responses shall not be limited to only those cameras specifically accused of infringement at this time.

6. Casio shall produce all non-privileged materials relating to the research, design, development, testing, manufacturing, marketing, operation and commercial production of the at-issue Casio digital cameras. In particular, Casio shall produce all non-privileged materials responsive to Papst Licensing Document Request Nos. 1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 35, 36, 37, 44, 53, 59, 60, 61 and 66.

7. Casio shall not withhold any documents on the basis that they may be subject to a motion to bifurcate or a motion to disqualify counsel.

8. Casio shall produce responsive documents relating to activities outside of the United States as well as within the United States.

9. Casio shall produce all documents regarding the sales, profits, costs, licensing and reasonable royalty information for the at-issue Casio Digital Cameras. In particular, Casio shall produce all non-privileged materials responsive to Papst Licensing Document Request Nos. 7, 19 to 33.

10. Responsive documents from all Casio entities shall be produced, not just those named in this litigation. All documents responsive to Papst Doc. Request No. 67 shall be produced.

11. Casio shall produce the requested documents regarding Casio's computer information systems. Specifically, all documents responsive to Papst Doc. Request No. 70 shall be produced.

12. Casio shall produce the requested documents regarding other lawsuits concerning Casio Digital Cameras. Specifically, all documents responsive to Papst Doc. Request Nos. 15, 17-18 shall be produced.

13. Casio shall produce the requested documents concerning the Patents-In-Suit. Specifically, all documents responsive to Papst Doc. Request Nos. 38, 39, 44, 45, 46, 47, 48, 49, 50, 51, 53, 54, 55 and 74 shall be produced.

14. Casio shall produce the requested documents demonstrating the names of individuals and businesses involved in Casio's infringing activities. Specifically, all documents responsive to Papst Doc. Request Nos. 56-58, 66 shall be produced.

15. Casio shall produce the requested documents relating to prior art and related subject matter, and not just the prior art on which Casio intends to rely. Specifically, all documents responsive to Papst Doc. Request Nos. 50, 51 and 53.

16. Casio shall produce the requested documents identified in, responsive to, used in responding to, or relating to Papst's First Set of Interrogatories. Specifically, all documents responsive to Papst Doc. Request No. 71 shall be produced.

17. No Casio documents shall be withheld on the basis of confidentiality given that Papst Licensing has agreed to keep any Casio confidential documents on an outside counsel only basis until the protective order issues are resolved.

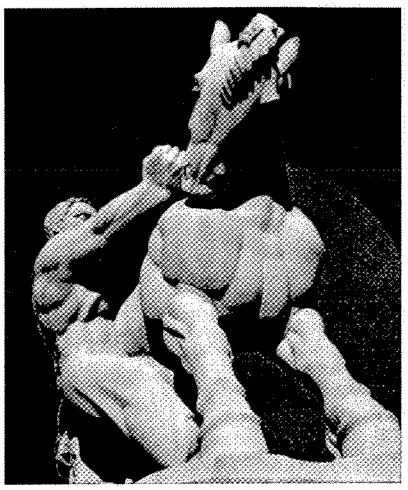
DATED: _____

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Deborah Robinson
United States Magistrate Judge

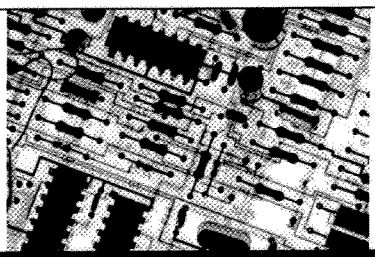
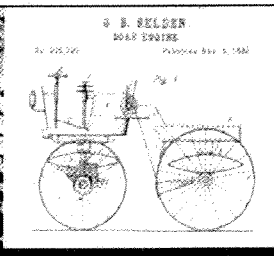
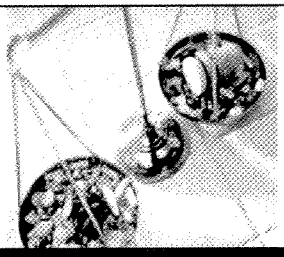
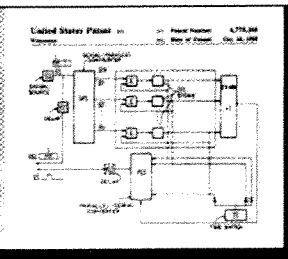
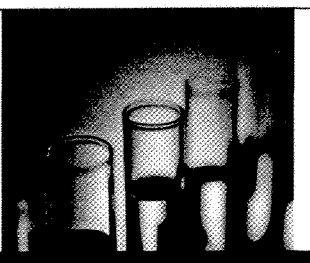
EXHIBIT
B

FEDERAL TRADE COMMISSION

To Promote Innovation:
The Proper Balance of Competition and Patent Law and Policy



A Report by the Federal Trade Commission
October 2003

In their business survey, Professors Hall and Ziedonis concluded that semiconductor firms with large sunk costs in complex manufacturing facilities started to patent defensively in the 1980s to reduce, among other things, "concerns about being held up by external patent owners."[237] These concerns stemmed in part from Polaroid's successful patent infringement suit against Kodak.[238] One industry participant interviewed by Professors Ziedonis and Hall stated, "a preliminary injunction would be detrimental to a firm if it means shutting down a high-volume manufacturing facility; loss of one week's production alone can cost millions of dollars."[239] Firms in the computer hardware industries responded to the possibility of having their production enjoined by accumulating large patent portfolios. If a rival company sought to employ a hold-up strategy against them, they would draw on their portfolio to assert patent infringement counterclaims against that rival, resulting in what panelists described as "mutually assured destruction" or "MAD."[240]

(i). The Rise of Non-Practicing Entities

The potential for hold-up to result in mutually assured destruction means firms actively participating in the industry – patent practicing entities (PPEs) – are unlikely to employ this strategy against each other.[241] Panelists, however, identified firms referred to as non-practicing entities (NPEs) that can successfully employ a hold-up strategy without fear of retaliation.[242] NPEs obtain and enforce patents against other firms, but either have no product or do not create or sell a product that is vulnerable to infringement countersuit by the company against which the patent is being enforced. As discussed *supra* in Chapter 2, MAD strategies to mitigate hold-up will not work against NPEs, who are not susceptible to the threat of a countersuit shutting down their production.[243] In contrast, NPEs can threaten PPEs with patent infringement and an injunction, which, if granted, could inflict substantial losses.[244]

Panelists identified three types of NPEs in the computer hardware industry: (1) non-practicing design firms, which patent their inventions but do not make or sell patented products to consumers; (2)

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[237] Hall & Ziedonis, 32 RAND J. ECON. at 104; *see also* Box 3-6; Rosemarie Ziedonis, *When the Giants' Shoulders are Crowded: Fragmented Rights and Patent Strategies in Semiconductors* 4 (July 2002) *in draft at* http://www.isnie.org/ISNIE02/Papers02/ziedonis.pdf.

[238] *See* Hall & Ziedonis, 32 RAND J. ECON. at 109.

[239] *Id.*; *see generally* John R. Boyce & Aidan Hollis, *Innovation, Imitation & Preliminary Injunctions in Patents* (Public Comment), at http://www.ftc.gov/os/comments/intelpropertycomments/0205xxhollis.pdf.

[240] *See* Hall 2/28 at 662; Detkin 2/28 at 669; Poppen 2/28 at 684-85; Barr 2/28 at 713; *see also* Hall & Ziedonis, 32 RAND J. ECON. at 109.

[241] *See* Poppen 2/28 at 684-86.

[242] *See* Rhoden 2/28 at 723-24; Carl Shapiro, *Technology Cross-Licensing Practices: FTC v. Intel (1999), in* 4 THE ANTITRUST REVOLUTION: ECONOMICS, COMPETITION AND POLICY 350, 356 (John E Kwoka, Jr. & Lawrence J. White eds. 2004).

[243] *See* Poppen 2/28 at 685-89; Detkin 2/28 at 671-72.

[244] *See* Poppen 2/28 at 685-89; Detkin 2/28 at 671-72; Hall & Ziedonis, 32 RAND J. ECON. at 109. For additional discussion of issues raised by NPE conduct, *see supra* Ch. 2(III)(C)(2) and Second Report (forthcoming).

"professional" patent assertion companies that buy patents from other companies, particularly those that are bankrupt, and then assert them against practicing entities; and (3) "patent miners," which are companies that assert their patent portfolios against firms outside of their business.[245]

Professor Ziedonis noted that the number of cases filed by NPEs has increased since the mid-1980s, and that the sale of patents by failing companies has increased since the 1990s.[246] One third of the patent lawsuits filed by a group of 136 companies, for example, involved patents not invented by the company.[247] Two panelists confirmed that an increasing number of companies are seeking to buy and sell the patent portfolios of failing companies to assert against other firms.[248] In their business analysis of licensing practices in the semiconductor and electronics industry, Professors Grindley and Teece observe that "occasionally, firms can purchase a portfolio of patents with which to establish cross-licensing relationships; but quality patents often are not available in this fashion."[249]

(ii). Hold-Up and Patent Thickets

In industries such as the computer hardware industries, where innovation is cumulative, panelists noted that hold-up is more likely to occur, because the presence of a patent thicket makes patent infringement very difficult to avoid.[250] As Professor Shapiro observed, participants in the semiconductor industry receive "thousands of patents . . . each year and manufacturers can potentially infringe on hundreds of patents with a single product."[251] Another panelist stated that "the large number of

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[245] *See* Poppen 2/28 at 685-88; Detkin 2/28 at 672.

The panelists discussed two reasons for the emergence of "patent mining" by companies. First, the need to patent defensively has forced many firms to develop extensive patent portfolios, at considerable cost. One business representative stated that it costs about $200,000 to maintain a patent worldwide over a period of 20 years. *See* Brunt 3/20 at 25. Panelists reported that some companies have sought to offset these costs by seeking to license their patents to other companies, particularly companies that operate outside the market of the patent holder, because a higher royalty can be extracted due to an imbalance in bargaining positions. *See id.*; Poppen 2/28 at 684; Thurston 3/20 at 34.

Second, panelists contended that business attitudes towards patents have changed since the 1980s. The management of some companies, some asserted, have begun to treat patents as an asset that must generate a return, instead of as a means to exclude parties from a particular invention. *See* Wolin 3/20 at 81. Panelists cited two examples to support this change in attitude. First, a number of panelists mentioned Texas Instruments, which successfully instigated a patent mining program in the late 1980s to save the company from bankruptcy, and thereby became an example to other companies of how to mine their patents. *See* Thurston 3/20 at 28-29; Wolin 3/20 at 81; Ziedonis 3/20 at 83; Telecky 2/28 at 653; Macher et al., *Semiconductors* at 281; Grindley & Teece, 39 CAL. MGMT. REV. at 20. Second, a widely read book in business circles entitled *Rembrandts in the Attic* encourages managers to generate revenue from their patents by mining them. *See* Hughes 2/28 at 614; KEVIN G. RIVETTE & DAVID KLINE, REMBRANDTS IN THE ATTIC: UNLOCKING THE HIDDEN VALUE OF PATENTS (Harvard Business School Press 1999).

[246] *See* Ziedonis 3/20 at 71, 73-74.

[247] *See* Ziedonis 3/20 at 73-74.

[248] *See* Thurston 3/20 at 75; Wolin 3/20 at 76.

[249] Grindley and Teece, 39 CAL. MGMT. REV. at 31; *see also* Shapiro 11/6 at 176 (observing that "I've even seen a situation where a portfolio was split up and some patents split off to a third party who had no other commercial interests, so they could assert it most aggressively against other industry players.").

[250] *See* Barr 2/28 at 676; Hall & Ziedonis, 32 RAND J. ECON. at 110.

[251] *See* Shapiro, *Navigating the Patent Thicket* at 125.

issued patents in our field makes it virtually impossible to search all potentially relevant patents, review the claims, and evaluate the possibility of an infringement claim or the need for a license."[252] This problem of unavoidable patent infringement is heightened, commentators stated, by the risk of patent applications still pending and unpublished by the PTO after a company has sunk significant costs in a new product.[253]

Commentators have also observed that companies seeking to hold up rivals can set the licensing fees below the cost of litigation, including the managerial distraction, so as to make the taking of a license the only economically sensible alternative, regardless of the strength of the patent.[254] Professor Shapiro contends that the lack of effective mechanisms to challenge questionable patents, the presumption of validity, and "a patent office that is generous to patent applicants" also facilitate the use of hold-up strategies by NPEs.[255] Several panelists asserted that companies can use a continuation on their own patent application deliberately to delay patent issuance by the PTO.[256] This enables such companies, one panelist asserted, to tailor their patent claims to cover a rival's product using insights gained from reverse-engineering that product.[257]

(iii). The Potential for Hold-Up to Harm Consumers

Commentators identified four ways that hold-up can harm competition and innovation. First, obtaining a license after costs have been sunk will result in a higher royalty to the NPE than if a license were negotiated prior to the sinking of costs.[258] One reason for this higher royalty is that PPEs obtaining a license under threat of hold-up typically do not have the option of designing around the patent the NPE asserted, because redesigning a product after significant costs have been sunk is usually not economically viable.[259] According to Professor Shapiro, the higher royalty paid by companies subject to a hold-up strategy may result in higher prices to consumers, inefficiently low use of the affected

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[252] Robert Barr, *Statement* (2/28/02) 1, *at* http://www.ftc.gov/opp/intellect/barrrobert.doc (hereinafter Barr (stmt)).

[253] *See* Barr 2/28 at 676; Shapiro, *Navigating the Patent Thicket* at 125-26. *See supra* Ch. 2(III)(C) and *infra* Chs. 4(II)(C)(1) and 5(II)(C)(4).

[254] *See* Ziedonis 3/20 at 71-72; Barr 2/28 at 680 and (stmt) 2; Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. L.REV. 1495, 1517 (2001) (noting that "patent owners might try to game the system by seeking to license even clearly bad patents for royalty payments small enough that licensees decide that it is not worth going to court").

[255] Shapiro, *Technology Cross-Licensing Practices: FTC v. Intel (1999)* at 355.

[256] *See* Poppen 2/28 at 687-88; McCurdy 3/20 at 37; Mar-Spinola 2/28 at 715-16; Barr 10/30 at 146-47; *see also infra* Ch. 4(II)(C)(1).

[257] *See* Poppen 2/28 at 688.

[258] *See* Shapiro, *Navigating the Patent Thicket* at 125.

[259] *See* Shapiro, *Navigating the Patent Thicket* at 125; Barr (stmt) 2-3; Rosemarie Ziedonis, *When the Giants' Shoulders are Crowded: Fragmented Rights and Patent Strategies in Semiconductors* at 8. Just as an NPE may wish to set the royalty fee it seeks at just below what it would cost the "held up" firm to litigate the validity or infringement of the NPE's patent, so an NPE may wish to set its requested royalty fee at just below what it would cost the firm to redesign around the patent.

products, and deadweight loss.[260] The cumulative effect of many such licenses may exacerbate these effects.[261] Second, innovation may suffer because some companies will "refrain from introducing certain products for fear of hold-up."[262]

Third, by seeking royalties below the cost of challenging a patent's validity, NPEs can obtain royalties on improperly granted patents. Royalties on improperly granted patents cause an inefficient allocation of society's resources and a transfer that "encourages patenting and discourages competition to a greater extent than is socially optimal."[263] One panelist observed that NPEs can use this same strategy to induce PPEs to obtain licenses for patents that are likely not infringed by the PPE's product.[264] Finally, a number of panelists representing manufacturing firms contended that hold-up causes a wealth transfer from firms engaged in innovation that results in benefits to firms that are simply exploiting the patent system without benefitting consumers.[265] One panelist, however, responded that "we're not sure that in every instance where there's a patentee with no product, that they haven't legitimately contributed something to the fund of human knowledge."[266]

F. Tools to Navigate the Patent Thicket

The panelists discussed three licensing strategies that firms can use to navigate patent thickets: (1) cross-licensing; (2) patent pooling; and (3) standard setting. The panelists generally agreed that each strategy, despite involving certain transaction costs, has been effective in clearing the patent thicket.[267]

1. Cross-Licensing

Cross-licensing is one of the mechanisms used by integrated firms and hardware companies in particular to obtain design freedom when a patent thicket exists.[268] The main variables are: (1) the number of patents at issue; and (2) the use of balancing payments (*i.e.*, monetary payments to even out the value of the portfolios being cross-licensed).[269] The

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[260] *See* Shapiro, *Navigating the Patent Thicket* at 125; Poppen 2/28 at 690.

[261] *See* Shapiro, *Navigating the Patent Thicket* at 126.

[262] *Id.*; *see also* Grindley & Teece, 39 CAL. MGMT. REV. at 20.

[263] Lemley, 95 NW. L. REV. at 1517.

[264] Barr (stmt) 2-3.

[265] *See* Poppen 2/28 at 689-90; Barr 2/28 at 679 and (stmt) 1-3 (the exploitation of the patent system as a revenue-generating tool in its own right has hindered true innovation and outweighed the benefits); Detkin 2/28 at 673 and 728-30. Another concern expressed was that hold-up may force innovative firms to move their manufacturing and sales operations offshore to minimize their exposure to such strategies.

[266] Telecky 2/28 at 703.

[267] *See* Grindley & Teece, 39 CAL. MGMT. REV. at 16; Detkin 2/28 at 711 (stating that hold-up is the problem, not thickets).

[268] *See* McCurdy 3/20 at 67 (noting the greater prevalence of cross-licensing in semiconductors and information technology industries than in pharmaceuticals). For a discussion of the antitrust treatment of cross-licensing, *see* Second Report (forthcoming). For an historical overview of licensing practices at Texas Instruments, *see* E. Thompson 11/6 at 9-11.

[269] *See* McCurdy 3/20 at 67-69.

number of patents that are cross-licensed can vary from two to a complete patent portfolio, which might include thousands of patents. Balancing payments are often negotiated by the parties and are used to address a relative imbalance in patent portfolio size or quality.[270]

One panelist outlined three factors his company considers when deciding whether to license: (1) potential patent infringement claims the prospective licensee might have against his company; (2) potential patent infringement claims his company has against the prospective licensee; and (3) the relative interest of the parties in reaching a cross-licensing arrangement.[271] According to another panelist, integrated firms and hardware companies usually settle cross-licensing negotiations without filing lawsuits.[272]

2. Patent Pools

The centralized management that patent pools entail may help in avoiding the royalty stacking/complements problems that economists have suggested may develop when multiple patents are needed for follow-on activities, and each patentee independently determines its own royalty rates.[273] One panelist stated that "patent pools have become critically important mechanisms for enabling widespread use of new technologies that require access to a multitude of patents dispersed among a multitude of parties."[274]

That panelist expressed two concerns, however, about the use of patent pools. First, he stated that some patent holders with critical patents avoid *ex ante* negotiations by asserting that the antitrust laws prevent them from negotiating royalties prior to selection of the specific patents in the pool.[275] He argued that the negotiation of the royalty in advance of the selection of specific patents in the pool was preferable.[276] Second, he contended that applicants should be able to choose which patents they license from a patent pool, rather than be forced to take a license for the totality of patents, which is the most commonly used approach.[277]

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[270] *See id.* at 69, 72.

[271] *See* Detkin 2/28 at 669-70 (stating that Intel considers three things when deciding whether to license: "What have they got on us, what do we have on them, and who cares?").

[272] *See* McCurdy 3/20 at 69. For a discussion of some of the antitrust issues raised by cross-licensing, *see* Second Report (forthcoming).

[273] *See* Barr 2/28 at 733 (finding patent pools useful for consolidating administration and limiting royalty stacking problems). *See generally supra* Ch. 2(III)(C)(3) (discussing royalty stacking and Cournot's complements problem).

[274] Fox 2/28 at 700.

[275] *See id.* at 732; *see also* Second Report (forthcoming).

[276] *See* Fox 2/28 at 737, 732 (suggesting that lower royalties or better terms might be negotiated in return for accepting the patent into the pool). For analysis of analogous issues raised by *ex ante* negotiations involving standard-setting bodies, *see* Second Report (forthcoming).

[277] *See* Fox 2/28 at 699. For analysis of the relevant antitrust considerations, *see* Second Report (forthcoming).

3. Standard-Setting

By establishing rules governing access to the intellectual property embodied in their standards, standard-settings organizations (SSOs) can clear patent thickets that otherwise might stand in the way of follow-on innovation. Professor Lemley, who recently conducted a study of SSOs, found them most active "in industries in which it looks like patent hold-up is the biggest problem [such as] in computers, in semiconductors . . . [but not in] pharmaceuticals, in biotechnology, and so forth."[278] Without a way to "clear[]" intellectual property rights held by "dozens or hundreds of different parties," he warned, "nobody's going to be able to make a product that works with a particular technical standard."[279] Professor Lemley found that 17 of the 21 SSOs studied in fact required "some form of licensing . . . [m]ost commonly . . . on 'reasonable and non-discriminatory terms.'"[280]

G. Conclusion

Panelists in the hardware and semiconductor industries emphasized competition as a driver of innovation. Trade secret protection also contributes to innovation in these industries. Testimony regarding the role of patents was mixed. The record generally corresponded with the results obtained by Professors Cohen, Nelson, and Walsh in their business survey of appropriability mechanisms for firms in the United States: the semiconductor industry was among the least reliant on patents to appropriate returns on investment in R&D.[281] Panelists, however, also identified an exception to these results: patents are a driver of innovation for design firms.

The hearing record highlighted many of the issues that economists suggested might arise in contexts that involve cumulative innovation and a multiplicity of patents. Specifically, the participants from these industries confirmed a trend toward defensive patenting and stated that patents can deter innovation: (1) by contributing to patent thickets, and (2) through their use by NPEs to hold up PPEs. Panelists also observed that various patent licensing arrangements – cross-licensing, patent pools, and the licensing requirements of standard setting organizations – have helped to mitigate the potential harm to innovation caused by patent thickets.

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[278] Lemley 4/18 at 35-37. Of course, other factors, such as considerations of achieving compatibility and network effects, also might explain this result.

[279] *Id.* at 20.

[280] *Id.* at 23. Certain of the antitrust issues raised by SSO activities are discussed in Second Report (forthcoming).

[281] *See* COHEN ET AL., PROTECTING THEIR INTELLECTUAL ASSETS.