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IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF CALIFORNIA

ORACLE AMERICA, INC.,

Plaintiff,

No. C 10-03561 WHA

v.

GOOGLE INC.,

Defendant.

**MEMORANDUM OPINION RE ORACLE’S  
MOTIONS *IN LIMINE* NOS. 4 AND 7  
REGARDING DR. GREGORY LEONARD**

**INTRODUCTION**

Plaintiff moves to exclude testimony based on portions of the report of defendant’s damages expert as well as portions of his reply report. The final pretrial order **GRANTED IN PART AND DENIED IN PART** plaintiff’s motion, ruling that Dr. Gregory Leonard may not offer any disgorgement analyses based on non-infringing alternatives (except to meet Oracle’s argument that Google had no choice but to infringe in order to meet a limited window of opportunity). That order also held that Leonard may not rely on the Kim model for any purpose. This memorandum opinion explains the reasoning for that ruling.

**STATEMENT**

Defendant Google Inc. offers Dr. Gregory Leonard, an economist who specializes in microeconomics and econometrics, as an expert for the purpose of assessing the appropriate measure of damages from Google’s use of the declaring code and structure, sequence, and organization of 37 API packages from plaintiff Oracle America, Inc.’s, copyrighted works in

1 Google’s operating system for mobile devices, Android. Leonard first offered qualitative  
2 opinions regarding various factors that contributed to the revenue streams from the Android  
3 platform including the allegedly infringing code as well as the Linux kernel, the Dalvik virtual  
4 machine, non-infringing core-libraries, and Google’s non-Android technologies. He further  
5 noted that many of the most popular Android apps were not written in Java or were created by  
6 developers that also developed apps in other languages and for other platforms.

7 Leonard opined that Oracle’s damages expert offers a flawed analysis of the causal  
8 nexus between the alleged infringement and the gross revenues that Oracle has proffered for  
9 its disgorgement claim. Leonard then offered six methods for quantifying the amount of profits  
10 attributable to the alleged infringement. Finally, Leonard concluded that Oracle’s expert  
11 overstated Oracle’s lost profits.

12 Leonard offered six apportionment analyses in two broad categories. Leonard  
13 performed four bottom-up analyses, which “directly measur[ed] the profits contributed by the  
14 other factors, or the flip side of that, the profits contributed by the allegedly infringing  
15 material.” He also performed two top-down analyses, which determined “an apportionment  
16 percentage that represents the contributions of the other factors, or the flip side of that, the  
17 percentage that represents the contribution of the alleged infringement. The latter percentage is  
18 then applied to the overall profit figure.”

19 In his bottom-up analyses, Leonard considered Oracle’s position that the declaring code  
20 and SSO of 37 API packages contributed to Google’s Android-related profits by providing API  
21 functions in a manner that was familiar to Java programmers, which led to an increased number  
22 of apps available on the Android platform, and thus an increased number of users (which, in  
23 turn, generated increased revenue for Google via search and advertisements, app sales, digital  
24 media sales, and hardware sales) (Leonard Rpt. ¶ 96). Leonard evaluated four scenarios, each  
25 of which involved Google’s counterfactual substitution of a non-infringing alternative to the  
26 declaring code and SSO at issue herein.

27 In his first such analysis, Leonard assumed that Google could have used OpenJDK, an  
28 open-source implementation of various components of the Java platform, including the works

1 asserted herein, which could be licensed under the General Public License Version 2.0 with  
2 Classpath Exception from Oracle’s predecessor, Sun Microsystems, Inc. (and later from  
3 Oracle). (Issues regarding OpenJDK are detailed in a separate memorandum opinion.) Leonard  
4 concluded that Google could have realized identical revenue by implementing OpenJDK  
5 (inasmuch as the allegedly infringing code exists in identical form in OpenJDK), and the only  
6 difference would have been the additional cost of the implementation. He estimated that cost  
7 as \$85,000 (*id.* ¶¶ 175–78).

8 Leonard’s remaining bottom-up analyses all involved scenarios in which Google  
9 launched Android with an unfamiliar programming language in lieu of Java (and the declaring  
10 code and SSO associated with it). Leonard opined that Google could have realized the same  
11 revenues by either paying to train developers to use the new language until they reached the  
12 same level of familiarity as existed with Java or that it could have paid developers to build apps.  
13 He estimated that Google would need to spend approximately \$2 million to train developers  
14 to be sufficiently familiar with a new language, and he estimates that subsidies for app  
15 development would range from \$23 million to \$100 million. He concluded that if Google  
16 undertook those costs in lieu of its use of the allegedly infringing code, it could have realized  
17 the same revenues (*id.* ¶¶ 179–84).

18 Finally, Leonard considered a scenario in which Google did not provide developer  
19 training or subsidies as discussed above but instead launched Android with a smaller developer  
20 community (and, consequently, fewer apps and users). To evaluate that scenario, Leonard used  
21 an empirical model of smartphone demand as a function of the number of apps available on the  
22 platform. He also used that model to determine the percentage of Android users that would  
23 have switched to third-party Apple Inc.’s competing smartphone platform, iOS, if fewer  
24 apps were available. With that so-called “diversion ratio,” Leonard estimated the revenue  
25 that Google would have received from advertisements and search on iOS (pursuant to an  
26 agreement between Google and Apple). He concluded that, after accounting for the recaptured  
27 revenue from iOS, Google’s diminished profits would have been no more than \$203 million  
28 (*id.* ¶¶ 185–96).

1 Leonard’s two top-down approaches apportioned Google’s profits on a line-by-line basis  
2 without attributing any special weight to any lines of code. Leonard cited the report of  
3 Google’s technical expert as demonstrating a “lack of evidence that the 37 API packages at  
4 issue are unique or reflect a special level of programming ingenuity,” which he opined  
5 warranted an unweighted line-by-line apportionment (*id.* ¶¶ 198–99).

6 Leonard’s first analysis considered the percentage of the overall codebase for Android  
7 that comprises the allegedly infringing code (1.7%). He applies that percentage to his  
8 calculation of \$1.9 billion in advertising and search profits attributable to the Android platform  
9 to measure infringer’s profits of \$32 million (*id.* ¶¶ 200–01). His second analysis added  
10 the code for Google’s search and advertisement technology to the denominator before  
11 calculating the applicable percentage (0.4%). Leonard then applied that percentage to the  
12 overall Android-related profits (not apportioned to the platform contribution), resulting in an  
13 infringer’s profits figure of \$56 million.

14 Oracle now moves to exclude Leonard’s bottom-up disgorgement analyses to the extent  
15 they rely on non-infringing alternatives, and further, to the extent they rely on an “untested”  
16 econometric model. Oracle also seeks to exclude Leonard’s top-down analyses. Finally, Oracle  
17 seeks to exclude Leonard’s conclusions regarding Google’s claimed deduction of traffic  
18 acquisition costs.

19 The Court held more than eight hours of oral argument on the motions *in limine* directed  
20 at damages/disgorgement experts with the lion’s share of that time focused on Leonard’s (and  
21 the court-appointed expert’s) use of non-infringing alternatives in the context of disgorgement.  
22 The parties submitted multiple supplemental briefs on issues relating to non-infringing  
23 alternatives and the causal-nexus requirement.

#### 24 ANALYSIS

25 Oracle seeks to exclude three aspects of Leonard’s testimony. *First*, Oracle seeks to  
26 exclude any reliance on so-called “non-infringing alternatives” in his disgorgement analyses as  
27 well as any reliance on the econometric model. *Second*, Oracle seeks to exclude Leonard’s  
28 top-down analyses. *Finally*, Oracle seeks to exclude testimony regarding Leonard’s

1 understanding of Google’s accounting practices with regard to traffic acquisition costs.

2 This memorandum opinion addresses each argument in turn.

3 **1. NON-INFRINGEMENT ALTERNATIVES.**

4 Oracle contends that Leonard improperly relied on the analysis of counterfactual  
5 scenarios involving non-infringing alternatives in analyzing the apportionment and causal nexus  
6 issues with regard to disgorgement. A prior order summarily rejected the use of non-infringing  
7 alternatives in the context of disgorgement before the first trial in this action (Dkt. No. 632 at  
8 7):

9 Not acceptable, however, is allowing the existence of  
10 non-infringing alternatives to reduce recovery of wrongful profits.  
11 This is a distinct remedy for the purpose of *disgorgement*.  
12 Non-infringing alternatives have nothing to do with this.

13 As stated in the final pretrial order, the Court reaches the same conclusion and this  
14 memorandum opinion memorializes the reasons.

15 Section 504(b) of the 1976 Copyright Act provides two distinct remedies for copyright  
16 infringement — the copyright owner’s actual damages and disgorgement of the infringer’s  
17 profits attributable to the infringement, as follows:

18 The copyright owner is entitled to recover the actual damages  
19 suffered by him or her as a result of the infringement, and any  
20 profits of the infringer that are attributable to the infringement  
21 and are not taken into account in computing the actual damages.  
22 In establishing the infringer’s profits, the copyright owner is  
23 required to present proof only of the infringer’s gross revenue, and  
24 the infringer is required to prove his or her deductible expenses  
25 and the elements of profit attributable to factors other than the  
26 copyrighted work.

27 The remedy of disgorgement is available “to prevent the infringer from unfairly benefiting from  
28 a wrongful act.” H.R. Rep. 94-1476, § 504 at 161 (1976), *reprinted in* 1976 U.S.C.C.A.N.  
5659, 5777. The availability of this remedy “discourages infringement and encourages the  
would-be infringer to transact with the copyright owner rather than ‘steal’ the copyrighted  
work.” *Bucklew v. Hawkins, Ash, Baptie & Co., LLP.*, 329 F.3d 923, 931 (7th Cir. 2003)  
(citation omitted). Nevertheless, we must avoid the “certainly unjust course of giving the  
plaintiffs everything” by performing some reasonable approximation of apportionment of  
infringer’s profits. *Cream Records, Inc. v. Jos. Schlitz Brewing Co.*, 754 F.2d 826, 829 (9th Cir.

1 1985) (quoting *Sheldon v. Metro-Goldwyn Pictures Corp.*, 106 F.2d 45, 51 (2d Cir. 1939), *aff'd*,  
2 309 U.S. 390 (1940)).

3 Although apportionment only requires a reasonable approximation, any reasonable  
4 approximation must be based on a methodology that is tied to the goal of estimating the profits  
5 that Google actually earned due to its use of the allegedly infringing elements of Android.  
6 “Apportionment” based on non-infringing alternatives would allow an infringer to reduce his  
7 disgorgement to nothing more than the cost of a license, a fundamental contradiction to what  
8 Section 504(b) has in mind.

9 The idea behind Section 504(b) is to hand over to the copyright owner the actual profits  
10 made by the infringer using his copyrighted work. If a copyright infringer could avoid  
11 disgorgement by claiming he could have substituted some non-infringing alternative, the  
12 infringer would rarely be discouraged from infringing and the purpose of the disgorgement  
13 remedy would be eviscerated. Indeed, the remedy of disgorgement would rarely exceed the  
14 simple cost of a license (the clearest alternative to infringement), the recovery of which is  
15 already available to a copyright owner through the distinct remedy of actual damages. The law  
16 cannot be read to permit an infringer to short circuit the disgorgement analysis in this manner.

17 With his non-infringing alternative analyses, Leonard did not perform a reasonable  
18 approximation of Google’s apportioned profits. Instead, he approximated the *costs avoided* by  
19 the infringement. Implicit in his analysis was the assumption that the non-infringing  
20 alternatives could have had the same causal effect on Google’s profits as the accused elements,  
21 albeit at some greater cost. In other words, some, if not all, of the synergies from Google’s use  
22 of the declaring code and SSO from the 37 API packages at issue, could also have been  
23 achieved through the substitution of any of the non-infringing alternatives that Leonard  
24 considers. Leonard’s failure to award Oracle any of the profits attributable due to synergies  
25 with its copyrighted works is fatal to the admissibility of that portion of his testimony. Thus,  
26 Leonard’s non-infringing alternative analyses invite an approximation that is contrary to the  
27 law. Accordingly, for disgorgement, Google may not offer his testimony on non-infringing  
28 alternatives for the purpose of apportionment of infringer’s profits.

1 Nor may Google offer Leonard’s non-infringing alternatives analyses to rebut Oracle’s  
2 causal nexus theory. Leonard opines that non-infringing alternatives would have led to the  
3 same or similar Google revenues and thus contends that any causal link to the profits Oracle  
4 seeks is missing. Again, Leonard’s approach is at odds with the purpose of disgorgement,  
5 inasmuch as it fails to consider whether the accused elements of Android *in fact* had any causal  
6 link to the proffered revenues. The fact that all this controversy could have been avoided by  
7 taking a license ignores the actual way the controversy occurred.

8 In *Polar Bear*, our court of appeals considered whether a watch manufacturer’s  
9 unlicensed use of copyrighted promotional materials had a sufficient causal nexus to sales  
10 of watches. The manufacturer displayed those materials at its booths at trade shows and in a  
11 special promotional campaign. That use of the copyrighted materials had a sufficient causal  
12 connection to revenues from sales at trade shows and through the promotional campaign.

13 Although *Polar Bear* did not address the availability of non-infringing alternatives, it is  
14 obvious that the manufacturer could have used some non-infringing materials in its trade booths  
15 or in its promotional campaign, and those non-infringing materials could also have driven sales,  
16 albeit at a greater cost or with more limited success. But that is irrelevant; the question in *Polar*  
17 *Bear* was whether the infringing materials *in fact* generated sales.

18 Leonard’s analysis would make it nearly impossible to *ever* establish a causal nexus,  
19 inasmuch as one could almost always conceive of myriad non-infringing alternatives that,  
20 if substituted for the infringing elements of a work, could have caused similar revenues.  
21 Accordingly, Google may not offer Leonard’s non-infringing alternative analyses to rebut  
22 Oracle’s causal-nexus case, subject to one limited exception.

23 Google may offer the evidence of the availability and viability of OpenJDK in order to  
24 rebut Oracle’s argument that Google had *no choice* but to infringe in order to meet a limited  
25 window of opportunity to launch Android. Such an argument would not function to  
26 demonstrate that some substitute for the allegedly infringing code hypothetically could have  
27 caused the same revenue. Rather, it would offer real world facts to meet Oracle’s proffered  
28

1 theory of a causal link. Subject to that exception, however, Leonard may not offer his analyses  
2 of non-infringing alternatives.

3 The decision in *Computer Associates International v. Altai, Inc.*, 775 F. Supp. 544, 571  
4 (E.D.N.Y. 1991) (Judge George C. Pratt), *vacated in part on other grounds*, 982 F.2d 693 (2d  
5 Cir. 1992), rejected the use of non-infringing alternatives based on similar reasoning. There, a  
6 software developer copied elements of another's copyrighted software in its own program.  
7 The accused infringer's expert opined that the money it saved by using the infringing materials  
8 in developing its software constituted a substantial factor of the profits attributable to the  
9 infringement. Judge George C. Pratt (sitting by designation from the Second Circuit) rejected  
10 that opinion:

11 A basic flaw of the Grad opinion on Altai's profits is that it  
12 simply disregards the statute. Grad works from a premise of a  
13 hypothetical, infringement-free world and concludes that Altai's  
14 profits are represented by the money saved through developing  
15 OSCAR by infringement rather than by independent research, plus  
16 extra profits earned because Altai could deliver ZEKE/MVS into  
17 the marketplace three months earlier. This approach simply  
18 ignores the statutory purpose of the profits factor of damages,  
19 which is to deprive the infringer of any extra benefits it receives  
20 that are attributable to the forbidden conduct.

21 Google argues that *Altai* rejected the copyright owner's expert opinion for failing to  
22 address non-infringing alternatives, but Google fails to acknowledge that the discussion it relies  
23 on was in the context of lost profits, not disgorgement. Oracle does not challenge the  
24 availability of non-infringing alternatives analyses to meet its claim for lost profits, which is a  
25 different statutory measure of recovery under Section 504(b). The calculation of lost profits  
26 necessarily turns on thought experiments that consider what the world would look like if  
27 Google had not infringed. Thus, consistent with *Altai*, Google *may* offer testimony regarding  
28 non-infringing alternatives to meet Oracle's claim for lost profits (and similarly its claim of  
market harm in the context of the fourth fair use factor).

Notwithstanding the foregoing, Google cites several decisions for the proposition that  
non-infringing alternatives are regularly considered in connection with disgorgement of  
infringer's profits. None of its cited authorities is persuasive.



1           In *Frank Music Corp. v. Metro-Goldwyn-Meyer, Inc.*, 772 F.2d 505 (9th Cir. 1985), the  
2 copyright owner sought to recover the profits that the accused infringer realized from ticket  
3 sales for a ten-act musical revue. The accused infringer proffered evidence that it later removed  
4 the infringing act from the show and suffered no decrease in revenue. Thus, it contended that  
5 none of its profits could be attributed to the infringing act. Our court of appeals rejected that  
6 contention, inasmuch as the initial use of the infringing elements drove the show’s initial  
7 popularity, so some apportionment remained appropriate.

8           Google contends that *Frank Music* demonstrates that consideration of non-infringing  
9 alternatives may be acceptable, although the particular scenario in question therein was  
10 inappropriate. Not so. *Frank Music* considered the effect of the actual real-world effect of  
11 simply removing the infringing element. The decision did not address, as Leonard does here,  
12 the hypothetical effect of the substitution of an alternative non-infringing element.

13           In *Sermedjian v. McDougal Littell*, 641 F. Supp. 2d 233 (S.D.N.Y. 2009) (Judge  
14 Lawrence M. McKenna), the owner of a copyrighted image sought to recover a portion of the  
15 profits from sales of a textbook that used that image without permission. The accused  
16 infringer’s expert testified that “there exist[s] a large number of copyrighted images that are  
17 close substitutes for each other such that a given image, which is such a small portion of a  
18 whole textbook, is unlikely to increase demand for the textbook and therefore unlikely to cause  
19 profits to accrue to the publisher.” *Id.* at 242. That expert further testified “that if a given  
20 image causes any profits to accrue to the publisher, the profits would necessarily equal a  
21 reasonable license fee . . . .” *Ibid.*

22           Although the expert in *Sermedjian* did address the availability of alternatives in the  
23 context of disgorgement, he did so to lay the economic foundation for his conclusion that  
24 textbook publishers do not *in fact* derive profits from the inclusion of images in a textbook,  
25 regardless of infringement. He did not consider the counterfactual scenario of whether the  
26 accused infringer could have realized the same profits by using an alternative.

27           Perhaps Google will succeed in showing that it did not, in fact, derive any profit from  
28 its use of the declaring code and SSO of 37 API packages in question, but the availability of

1 non-infringing alternatives is not probative of the question of whether Google *in fact* derived  
2 profits from the inclusion of core API packages without regard to infringement. Thus,  
3 *Semerdjian* is not analogous.

4 Google also cites *Brocade Communications Systems Inc. v. A10 Networks, Inc.*,  
5 No. 10-3428, 2013 WL 831528 (N.D. Cal. Jan 10, 2013) (Judge Paul Grewal), as an example of  
6 a decision that considered the availability of non-infringing code in conducting a disgorgement  
7 analysis. There, the accused infringer offered evidence that “it could replace the infringing  
8 code with non-infringing code and maintain its sales, [so] the infringing code was not necessary  
9 for its sales.” *Id.* at \*6. Indeed, the accused infringer’s expert testified that the copyright  
10 owner’s recovery of infringer’s profits should be limited to the costs avoided due to the  
11 infringement.

12 Neither side challenged the admissibility of testimony regarding non-infringing  
13 alternatives in *Brocade*. Moreover, Judge Grewal upheld the jury’s award of substantially more  
14 in infringer’s profits than the costs avoided due to the infringement notwithstanding the  
15 evidence of non-infringing alternatives. Thus, the reference to non-infringing alternatives in  
16 *Brocade* is dictum, and as such it is unpersuasive.

17 In *Data General Corp. v. Grumman Systems Support Corp.*, 36 F.3d 1147, 1175 (1st  
18 Cir. 1994), *abrogated on other grounds by Reed Elsevier, Inc. v. Muchnick*, 559 U.S. 154, 160  
19 n.2 (2010), the owner of the rights to diagnostic software used in computer repairs sought  
20 disgorgement of the profits that a competitor earned through unlicensed use of the software.  
21 The accused infringer contended that some of its revenue was due to repair services that did not  
22 involve the copyrighted software at all. The copyright owner responded that consumers  
23 considered the availability of a full slate of services (including the availability of services based  
24 on the copyrighted software), so the alleged infringement had an indirect effect on the revenues  
25 from other services. The court of appeals held that the accused infringer could meet the  
26 copyright owner’s proffered causal link theory either by “attempt[ing] to show that consumers  
27 would have purchased its product even without the infringing element” or by “show[ing] that  
28 the existence and amount of its profits are not the natural and probable consequences of the

1 infringement alone . . . .” *Id.* at 1175. The accused infringer in *Data General* elected the  
2 second route. Google relies on *Data General* for its statement about the first route.

3 Notwithstanding that *Data General* offered no analysis concerning the accused  
4 infringer’s option to show that consumers would have purchased its product anyway, its facts  
5 are not analogous. Unlike *Data General*, here, Leonard’s non-infringing alternative analyses  
6 do not merely consider the profits Google would have received without infringing. Rather,  
7 Leonard considers whether Google could have *substituted* alternative elements that could have  
8 resulted in similar revenue. Thus, the limited discussion in *Data General* is simply inapposite.

9 In *Bonner v. Dawson*, 404 F.3d 290, 295 (4th Cir. 2005), a jury returned a verdict  
10 awarding the designer of a façade on a building no infringer’s profits. The court of appeals  
11 upheld the verdict on the basis that there was sufficient evidence that the profits from leasing  
12 the building were attributable to other elements of the building. Notably, a lessee testified that  
13 it would have wanted the building built and gone through with the lease “even if a different  
14 façade had been used,” because the lessee “was primarily concerned about the need for  
15 additional space, and that the focus was on the interior design and setup of the building.”

16 *Bonner* is irrelevant to Google’s argument because it simply did not involve a  
17 counterfactual. Instead, *Bonner* considered evidence that the infringing element *in fact* had no  
18 bearing on the profits. It was of no moment that there were other façades available.

19 In *Walker v. Forbes Inc.*, 28 F.3d 409 (4th Cir. 1994), the owner of a copyright in a  
20 photograph sought to recover portions of a magazine’s profits from advertising and from sales  
21 of the magazine, after the magazine used the photograph without permission. The magazine  
22 introduced testimony that “the article easily could have run without the inclusion of the  
23 [infringing] photo.” *Id.* at 411. The issue on appeal was whether evidence that the  
24 advertisements and subscriptions were both purchased *before* the infringement undermined  
25 the copyright owner’s disgorgement theory. That decision did not consider the propriety of  
26 the testimony regarding whether the article could have run without the infringing photograph.  
27 Moreover, *Walker* did not consider the availability of a *substitute* for the infringing photograph.  
28 Thus, *Walker* has no bearing on our case.

1 Finally, Google’s citation to *Bucklew*, 329 F.3d at 931–32, is inapposite, inasmuch as  
2 it only discussed non-infringing alternatives in the context of lost profits, not disgorgement.

3 Google has failed to provide any authority supporting its contention that Leonard’s  
4 non-infringing alternatives analyses are appropriate in the context of disgorgement. The  
5 disgorgement analysis must focus on the factual relationship between the infringing elements  
6 and the profits at issue without regard to whether some substitute could, in theory, have had the  
7 same effect at a greater cost.

8 Google may nevertheless offer evidence of non-infringing alternatives to meet Oracle’s  
9 claim for the profits it would have received absent infringement under Section 504(b).  
10 Moreover, as discussed in greater detail in the memorandum opinion addressing Oracle’s  
11 motion to exclude evidence of OpenJDK, Google may offer the specific non-infringing  
12 alternative of implementing OpenJDK to rebut Oracle’s argument that Google had no choice  
13 but to infringe in order to meet a limited window of opportunity, which Oracle offers as one  
14 element of its causal nexus case.

15 **2. KIM MODEL.**

16 In addition to challenging the legal propriety of Leonard’s non-infringing alternatives  
17 analysis, Oracle objects to his reliance on the econometric model detailed in the unpublished  
18 thesis paper of then PhD candidate Min Jung Kim. Kim considered data from 2010–12 to  
19 construct a discrete choice model to study demand for smartphone operating systems as a  
20 function of characteristics such as screen size, price, and expected utility from the apps  
21 available on that operating system. Leonard applied the Kim model to evaluate the diminished  
22 profits that Google would have realized had it launched Android with an unfamiliar  
23 programming language (and thus, according to Oracle’s theory of the case, with a smaller set of  
24 apps). He also used the model to determine the share of Android users that would have  
25 switched to Apple’s iOS in this hypothetical scenario, in order to evaluate the revenues Google  
26 could have recaptured from advertisements and search on iPhones.

27 Leonard offered some analysis based on the Kim model in his opening report, but he  
28 admitted at his deposition that his application of the model was incomplete, inasmuch as Kim

1 had omitted the value of an important parameter from her paper. Additionally, because app  
2 developers tend to keep sales totals secret, Kim could not construct her model based on direct  
3 observation of app sales. Rather, Kim applied a conversion formula to estimate app sales totals  
4 based on monthly popularity rankings and data regarding Internet searches for each app  
5 considered. Kim did not include her data in her paper.

6 After his deposition, Leonard and his team communicated with Kim, seeking both the  
7 value of the missing parameter and the data she relied on in constructing her model. Kim was  
8 slow to respond, and upon a follow-up request, a member of Leonard's team assured her that  
9 Leonard was "not going to replicate the analysis, but just going to calculate the counterfactual  
10 market shares of the operating systems if app utility is held to be zero" (Silverman Decl., Exh.  
11 28). After Kim continued to be unresponsive, Leonard's team abandoned the request for the  
12 data and focused solely on the missing parameter, which Kim eventually delivered.

13 At the hearing on this motion, our court-appointed damages expert, Dr. James Kearl,  
14 helped clarify the issues with Leonard's use of the Kim model. Kearl noted that economists  
15 frequently rely on well-estimated discrete choice models, but that it was surprising that Kim  
16 omitted a critical parameter from her paper. Moreover, Kearl noted that he would generally  
17 prefer to be able to test the sensitivity of the parameters of such a model in response to small  
18 changes, but such testing could not be performed because Kim did not rely on direct  
19 observations, but instead on a constructed data set that she failed to include in her paper  
20 or to provide upon request.

21 These irregularities are particularly troubling because Kim resides in Korea, and thus is  
22 not subject to the Court's subpoena power. Thus, Oracle been deprived of any opportunity to  
23 vet the underlying premises of Leonard's econometric analysis. These circumstances cast  
24 serious doubt on the reliability of the Kim model. Thus, Leonard may not offer any testimony  
25 that relies on the Kim model for any purpose.

### 26 **3. TOP-DOWN ANALYSES.**

27 Oracle moves to exclude Leonard's top-down analyses on the basis that he improperly  
28 assumed that the allegedly infringing code should be afforded no more weight than any other

1 code in Android. Oracle’s argument goes to a factual dispute regarding the accuracy of  
2 Leonard’s assumptions, rather than the admissibility of testimony based on such an assumption.  
3 Contrary to Oracle, Leonard’s assumption is not entirely refuted by the record. Although  
4 Oracle intends to present evidence that the allegedly infringing code constituted the “beating  
5 heart” of both Java and Android, there is competing evidence demonstrating the relative  
6 importance of the Linux kernel, the Dalvik virtual machine, and other non-infringing core  
7 libraries. Oracle has not persuaded the Court that Google’s evidence that the allegedly  
8 infringing code should not be afforded special weight is insufficient. Perhaps the Court will see  
9 it differently on a Rule 50 motion, but Leonard’s top-down analyses are admissible expert  
10 opinions.

#### 11 4. TRAFFIC ACQUISITION COSTS.

12 Finally, Oracle contends that Leonard double-counts traffic acquisition costs, which  
13 account for the portion of advertising revenue that Google pays to its partners in exchange for  
14 making Google the default search engine and for utilizing Google’s advertising services.  
15 Through 2010, Google reported advertising TAC on its profit and loss reports for Android.  
16 In 2011, Google adopted new accounting practices.

17 Google contends, and both Leonard and Kearn agree, that beginning in 2011, it reported  
18 Android advertising TAC as part of its company-wide advertising profit and loss statements and  
19 ceased reporting it on profit and loss statements specific to Android. Oracle disputes that  
20 contention, and responds that Google *also* reported Android-related TAC as part of its line-item  
21 for the cost of digital media sales in its Android profit and loss statements. Leonard includes  
22 both the cost of digital media sales and a portion of company-wide advertising TAC in his  
23 calculation of Google’s deductible expenses. Oracle contends that Leonard double counts  
24 Android-related TAC.

25 This is purely a factual dispute about Google’s accounting practices that should be  
26 resolved by the trier of fact, not by a motion *in limine*. Google will need to offer percipient  
27 witnesses to establish its own accounting practices, and Oracle will have the opportunity to  
28

1 cross-examine any such witnesses and offer its competing interpretation of Google's books.  
2 Accordingly, Google's motion to exclude Leonard's TAC analysis is **DENIED**.

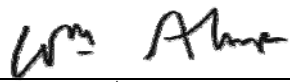
3 Oracle also filed a seventh motion *in limine*, which challenges Leonard's reliance in a  
4 reply report on a conversation with Jonathan Gold, Google's 30(b)(6) witness on financial  
5 matters, which conversation occurred after Leonard's deposition. Leonard spoke with Gold  
6 after his deposition in order to confirm his understanding of Google's TAC accounting, about  
7 which Leonard testified in his deposition and opined in his report of Google's TAC accounting.  
8 Oracle does not contend that Leonard's understanding shifted based on his conversation with  
9 Gold.

10 As with all other experts, Leonard's testimony on direct examination will be limited to  
11 the contents of his opening report. Nevertheless, Leonard may rely on his conversation with  
12 Gold on cross to respond to Oracle's insistence that both Leonard and Kearl have misinterpreted  
13 Google's books.

#### 14 CONCLUSION

15 For the reasons stated above, and as stated in the final pretrial order, Oracle's motion to  
16 exclude Leonard's testimony is **GRANTED IN PART AND DENIED IN PART**, and its motion  
17 directed at his reply report is **DENIED**. Leonard may not offer any non-infringing alternatives  
18 analysis in the context of disgorgement, except to the extent such opinion is relevant to rebut  
19 Oracle's contention that Google had no choice but to infringe in order to meet a limited window  
20 of opportunity. Leonard also may not offer any testimony based on the Kim model.

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22  
23 Dated: May 2, 2016.

  
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WILLIAM ALSUP  
UNITED STATES DISTRICT JUDGE