United States District Court
For the Northern District of California

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

IN RE: HIGH-TECH EMPLOYEE ANTITRUST LITIGATION THIS DOCUMENT RELATES TO: **ALL ACTIONS**	Case No.: 11-CV-02509-LHK ORDER GRANTING PLAINTIFFS' SUPPLEMENTAL MOTION FOR CLASS CERTIFICATION

Plaintiffs Michael Devine, Mark Fichtner, Siddharth Hariharan, Brandon Marshall, and Daniel Stover (collectively, "Plaintiffs"), individually and on behalf of a class of all those similarly situated, allege antitrust claims against their former employers, Adobe Systems Inc. ("Adobe"), Apple Inc. ("Apple"), Google Inc. ("Google"), Intel Corp. ("Intel"), Intuit Inc. ("Intuit"), Lucasfilm Ltd. ("Lucasfilm"), and Pixar (collectively, "Defendants"). Plaintiffs allege that Defendants conspired to suppress, and actually did suppress, employee compensation to artificially low levels by agreeing not to solicit each other's employees in violation of Section 1 of the Sherman Antitrust Act, 15 U.S.C. § 1, and Section 4 of the Clayton Antitrust Act, 15 U.S.C. § 15.

On April 5, 2013, the Court granted in part and denied in part Plaintiffs' Motion for Class Certification with leave to amend. *See* Apr. 5 Class Cert. Order, ECF No. 382. Currently before

the Court is Plaintiffs' Supplemental Motion for Class Certification. *See* Pls.' Suppl. Mot. Class. Cert. ("Suppl. Class Cert. Mot."), ECF No. 418. Defendants filed an opposition, *see* Defs.' Opp'n to Pls.' Suppl. Mot. Class Cert. ("Suppl. Opp'n"), ECF No. 439, and Plaintiffs filed a reply, Pls.' Reply Supp. Suppl. Mot. Class. Cert. ("Suppl. Reply"), ECF No. 455. The Court held a hearing on Plaintiffs' Supplemental Motion for Class Certification on August 8, 2013. *See* ECF No. 495. Having considered the parties' submissions, arguments, the relevant law, and the record in this case, the Court GRANTS Plaintiffs' Supplemental Motion for Class Certification and CERTIFIES Plaintiffs' proposed class of technical employees ("Technical Class").

I. BACKGROUND

A. Factual Background

1. The Parties

Defendants are leading high tech companies, each with a principal place of business in the San Francisco-Silicon Valley area of California. Apple is a market leader in consumer computer products and software. Defs.' Opp'n to Pls. Mot. Class. Cert. ("Opp'n") at 5, ECF No. 209. In 2011, Apple's total revenues exceeded $108 billion. *Id*. Google is the world's leading internet search provider. Report of Dr. Edward E. Leamer ("Leamer Rep.") ¶ 15, ECF No. 190. Google went public in 2004, and reached revenues of nearly $38 billion in 2011. *Id*. Intel is the world's largest semiconductor chip maker. *Id.* ¶ 16. In 2011, Intel earned approximately $54 billion. Adobe specializes in digital media and marketing software. *See id.* ¶ 13. In 2009, Adobe earned nearly $3 billion in revenues. *Id*. Intuit specializes in financial planning and tax preparation programs. Opp'n at 5. In 2011, the company's revenues exceeded $3.8 billion. Leamer Rep. ¶ 17. Lucasfilm is a film production company known for its computer animation expertise and for producing box office hits including the Star Wars films and the Indiana Jones franchise. *Id.* ¶ 18. Pixar is a leading computer animation film studio. *Id.* ¶ 19. In 2006, Walt Disney Productions acquired Pixar for approximately $7.4 billion. *Id*.

Named Plaintiffs are software engineers who were former employees of Defendants. Devine worked for Adobe in the State of Washington from October of 2006 to July of 2008. *See* Consolidated Amended Complaint ("CAC") ¶ 16, ECF No. 65; Decl. Ann B. Shaver in Supp. Pls.'

Mot. for Class Cert. ("Shaver Decl."), Ex. 6 ¶ 1, ECF No. 291. Fichtner worked for Intel in Arizona from July of 1993 through November of 2006 and again from May of 2008 through May of 2011. *See* CAC ¶ 17; Shaver Decl., Ex. 7 ¶ 1. Hariharan worked for Lucasfilm in California from January of 2007 through August of 2008. *See* CAC ¶ 18; Shaver Decl., Ex. 8 ¶ 1. Marshall worked for Adobe in California from July of 2006 through December of 2006. *See* CAC ¶ 19; Shaver Decl., Ex. 9 ¶ 1. Finally, Stover worked for Intuit in California from at least November of 2006 through December of 2009. *See* CAC ¶ 20; Shaver Decl., Ex. 10 ¶ 1.

2. Market for High Tech Employees

Plaintiffs assert that in a properly functioning and lawfully competitive labor market, each Defendant would compete for employees by soliciting current employees from one or more of the other Defendants. *See* CAC ¶ 41. This method of recruiting, to which Defendants refer as "cold calling," includes communicating directly in any manner—including orally, in writing, telephonically, or electronically—with another company's employee who has not otherwise applied for a job. *Id.*

Plaintiffs allege that cold calling is a key competitive tool that companies use to recruit employees, particularly high tech employees with advanced skills and abilities. *Id.* ¶ 45. Through recruiting employees from competitors, a company is able to take advantage of the efforts its rival has expended in soliciting, interviewing, and training skilled labor, while simultaneously inflicting a cost on the rival by removing an employee on whom the rival may depend. *Id.* ¶ 44.

Plaintiffs further contend that the use of cold calling among Defendants commonly increases total compensation and mobility for all of Defendants' employees. *See id.* ¶¶ 48, 50. Most directly, Plaintiffs allege that the practice of cold calling provides the recipient of a cold call with opportunities to secure higher wages either by switching to a rival company or by negotiating increased compensation with the recipient's current employer. *Id.* ¶ 46. Plaintiffs further allege that the compensation effects of cold calling are not limited to those individuals who receive the calls. Rather, Plaintiffs allege, the effects of cold calling (and the effects of eliminating cold calling) have a broader, common impact on Defendants' salaried employees, especially their technical employees. *Id.* ¶ 50.

3. Defendants' Alleged Conspiracy

Between approximately 2005 and 2009, Defendants Adobe, Apple, Google, Intel, Intuit, Lucasfilm, and Pixar allegedly engaged in an "overarching conspiracy" to eliminate competition among Defendants for skilled labor. *Id.* ¶ 55; *see also id.* ¶¶ 1, 2. The conspiracy consisted of an interconnected web of express bilateral agreements among Defendants to abstain from actively soliciting each other's employees. *Id.* ¶ 55.[1] Plaintiffs allege that each agreement involved a company under the control of Steve Jobs (Co-Founder, Former Chairman, and Former CEO of Apple) and/or a company that shared at least one director with Apple's Board of Directors. *Id.* ¶¶ 55, 57. Defendants memorialized these nearly identical agreements in CEO-to-CEO emails and other documents, including "Do Not Call" lists, thereby putting each Defendant's employees off-limits to other Defendants. Pls.' Mot. Class Cert. ("Class Cert. Mot.") at 1, ECF No. 187. Each bilateral agreement applied to all employees of a given pair of Defendants. *See* CAC ¶¶ 63, 76, 81, 88, 100, 105. These agreements were not limited by geography, job function, product group, or time period. Nor were they related to any specific business or other collaboration between Defendants. *Id.*

Plaintiffs allege that "Defendants entered into the express agreements and entered into the overarching conspiracy with knowledge of the other Defendants' participation, and with the intent of accomplishing the conspiracy's objective: to reduce employee compensation and mobility through eliminating competition for skilled labor." *Id.* ¶ 55. Plaintiffs also allege that Defendants' senior executives actively concealed each bilateral agreement and that Defendants' employees generally were not informed of, nor did they agree to, the terms of any of the agreements. *Id.* ¶¶ 55, 108.

B. Procedural Background

1. Department of Justice Investigation

From 2009 through 2010, the Antitrust Division of the United States Department of Justice ("DOJ") investigated Defendants' employment and recruitment practices. *Id.* ¶¶ 3, 111.

[1] The parties refer to these agreements as "Do Not Cold Call" agreements, anti-solicitation agreements, anti-poaching agreements, and anti-competitive agreements. In this Order, the Court refers to these agreements as "anti-solicitation agreements."

Following its investigation, the DOJ filed complaints in federal court against Defendants. *See United States v. Adobe Systems Inc.*, No. 10-1629, at 2 (D.D.C. Mar. 7, 2011) ("DOJ Adobe J."), ECF No. 79-1, Ex. A; *United States v. Lucasfilm, Inc.*, No. 10-2220, 2011 WL 2636850, at *1 (D.D.C. June 3, 2011) ("DOJ Lucasfilm J."), ECF No. 79-1, Ex. B. The DOJ also filed stipulated proposed final judgments in each case. *See* DOJ Adobe J.; DOJ Lucasfilm J. In these stipulated proposed final judgments, Defendants did not admit any wrongdoing or violation of law, but they agreed to be "enjoined from attempting to enter into, maintaining or enforcing any agreement with any other person or in any way refrain[ing] [from] . . . soliciting, cold calling, recruiting, or otherwise competing for employees of the other person." DOJ Adobe J. at 5; DOJ Lucasfilm J., at 4; CAC ¶ 115. The District Court for the District of Columbia entered the stipulated proposed final judgments on March 17, 2011, and June 3, 2011. *See* DOJ Adobe J. at 12; DOJ Lucasfilm J. at 1; CAC ¶ 115.[2]

2. The Instant Action

a. Removal, Case Consolidation, and Preliminary Motions

The five cases underlying this consolidated action were initially filed in California Superior Court. *Hariharan v. Adobe Sys. Inc.*, Case No. 11-CV-574066 (Alameda Super. Ct. filed May 4, 2011), ECF No. 1; *Marshall v. Adobe Sys. Inc.*, Case No. 11-CV-204052 (Santa Clara Super. Ct. filed June 28, 2011), ECF No. 43-2; *Devine v. Adobe Sys. Inc.*, Case No. 11-CV-204053 (Santa Clara Super. Ct. filed June 28, 2011), ECF No. 43-1; *Fichtner v. Adobe Sys. Inc.*, Case No. 11-CV-204187 (Santa Clara Super. Ct. filed June 30, 2011), ECF No. 43-3; *Stover v. Adobe Sys. Inc.*, Case No. 11-CV-205090 (Santa Clara Super. Ct. filed July 14, 2011), ECF No. 43-4.[3]

Defendants subsequently removed these five state court actions to the United States District Court for the Northern District of California. *Hariharan v. Adobe Sys. Inc.*, Case No. 11-2509 (removed May 23, 2011), *see* ECF No. 1; *Marshall v. Adobe Sys. Inc.*, Case No. 11-3538 (removed July 19, 2011), *see* ECF No. 41; *Devine v. Adobe Sys. Inc.*, Case No. 11-3539 (removed July 19,

[2] Under the provisions of Section 5(a) of the Clayton Act, 15 U.S.C. § 16(a), the proposed final judgment has no prima facie effect in any subsequent private lawsuit brought against Defendants.

[3] While the name of each Superior Court case listed only Adobe as the defendant, the complaints also named Apple, Google, Intel, Intuit, Lucasfilm, Pixar, and Does 1-200, as defendants.

2011), *see* ECF No. 41; *Fichtner v. Adobe Sys. Inc.*, Case No. 11-3540 (removed July 19, 2011), *see* ECF No. 41; and *Stover v. Adobe Sys. Inc.*, Case No. 11-3541 (removed July 19, 2011), *see* ECF No. 41. On June 1, 2011, the lead case, *Hariharan v. Adobe Systems Inc.*, was reassigned from Magistrate Judge Spero to Judge Armstrong. *See* ECF No. 24.

On July 19, 2011, Defendants collectively filed a motion to relate the five underlying actions. *See* ECF No. 41. In the Motion to Relate, Defendants stated that, "[b]ecause the cases involve substantially the same parties, events and allegations, and because it appears likely that there would be an unduly burdensome duplication of labor and expense or conflicting results if they were heard before different judges, Defendants believe they are related[.]" *Id*. at 3. Judge Armstrong granted the Motion to Relate on July 27, 2011. *See* ECF No. 52. On August 2, 2011, Plaintiff Siddharth Hariharan moved to transfer the related actions to the San Jose Division. *See* ECF No. 56. Judge Armstrong granted the Motion to Transfer on August 4, 2011. *See* ECF No. 58.

On August 5, 2011, the five related underlying actions were reassigned to the undersigned judge. *See* ECF No. 60. On September 6, 2011, the parties filed a joint stipulation to consolidate the individual cases to "avoid duplication and unnecessary costs, and . . . [to] promote the efficient conduct of proceedings." ECF No. 63 at 2. Pursuant to this joint stipulation, the Court consolidated the five underlying actions on September 12, 2011. *See* ECF No. 64. Plaintiffs filed the Consolidated Amended Complaint on September 13, 2011. *See* CAC.

Defendants filed a Joint Motion to Dismiss the CAC on October 13, 2011, *see* ECF No. 79, and, with leave of the Court, Lucasfilm filed its separate Motion to Dismiss on October 17, 2011, *see* ECF No. 83. Following a hearing on January 26, 2012, *see* ECF No. 108, the Court granted in part and denied in part Defendants' Joint Motion to Dismiss and denied Lucasfilm's Motion to Dismiss on April 18, 2012, *see* ECF No. 119.

b. Initial Motion for Class Certification

On October 1, 2012, Plaintiffs filed their Motion for Class Certification along with an expert report in support of the motion. *See* Class Cert. Mot.; Leamer Rep. In their class certification motion, Plaintiffs sought certification of an "All Employee" class, which included

every salaried employee throughout the United States who worked for Defendants between 2005 and 2009. Class Cert. Mot. at 1. Plaintiffs estimated that this class included more than 100,000 employees. *See id.* at 5. In the alternative, Plaintiffs sought certification of a more limited class of salaried technical, creative, and research and development employees ("Technical Class"). Class Cert. Mot. at 1.

On November 12, 2012, Defendants filed their Opposition to Plaintiffs' Motion for Class Certification, *see* Opp'n, as well as a Motion to Strike the expert report and declarations submitted by Plaintiffs, *see* ECF No. 210. Plaintiffs then filed their Consolidated Reply in Support of Class Certification and in Opposition to the Motion to Strike on December 10, 2012. Pls.' Consol. Reply in Supp. of Mot. ("Reply"), ECF No. 247. On January 9, 2013, Defendants filed a Joint Administrative Motion for Leave to Supplement the Record in Support of Defendants' Opposition to Class Certification, *see* ECF No. 263, to which Plaintiffs filed an opposition, *see* ECF No. 270. The Court held a hearing on Plaintiffs' Motion for Class Certification on January 17, 2013. *See* ECF No. 282.

On April 5, 2013, the Court granted in part and denied in part Plaintiffs' Motion for Class Certification with leave to amend. *See* Apr. 5 Class Cert. Order. Specifically, the Court declined to certify the class, but it did confirm as final the Court's prior interim appointment of Lieff, Cabraser, Heimann & Bernstein, LLP, and the Joseph Saveri Law Firm as Co-Lead Counsel and appointed as Class Counsel the law firms that had served on the Executive Committee, Berger & Montague, P.A. and Grant & Eisenhofer, P.A. *Id.* at 47. The Court recognized that these firms have vigorously prosecuted this action and will continue to do so. *Id.*

The Court further denied Defendants' Motion to Strike and granted in part and denied in part Plaintiffs' request to strike Defendants' expert report and certain employee declarations. *Id.* at 49-52. Finally, the Court denied Defendants' Joint Administrative Motion for Leave to Supplement the Record in Support of Defendants' Opposition to Class Certification. *Id.* at 52.

In granting in part and denying in part Plaintiffs' Motion for Class Certification, the Court first noted that Defendants did not dispute Plaintiffs' assertion that both of the proposed classes satisfied the requirements of Rule 23(a): numerosity, commonality, typicality, and adequacy of

representation. *Id.* at 9 (citing Class Cert. Mot. at 4-6; Tr. of Jan. 17, 2013 Class Cert H'rg ("Jan. 17 Tr.") at 5:10-15, ECF No. 321). As such, the Court focused its analysis on whether Plaintiffs' proposed classes satisfied Rule 23(b)(3)'s requirement that common questions predominate. In so doing, the Court found that "the adjudication of Defendants' alleged antitrust violation will turn on overwhelmingly common legal and factual issues." *Id.* at 13. In addition, the Court found that Plaintiffs satisfied their Rule 23(b)(3) burden on the issue of the predominance of common issues with respect to damages. *Id.* at 44.

However, the Court could not find, based on the evidence available to Plaintiffs at the time of the initial Class Certification Motion, that Plaintiffs adequately demonstrated that common issues with regard to the impact of the alleged violation on members of the All Employee Class or Technical Class would predominate under Rule 23(b)(3). *Id.* at 44-45. Although Plaintiffs' documentary evidence weighed "heavily in favor of finding that common issues predominate over individual ones for the purpose of being able to prove antitrust impact," the Court expressed concern that Plaintiffs' examples—such as email exchanges between CEOs and discrete human resources documents from certain Defendants in particular years—might not be sufficient. *See id.* at 33. The Court found that Plaintiffs might need "additional [documentary] support or empirical analysis" to demonstrate that common evidence could be used to prove that all or nearly all 100,000 members of the All Employee Class were affected by the anti-solicitation agreements. *See id.* In particular, the Court found that additional documentary support or empirical analysis would be important to assure the Court that common issues predominated over individual issues given that Defendants contested many of the factual bases of Plaintiffs' theories of harm and actively criticized the reliability, admissibility, and persuasiveness of Plaintiffs' statistical analyses. *Id.* The Court also questioned whether Plaintiffs' All Employee Class was overly broad and noted that Plaintiffs' initial Motion for Class Certification provided little discussion or analysis to support certifying Plaintiffs' more limited Technical Class over the All Employee Class. *See id.* at 29.

The Court afforded Plaintiffs leave to amend to address the Court's concerns. *See id.* at 52. In so doing, the Court made clear that it was keenly aware that Defendants had failed to produce significant amounts of discovery or make key witnesses available for depositions until after the

hearing on Plaintiffs' Motion for Class Certification. *Id.* at 47. The Court noted that Defendants' failure to produce documents and witnesses hindered Plaintiffs' efforts to demonstrate that their proposed classes satisfied the Rule 23 requirements. *Id.*

On May 10, 2013, Plaintiffs filed their Supplemental Motion for Class Certification, which focuses on demonstrating that common issues predominate for the purpose of satisfying the requirements of Rule 23(b)(3) with respect to the Technical Class. Suppl. Class Cert. Mot. at 2. In the Supplemental Motion, Plaintiffs specifically address the Court's concerns regarding the evidence of predominance with respect to the impact of the antitrust violation on all or nearly all of the Technical Class. *See id.* at 22-25. Defendants filed their Opposition to Plaintiffs' Supplemental Motion for Class Certification on June 21, 2013. *See* Suppl. Opp'n. Plaintiffs then filed their Reply in support of their Supplemental Motion for Class Certification on July 12, 2013. Suppl. Reply. Subsequently, Defendants filed objections to certain evidence in Plaintiffs' Reply. ECF No. 469. Plaintiffs then filed a motion to enforce Local Rule 7-3(d)(1) and to strike Defendants' improper Sur Reply, ECF No. 479, to which Defendants filed an Opposition, ECF No. 485.[4] The parties have filed various motions for leave to file statements of recent decisions while the Supplemental Motion for Class Certification has been pending before this Court. ECF Nos. 491, 496, 498, 499, 505.

On July 12, 2013, Plaintiffs' Co-Lead Class Counsel filed a letter informing the Court that Plaintiffs and Defendants Pixar and Lucasfilm Ltd. reached an agreement to settle all individual and class claims alleged in the CAC on behalf of Plaintiffs' proposed Technical Class. *See* ECF No. 453. On July 30, 2013, Plaintiffs' Co-Lead Counsel filed a similar letter informing the Court

[4] The Court GRANTS IN PART and DENIES IN PART Defendants' Objections to Evidence in Pls.' Reply Supp. Suppl. Class Cert., ECF No. 469. The Court GRANTS Defendants' Motion to Strike Ms. Sandberg's declaration as improper. *Id.* (citing *Contratto v. Ethicon*, 227 F.R.D. 304, 308 n.5 (N.D. Cal. 2005) (striking witness declaration because it was an "attempt to introduce new evidence in connection with their reply papers.")). The Court DENIES Defendants' request to supplement the record as to the deposition testimony of Dr. Murphy. All of the excerpts to which Defendants cite were properly submitted to the Court by Plaintiffs. Defendants' request constitutes impermissible "further argument on the motion." Civ. L. R. 7-3(d)(1). The Court GRANTS Defendants' request to supplement the record as to the deposition testimony of Dr. Shaw as the excerpts to which Defendants cite were not submitted by Plaintiffs, and thus may be provided to complete the record. The Court DENIES Defendants' request to strike Dr. Leamer's analyses regarding salary ranges because it is proper rebuttal analysis. The Court GRANTS Defendants' request to strike Dr. Leamer's "superadditive" theory in his rebuttal report.

that Plaintiffs and Defendant Intuit also reached an agreement to settle all individual and class claims alleged in the CAC on behalf of Plaintiffs' proposed Technical Class. *See* ECF No. 489. On September 21, 2013, Plaintiffs and Defendants Pixar, Lucasfilm, and Intuit filed a Motion for Preliminary Approval of Class Settlement. ECF No. 501. That motion is pending before this Court. Due to the settlements, Plaintiffs now only seek certification of a class for litigation purposes against Defendants Adobe, Apple, Google, and Intel. *See* Suppl. Reply at 1 n.1.

Nonetheless, all parties agree that the settlements do not have any impact on Plaintiffs' Supplemental Motion for Class Certification. *See* Pls.' Br. Re Impact of the Proposed Settlement on Pls.' Suppl. Mot. Class Cert., ECF No. 483 (noting that the settlements "preserve[] Plaintiffs' right to litigate against the non-settling Defendants for the entire amount of Plaintiffs' damages based on joint and several liability under the antitrust laws."); Defs.' Joint Br. Re the Impact of the Proposed Pixar and Lucasfilm Settlements on the Suppl. Class Cert. Mot., ECF No. 484 ("Plaintiffs agree that these proposed settlements have no effect on the pending motion for certification of the Technical Class."). Generally, the same Rule 23 standard applies for certification of a proposed class, whether for litigation or settlement purposes. *See Amchem Prod., Inc. v. Windsor*, 521 U.S. 591, 619 (1997); *Hanlon v. Chrysler Corp.*, 150 F.3d 1011, 1019-23 (9th Cir. 1999).

II. PROPOSED CLASS DEFINITION

Named Plaintiffs now seek to certify only a nationwide class of salaried technical, creative, and research and development employees who worked for any Defendant while that Defendant participated in at least one anti-solicitation agreement with another Defendant. Thus, Plaintiffs bring before the Court a proposed class "comprising those technical employees whose work contributed to Defendants' core business functions, whom the Defendants heavily recruited and jealously guarded, and who appear at the very crux of Defendants' conspiracy and this case." Suppl. Mot. at 2. Specifically, Plaintiffs seek to certify a Technical Class defined as follows:

> All natural persons who work in the technical, creative, and/or research and development fields that are employed on a salaried basis in the United States by one or more of the following: (a) Apple from March 2005 through December 2009; (b) Adobe from May 2005 through December 2009; (c) Google from March 2005 through December 2009; (d) Intel from March 2005 through December 2009; (e) Intuit from June 2007 through December 2009; (f) Lucasfilm from January 2005

> through December 2009; or (g) Pixar from January 2005 through December 2009. Excluded from the Class are: retail employees; corporate officers, members of the boards of directors, and senior executives of all Defendants.

Id. at iii.[5]

The proposed Technical Class consists of job titles identified in Appendix B to the Leamer Report, ECF No. 190, including: (1) Software Engineers, (2) Hardware Engineers and Component Designers, (3) Application Developers, (4) Programmers, (5) Product Developers, (6) User Interface or User Experience Designers, (7) Quality Analysts, (8) Research and Development, (9) Animators, Digital Artists, Creative Directors and Technical Editors, (10) Graphic Designers and Graphic Artists, (11) Web Developers, (12) IT Professionals, (13) Systems Engineers and Administrators, and (14) employees classified as technical professionals by their employers. *See* Leamer Rep., App. B, ¶ 155. Plaintiffs believe that this proposed class includes more than 50,000 people. Class Cert. Mot. at 5.

III. LEGAL STANDARD

Class actions are governed by Rule 23 of the Federal Rules of Civil Procedure. Rule 23 does not set forth a mere pleading standard. To obtain class certification, Plaintiffs bear the burden of showing that they have met each of the four requirements of Rule 23(a) and at least one subsection of Rule 23(b). *Zinser v. Accufix Research Inst., Inc.*, 253 F.3d 1180, 1186, *amended by* 273 F.3d 1266 (9th Cir. 2001). "A party seeking class certification must affirmatively demonstrate . . . compliance with the Rule." *Wal-Mart Stores, Inc. v. Dukes*, 131 S. Ct. 2541, 2551 (2011).

Rule 23(a) provides that a district court may certify a class only if: "(1) the class is so numerous that joinder of all members is impracticable; (2) there are questions of law or fact common to the class; (3) the claims or defenses of the representative parties are typical of the claims or defenses of the class; and (4) the representative parties will fairly and adequately protect the interests of the class." Fed. R. Civ. P. 23(a). That is, the class must satisfy the requirements of numerosity, commonality, typicality, and adequacy of representation to maintain a class action.

[5] As discussed above, in the initial Motion for Class Certification, Plaintiffs also sought to certify an "All Employee Class" consisting of more than 100,000 employees. Class Cert. Mot. at 1. The Court denied certification of both the All Employee and Technical classes without prejudice. Plaintiffs have, in their Supplemental Motion, moved to certify only the Technical Class. Accordingly, this Order pertains only to that Class.

Mazza v. Am. Honda Motor Co., Inc., 666 F.3d 581, 588 (9th Cir. 2012). Further, while Rule 23(a) is silent as to whether the class must be ascertainable, courts have held that the Rule implies this requirement as well. *See, e.g.*, *Herrera v. LCS Fin. Servs. Corp.*, 274 F.R.D. 666, 672 (N.D. Cal. 2011).

If all four prerequisites of Rule 23(a) are satisfied, a court must also find that Plaintiffs "satisfy through evidentiary proof" at least one of the three subsections of Rule 23(b). *Comcast Corp. v. Behrend*, 133 S. Ct. 1426, 1432 (2013). Rule 23(b) sets forth three general types of class actions. A class may be certified under Rule 23(b)(1) upon a showing that there is a risk of substantial prejudice or inconsistent adjudications from separate actions. Fed. R. Civ. P. 23(b)(1). A class may be certified under Rule 23(b)(2) if "the party opposing the class has acted or refused to act on grounds that apply generally to the class, so that final injunctive relief or corresponding declaratory relief is appropriate respecting the class as a whole." Fed. R. Civ. P. 23(b)(2). Finally, a class may be certified under Rule 23(b)(3) if a court finds that "questions of law or fact common to class members predominate over any questions affecting only individual members, and that a class action is superior to other available methods for fairly and efficiently adjudicating the controversy." Fed. R. Civ. P. 23(b)(3).

"[A] court's class-certification analysis must be 'rigorous' and may 'entail some overlap with the merits of the plaintiff's underlying claim.'" *Amgen Inc. v. Conn. Ret. Plans and Trust Funds*, 133 S. Ct. 1184, 1194 (2013) (quoting *Dukes*, 131 S. Ct. at 2551); *see also Mazza*, 666 F.3d at 588 ("'Before certifying a class, the trial court must conduct a 'rigorous analysis' to determine whether the party seeking certification has met the prerequisites of Rule 23.'" (quoting *Zinser*, 253 F.3d at 1186)). This "rigorous" analysis applies to both Rule 23(a) and Rule 23(b). *Comcast*, 133 S. Ct. at 1432 (discussing how Congress included "addition[al] . . . procedural safeguards for (b)(3) class members beyond those provided for (b)(1) or (b)(2) class members (*e.g.*, an opportunity to opt out)" and how a court has a "duty to take a 'close look' at whether common questions predominate over individual ones").

Nevertheless, "Rule 23 grants courts no license to engage in free-ranging merits inquiries at the certification stage." *Amgen*, 133 S.Ct. at 1194-95. "Merits questions may be considered to the

extent—but only to the extent—that they are relevant to determining whether the Rule 23 prerequisites for class certification are satisfied." *Id*. at 1195. If a court concludes that the moving party has met its burden of proof, then the court has broad discretion to certify the class. *Zinser*, 253 F.3d at 1186.

IV. DISCUSSION

The Supreme Court has long recognized that class actions serve a valuable role in the enforcement of antitrust laws. As the Supreme Court stated in *Hawaii v. Standard Oil Co.*, 405 U.S. 251, 262 (1972), "[e]very violation of the antitrust laws is a blow to the free-enterprise system envisaged by Congress. This system depends on strong competition for its health and vigor, and strong competition depends, in turn, on compliance with antitrust legislation." *See also N. Pac. Ry. Co. v. United States*, 356 U.S. 1, 4 (1958) ("The Sherman Act was designed to be a comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade. It rests on the premise that the unrestrained interaction of competitive forces will yield the best allocation of our economic resources . . . while at the same time providing an environment conductive [sic] to the preservation of our democratic political and social institutions.").

Thus, to "open[] the door of justice" to individuals harmed by antitrust violations while at the same time penalizing antitrust violators, Congress chose to allow individuals to serve as private attorneys general in antitrust actions and to recover treble damages for their injuries. *See Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc.*, 429 U.S. 477, 486 n.10 (1977) (citing the initial Congressional debates concerning the Clayton Act's damages provisions as evidence that the sponsors saw treble damages both as a means of "giv(ing) the injured party ample damages for the wrong suffered" and "as an important means of enforcing the law"); *see also Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 130-31 (1969) ("The purpose of giving private parties treble-damage and injunctive remedies was not merely to provide private relief, but was to serve as well the high purpose of enforcing the antitrust laws."). As the Supreme Court noted in *Reiter v. Sonotone Corp.*, 442 U.S. 330, 344 (1979), "[t]hese private suits provide a significant supplement to the limited resources available to the Department of Justice for enforcing the antitrust laws and deterring violations."

Plaintiffs allege that Defendants entered into an "overarching conspiracy" to suppress employee compensation to artificially low levels. CAC ¶ 55. According to Plaintiffs, Defendants' agreements restrained trade and were thus per se unlawful under Section 1 of the Sherman Antitrust Act. *Id.* ¶ 2; Class Cert. Mot. at 1; *see* 15 U.S.C. § 1 ("Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal."); *see also Rebel Oil Co. v. Atl. Richfield Co.*, 51 F.3d 1421, 1431 (9th Cir. 1995) (explaining that Section 4 of the Clayton Act allows private parties to sue antitrust violators for damages).

Plaintiffs contend that, although the DOJ ultimately put an end to Defendants' illegal agreements, the government was unable to compensate the victims of the conspiracy. Plaintiffs now bring this case as private attorneys general "to pick up where the DOJ left off, to seek damages for themselves and for the Class." Class Cert. Mot. at 1.

A. Rule 23(a) and Class Representatives

Plaintiffs assert that their proposed Technical Class satisfies the elements of Rule 23(a): numerosity, commonality, typicality, and adequacy of representation. Class Cert. Mot. at 4-6; *see* Fed. R. Civ. P. 23(a). Defendants do not contest that Plaintiffs have satisfied these requirements. *See* Jan. 17 Tr. at 5:10-15. Nevertheless, the Court addresses each in turn.

First, the Court finds that Plaintiffs have satisfied Rule 23(a)(1)'s numerosity requirement. Pursuant to Rule 23(a)(1), Plaintiffs must show that "the class is so numerous that joinder of all members is impracticable." Fed. R. Civ. P. 23(a)(1). Plaintiffs need not state the exact number of potential class members, nor is there a bright-line minimum threshold requirement. *In re Rubber Chems. Antitrust Litig.*, 232 F.R.D. 346, 350-51 (N.D. Cal. 2005). Rather, the Court must examine the specific facts of each case. *Gen. Tel. Co. v. EEOC*, 446 U.S. 318, 330 (1980). In this case, the parties agree that the Technical Class includes approximately 60,000 employees. *See* Class Cert. Mot. at 5; Opp'n at 4. The Court finds joinder of all members of this proposed class to be impracticable. Thus, the numerosity requirement is satisfied. *See* Fed. R. Civ. P. 23(a)(1).

Second, the Court finds that Plaintiffs have satisfied Rule 23(a)(2)'s commonality requirement. Rule 23(a)(2) requires that "there are questions of law or fact common to the class."

Dukes, 131 S. Ct. at 2250-51. To satisfy the commonality requirement, Plaintiffs must show that the class members have suffered "the same injury," meaning that class members' claims must "depend upon a common contention" of such a nature that "determination of its truth or falsity will resolve an issue that is central to the validity of each [claim] in one stroke." *Id.* at 2551 (internal quotation marks and citation omitted). Plaintiffs must demonstrate not merely the existence of a common question, but rather "the capacity of a classwide proceeding to generate common *answers* apt to drive the resolution of the litigation." *Id.* (internal quotation marks omitted) (emphasis in original). Nevertheless, "for purposes of Rule 23(a)(2), '[e]ven a single [common] question' will do." *Id.* at 2556 (internal punctuation and citations omitted).

"Where an antitrust conspiracy has been alleged, courts have consistently held that 'the very nature of a conspiracy antitrust action compels a finding that common questions of law and fact exist.'" *In re TFT-LCD (Flat Panel) Antitrust Litig.*, 267 F.R.D. 583, 593 (N.D. Cal. 2010), *amended in part by* No. 07-1827, 2011 WL 3268649 (N.D. Cal. July 28, 2011) (quoting *In re Dynamic Random Access Memory (DRAM) Antitrust Litig.*, No. 02-1486, 2006 WL 1530166, at *3 (N.D. Cal. June 5, 2006)). Antitrust liability alone constitutes a common question that "will resolve an issue that is central to the validity" of each class member's claim "in one stroke," *Dukes*, 131 S. Ct. at 2551, "because proof of an alleged conspiracy will focus on defendants' conduct and not on the conduct of individual class members." *In re TFT-LCD (Flat Panel) Antitrust Litig.*, 267 F.R.D. at 310 (citing cases). Indeed, the Court has already found that "the adjudication of Defendants' alleged antitrust violation will turn on overwhelmingly common legal and factual issues." Apr. 5 Class Cert. Order at 13. Moreover, Defendants do not dispute that there are some common issues of law and fact. *See* Jan. 17 Tr. at 18:2-8. Because Plaintiffs have demonstrated the existence of at least one common question capable of generating a common answer (antitrust liability), the Court finds that the proposed class meets the commonality requirement of Rule 23(a)(2).

Third, the Court finds that Plaintiffs have satisfied Rule 23(a)(3)'s typicality requirement. Under the "permissive standards" of Rule 23(a)(3), "representative claims are 'typical' if they are reasonably co-extensive with those of absent class members; they need not be substantially

identical." *Hanlon*, 150 F.3d at 1020; *accord Staton v. Boeing Inc.*, 327 F.3d 938, 957 (9th Cir. 2003). "The test of typicality is whether other members have the same or similar injury, whether the action is based on conduct which is not unique to the named plaintiffs, and whether other class members have been injured by the same course of conduct." *Hanon v. Dataproducts Corp.*, 976 F.2d 497, 508 (9th Cir. 1992) (internal quotation marks and citation omitted). The purpose of the typicality requirement is to assure that the interests of the named representative align with the interests of the class. *See Ellis v. Costco Wholesale Corp.*, 657 F.3d 970, 984-85 (9th Cir. 2011). In antitrust cases, "typicality usually 'will be established by plaintiffs and all class members alleging the same antitrust violations by defendants.'" *Pecover v. Elec. Arts, Inc.*, No. 08-2820, 2010 WL 8742757, at *11 (N.D. Cal. Dec. 21, 2010) (quoting *In re Playmobil Antitrust Litig.*, 35 F. Supp. 2d 231, 241 (E.D.N.Y. 1998)). In this case, all class members, regardless of their individual employers, allege the same injuries arising from common conduct: suppression of compensation due to Defendants' anti-solicitation agreements. *See* Aug. 8, 2013 Class Cert. Hr'g Tr. ("Aug. 8 Tr.") at 19:11-14, ECF No. 494 ("We're alleging a single violation of the Sherman Act, a single conspiracy . . . ."). Accordingly, the Court finds that the named Plaintiffs' interests align with the interests of the class, and the typicality requirement of Rule 23(a)(3) is satisfied.[6]

Finally, the Court finds that Plaintiffs satisfy Rule 23(a)(4)'s adequacy requirement. Legal adequacy of a class representative under Rule 23(a)(4) turns on two inquiries: (1) whether named plaintiffs and their counsel have "any conflicts of interest with other class members," and (2) whether named plaintiffs and their counsel will "prosecute the action vigorously on behalf of the class." *Hanlon*, 150 F.3d at 1020. As stated previously, the named Plaintiffs and Technical Class members share an interest in proving that Defendants' conduct violated the antitrust laws and

[6] At the August 8 hearing on the Supplemental Motion for Class Certification, the Court expressed concern regarding whether Hariharan, a former employee of Lucasfilm, could satisfy the typicality requirement given that Lucasfilm recently reached a settlement agreement with Plaintiffs. The Court is persuaded that Hariharan still satisfies the typicality requirement because he continues to have an active antitrust claim against the remaining members of the conspiracy. *See* Aug. 8 Tr. at 21:15-23 ([T]he people who worked for the settled companies during the class period still have active claims against the other members of the conspiracy because . . . all of the members of the combination conspiracy . . . are liable for one another's conduct."); *see also In re TFT-LCD (Flat Panel) Antitrust Litig.*, 267 F.R.D. 594 ("[A] conspirator is jointly liable for everything done during the period of the conspiracy's existence.").

suppressed their compensation. In addition, the named Plaintiffs do not have any conflicts of interest with class members. Shaver Decl. Ex. 6 ¶¶ 5-6; *id.*, Ex. 7 ¶¶ 5-6; *id.*, Ex. 8 ¶¶ 5-6; *id.*, Ex. 9 ¶¶ 5-6; *id.*, Ex. 10 ¶¶ 5-6. Thus, the Court finds that the Plaintiffs' proposed Technical Class satisfies the adequacy requirement.

In addition to the four requirements explicitly provided in Rule 23(a), courts have held that Rule 23(a) also implicitly requires that the class be ascertainable. *See, e.g.*, *Herrera*, 274 F.R.D. at 672. A class definition is sufficient if the description of the class is "definite enough so that it is administratively feasible for a court to ascertain whether an individual is a member." *O'Connor v. Boeing N. Am. Inc.*, 184 F.R.D. 311, 319 (C.D. Cal. 1998) (internal citation omitted). In addition, "the court must be able to [determine that] class members are included or excluded from the class by reference to objective criteria." 5 James W. Moore, *Moore's Federal Practice*, § 23.21[3] (Matthew Bender 3d ed.).

Here, Plaintiffs' proposed Technical Class consists of the job titles identified in Appendix B to the Leamer Report, as discussed above. *See* Leamer Rep., App. B. Dr. Leamer selected these job titles based on Defendants' own employment compensation data, which breaks jobs into creative, technical, and research and development "job families." *Id.* Kevin F. Hallock, a labor economist and expert in compensation structure and design, reviewed the titles included in the proposed "Technical Class" and confirmed the titles selected for inclusion in the Technical Class in light of Defendants' job families for technical workers. *See* Report of Kevin F. Hallock ("Hallock Rep.") ¶¶ 241-44, ECF No. 417. In addition, within the proposed Technical Class, Plaintiffs seek to include only employees who filled these job titles at Defendants' companies within a fixed period of time (2005 to 2009 for all Defendants except Intuit, 2007 to 2009 for Intuit). Thus, the Court finds that the class definition is ascertainable.

Having undertaken a "'rigorous analysis' to determine whether the party seeking certification has met the prerequisites of Rule 23," *Mazza*, 666 F.3d at 588, the Court finds that Plaintiffs' proposed Technical Class satisfies the numerosity, commonality, typicality, and adequacy requirements. In addition, the Court finds that Plaintiffs' proposed Technical Class is ascertainable. Thus, Plaintiffs have satisfied the requirements set forth by Rule 23(a).

Further, because the named Plaintiffs and Class members share an interest in proving that Defendants' conduct violated the antitrust laws and suppressed their compensation and do not have any conflicts of interest, the Court now GRANTS Plaintiffs' request to appoint Michael Devine, Mark Fichtner, Siddharth Hariharan, Brandon Marshall, and Daniel Stover as class representatives.

B. Rule 23(b)(3): Predominance

Plaintiffs also contend that their proposed Technical Class satisfies the requirements of Rule 23(b)(3). Defendants disagree. Specifically, Defendants argue that Plaintiffs' proposed class does not satisfy Rule 23(b)(3)'s predominance requirement because neither antitrust impact nor damages can be proven on a classwide basis. Opp'n at 11; Suppl. Opp'n at 3-4. For the reasons discussed below, the Court finds that questions common to the class are likely to predominate over any individual questions.

The predominance analysis focuses on "the legal or factual questions that qualify each class member's case as a genuine controversy" to determine "whether proposed classes are sufficiently cohesive to warrant adjudication by representation." *Amchen Prods.*, 521 U.S. at 623; *see also* Fed. R. Civ. P. 23(b)(3) (holding that, to certify a class, the court must find that "questions of law *or* fact common to class members predominate over any questions affecting only individual members" (emphasis added)).

"Considering whether questions of law or fact common to class members predominate begins . . . with the elements of the underlying causes of action." *Erica P. John Fund, Inc. v. Halliburton Co.*, 131 S. Ct. 2179, 2184 (2011). A court must analyze these elements to "determine which are subject to common proof and which are subject to individualized proof." *In re TFT-LCD (Flat Panel) Antitrust Litig.*, 267 F.R.D. at 311-13.

In this case, Plaintiffs allege a violation of Section 1 of the Sherman Antitrust Act, 15 U.S.C. § 1, and Section 4 of the Clayton Antitrust Act, 15 U.S.C. § 15. *See* CAC ¶¶ 119-135; Class Cert. Mot. at 1. "[T]o establish an antitrust claim, plaintiffs typically must prove (1) a violation of antitrust laws, (2) an injury they suffered as a result of that violation, and (3) an estimated measure of damages." *In re New Motor Vehicles Canadian Export Antitrust Litigation ("In re New Motors")*, 522 F.3d 6, 19 n.18 (1st Cir. 2008).

Before the Court discusses whether common questions predominate with regard to each of these elements, the Court notes that the legal standards with respect to the predominance inquiry are not altogether clear. Specifically, the Court notes that there is no binding authority discussing the standard a court must apply in determining whether common issues predominate in a putative class action alleging wage suppression resulting from antitrust violations.[7] Further, recent Supreme Court authority on class certification suggests that the law in this area remains somewhat unsettled.

In *Walmart v. Dukes*, the Supreme Court rejected certification of a class of more than one million female Walmart employees in a Title VII case, holding that "[a] party seeking class certification must affirmatively demonstrate his compliance with the rule." *Dukes*, 131 S. Ct. at 2551. The Supreme Court further noted that prior to certifying a class, a district court must engage in a "rigorous analysis" that will "entail some overlap with the merits of the plaintiff's underlying claim." *Id.* The Supreme Court held that the class could not be certified because the plaintiffs could not demonstrate commonality under Rule 23(a). *Id.* at 2554-57. The *Dukes* plaintiffs had relied on statistical evidence that women were paid less, anecdotal evidence of discrimination from 120 women, and a sociologist who opined that there was a culture of sex stereotyping at Walmart. *Id.* at 2549. The Supreme Court found that this evidence was insufficient to establish commonality

[7] In their initial opposition to Plaintiffs' class certification motion, Defendants pointed to a series of antitrust class actions alleging wage suppression by horizontal agreement in which district courts outside this circuit denied class certification on the basis that individual issues of antitrust impact and damages would predominate over classwide issues. *See Weisfeld v. Sun Chemical Corp.*, 210 F.R.D. 136 (D.N.J. 2002), *aff'd by* 84 F. App'x 257 (3d Cir. 2004); *Reed v. Advocate Health Care*, 268 F.R.D. 573 (N.D. Ill. 2009); *Fleischman v. Albany Med. Ctr.*, No. 06-765, 2008 WL 2945993 (N.D.N.Y. July 28, 2008); *In re Comp. of Managerial, Prof'l, & Technical Emps. Antitrust Litig.*, No. 02-2924, 2003 WL 26115698 (D.N.J. May 27, 2003). However, these cases are inapposite because they lack the comprehensive documentary record present in the instant case. Moreover, in the instant case, the comprehensive documentary record strongly supports the Plaintiffs' experts' theories. In addition, intervening authority such as *Amgen* has refined the predominance inquiry since the cases cited by Defendants were decided. This is particularly true with respect to *Reed*, a Northern District of Illinois case that predates the Seventh Circuit's decisions in *Butler v. Sears, Roebuck & Co.*, 722 F.3d 796 (7th Cir. 2013), and *Messner v. Northshore Univ. HealthSystem*, 669 F.3d 802 (7th Cir. 2012). These two Seventh Circuit cases suggest that the *Reed* court construed the predominance requirement too stringently. The Court further notes that other district courts have certified wage suppression antitrust classes, including one since the latest Supreme Court cases. *See, e.g., Merenda v. VHS of Mich., Inc.*, No. 06-15601, 2013 WL 5106520 (E.D. Mich. Sept. 13, 2013); *Johnson v. Ariz. Hosp. & Healthcare Ass'n.*, No. 07-1292, 2009 WL 5031334 (D. Ariz. July 14, 2009).

because it demonstrated no general policy of discrimination and no corporate direction of store managers' discretion. *Id.* at 2554. Accordingly, the Supreme Court, finding that commonality required not just common questions but the capacity to generate a common answer in a classwide proceeding, reversed the certification of the class. *Id.* at 2551.

Applying *Dukes*, the Ninth Circuit, in *Ellis v. Costco* vacated a district court's certification of a class. 657 F.3d at 988. The *Ellis* court, discussing commonality, held that district courts must consider the underlying merits in addressing class certification issues. *Id.* at 983. The Ninth Circuit further concluded that when there is a battle of the experts on class certification, "rigorous analysis" requires district courts to determine not only admissibility of the experts' statements, but also the "persuasiveness of the evidence presented." *Id.* at 982.

Two years after it decided *Dukes*, the Supreme Court affirmed the certification of a class of plaintiffs who were alleging securities fraud in *Amgen*. In *Amgen*, the Supreme Court held that plaintiffs need not prove materiality, one of the elements of plaintiffs' securities fraud claim, at the class certification stage; rather, the Supreme Court found that plaintiffs needed only demonstrate that common questions would predominate. 133 S. Ct. at 1191. "Rule 23(b)(3) requires a showing that *questions* common to the class predominate, not that those questions will be answered, on the merits, in favor of the class." *Id.* As such, "the office of a Rule 23(b)(3) certification ruling is not to adjudicate the case; rather, it is to select the 'metho[d]' best suited to adjudication of the controversy 'fairly and efficiently.'" *Id.* Therefore, while class certification may require some inquiry into the merits, "Rule 23 grants courts no license to engage in free-ranging merits inquiries at the certification stage." *Id.* at 1194. Importantly, the Supreme Court specified that plaintiffs were not required to demonstrate that common questions would predominate with respect to each element. *Id.* at 1196 ("Rule 23(b)(3), however, does *not* require a plaintiff seeking class certification to prove that each 'elemen[t] of [her] claim [is] susceptible to classwide proof.'" (alterations and emphasis in original)). Rather, the inquiry is more holistic.

One month after *Amgen*, the Supreme Court, in *Comcast Corp. v. Behrend*, 133 S. Ct. 1426 (2013), reversed certification of a damages and liability class under Rule 23(b)(3). The district court in *Comcast* had certified a class of more than two million Comcast subscribers who sought

damages for violations of federal antitrust laws. *Id.* at 1431. Plaintiffs in *Comcast* had proposed four theories of antitrust impact, but the district court found that only one of those theories could be proven using common evidence. *Id.* However, the district court certified a damages class notwithstanding the fact that plaintiffs' expert calculated damages using a model that did not isolate the damages resulting from the one credited theory of antitrust impact. *Id.* The Supreme Court reversed the certification under a "straightforward application of class-certification principles" due to the disconnect between the theory of impact and the theory of damages. *Id.* at 1433. The Court stated that "[c]alculations [of damages] need not be exact, but at the class-certification stage (as at trial), any model supporting a 'plaintiff's damages case must be consistent with its liability case, particularly with respect to the alleged anticompetitive effect of the violation." *Id.* Importantly, the Court suggested that some of the principles applied pursuant to Rule 23(a) in *Dukes* also applied pursuant to Rule 23(b)(3). Specifically, the Court stated that Rule 23(b)(3) required a "rigorous analysis" and that Rule 23(b)(3) may require "inquiry into the merits of the claim." *Id.* at 1432-33.

The Ninth Circuit, in line with the Supreme Court's admonition that *Comcast* created no new law, read *Comcast* narrowly in *Levya v. Medline Industries*, 716 F.3d 510 (9th Cir. 2013). There, the Ninth Circuit reversed a district court's denial of class certification in a case concerning alleged violations of California labor laws. The Ninth Circuit held that even after *Comcast*, under Ninth Circuit law, the fact that damages calculations would require individualized inquiries does not defeat certification of a Rule 23(b)(3) class. *Id.* at 513-14. Thus, so long as "damages will be calculated based on the wages each employee lost due to [defendant]'s unlawful practices," *Comcast* does not pose a barrier to class certification. *Id.*

Echoing *Levya*, the Seventh Circuit in *Butler v. Sears, Roebuck & Co.*, 727 F.3d 796 (7th Cir. 2013), a post-*Comcast* consumer action alleging defects in washing machines, held that individual questions with respect to damages do not defeat class certification. The Seventh Circuit found that "[a] determination of liability could be followed by individual hearings to determine the damages sustained by each class member." *Id.* at 789. The Seventh Circuit distinguished *Comcast*

on the basis that "there is no possibility in this case that damages could be attributed to acts of the defendants that are not challenged on a class-wide basis." *Id.* at 800.

The Seventh Circuit in *Butler* approvingly cited its previous decision in *Messner v. Northshore Univ. HealthSystem*, 669 F.3d 802 (7th Cir. 2012), where the Seventh Circuit had reversed a denial of class certification. In *Messner*, the Seventh Circuit held that the predominance inquiry does not require the total absence of individual questions, but rather that common questions *predominate* over any individual questions. *Id.* at 815. Moreover, the Seventh Circuit in *Messner* noted that for the purposes of predominance, the inquiry focused on whether common *questions* predominate over individual questions—not whether plaintiffs could show "common answers to those questions." *Id.* at 819. The Seventh Circuit further cautioned against turning class certification into a "dress rehearsal for the trial on the merits" and stated that in antitrust cases, even rigorous application of the class certification standard "will frequently lead to certification." *Id.* at 811, 815; *see also Amchem*, 521 U.S. at 625 ("Predominance is a test readily met in certain cases alleging consumer or securities fraud or violations of the antitrust laws."). Importantly, in both *Messner* and *Butler*, the Seventh Circuit rejected the proposition that "predominance is determined simply by counting noses: that is, determining whether there are more common issues or more individual issues, regardless of relative importance." *Butler*, 727 F.3d at 801. Rather, "predominance requires a qualitative assessment too; it is not bean counting." *Id.*; *see also Messner*, 669 F.3d at 814 ("There is no mathematical or mechanical test for evaluating predominance.").

The Seventh Circuit decision in *Butler* cited and was in accord with the Sixth Circuit's post-*Comcast* decision in *In re Whirlpool Corp. Front-Loading Washer Products Liability Litigation*, 722 F.3d 838 (6th Cir. 2013). There, the Sixth Circuit affirmed the certification of a class, finding that the district court had adequately considered the merits in determining that common questions would predominate over individual questions. The Sixth Circuit found that like *Amgen*, the defendant's liability in the consumer class action would be classwide or non-existent. *Id.* at 859. The Sixth Circuit further distinguished *Comcast* on the basis that *Comcast* concerned a class certified for damages purposes in addition to liability purposes. *Id.* Accordingly, the Sixth

Circuit concluded that "the principles we glean from *Amgen* and *Comcast Corp.* include that to satisfy Rule 23(b)(3), named plaintiffs must show, and district courts must find, that questions of law or fact common to members of the class predominate over any questions that affect only individual members." *Id.* at 860.

The D.C. Circuit has further elaborated on the qualitative assessment required by the Sixth and Seventh Circuits and concluded that such an assessment requires district courts to closely scrutinize factual evidence and expert reports that demonstrate that impact can be proven on a classwide basis. *See In re Rail Freight Fuel Surcharge Antitrust Litig.*, 725 F.3d 244, 247 (D.C. Cir. 2013). The D.C. Circuit held that "[c]ommon questions of fact cannot predominate where there exists no reliable means of proving classwide injury in fact." *Id.* at 252-53. The D.C. Circuit further stated that "[i]t is now indisputably the role of the district court to scrutinize the evidence before granting certification." *Id.* at 253. The D.C. Circuit therefore found that "[i]t is now clear . . . that Rule 23 not only authorizes a hard look at the soundness of statistical models that purport to show predominance—the rule commands it." *Id.* at 255. Accordingly, the D.C. Circuit vacated the district court's certification of the class because there were methodological problems with the plaintiffs' expert reports that the district court had not considered. *Id.* at 252.[8]

[8] The First and Third Circuits in pre-*Dukes*, *Amgen*, and *Comcast* cases vacated district courts' certification of classes under Rule 23(b)(3) and remanded for reconsideration based in part on theories that have been superseded by intervening Supreme Court authority. *See In re New Motors*, 522 F.3d at 8; *In re Hydrogen Peroxide Antitrust Litig.*, 552 F.3d 305, 307 (3d Cir. 2008). For example, the First and Third Circuits relied on a theory that "[i]n antitrust class actions, common issues do not predominate if the fact of antitrust violation and the fact of antitrust impact cannot be established through common proof." *In re New Motors*, 522 F.3d at 20; *see also In re Hydrogen Peroxide Antitrust Litig.*, 552 F.3d at 311 (same). This appears to conflict with the Supreme Court's conclusion in *Amgen* that "Rule 23(b)(3) . . . does *not* require a plaintiff seeking class certification to prove that each "elemen[t] of [her] claim [is] susceptible to classwide proof." 133 S. Ct. at 1191 (emphasis in original). Nevertheless, some of the theories in *In re New Motors* and *In re Hydrogen Peroxide Antitrust Litigation* are consonant with *Amgen*. Specifically, the Third Circuit held that a rigorous analysis required resolving conflicts in expert opinions that go to certification and that a party's indication that it intends to use common evidence is insufficient for certification. *In re Hydrogen Peroxide Antitrust Litig.*, 552 F.3d at 321-23. Similarly, the First Circuit held that a district court should have engaged in a searching inquiry into the validity of a novel and complex theory of impact. *In re New Motors*, 522 F.3d at 27. Accordingly, the First Circuit found that a district court should have addressed criticisms of the plaintiffs' expert's methodology. *Id.* In light of the fact that these theories appear to be consistent with Supreme Court authority, the Court applies them in the instant action.

Certain principles regarding the legal standard that this Court must apply in determining whether the Technical Class should be certified emerge from *Walmart*, *Amgen*, *Comcast*, and the circuit court cases applying this Supreme Court authority. First, and most importantly, the critical question that this Court must answer is whether common questions predominate over individual questions. *Amgen*, 133 S. Ct. at 1191. In essence, this Court must determine whether common evidence and common methodology could be used to prove the elements of the underlying cause of action. *Id.* Second, in answering this question, this Court must conduct a "rigorous" analysis. *Comcast Corp.*, 133 S. Ct. at 1432. This analysis may overlap with the merits, but the inquiry cannot require Plaintiffs to prove elements of their substantive case at the class certification stage. *Amgen*, 133 S. Ct. at 1194. Third, this Court must determine not only the admissibility of expert evidence that forms the basis of the methodology that demonstrates whether common questions predominate. *Ellis*, 657 F.3d at 982. Rather, this Court must also determine whether that expert evidence is persuasive, which may require the Court to resolve methodological disputes. *Id.; see also In re Rail Freight Fuel Surcharge Antitrust Litig.*, 725 F.3d at 255. Fourth, the predominance inquiry is not a mechanical inquiry of "bean counting" to determine whether there are more individual questions than common questions. *Butler*, 727 F.3d at 801. Instead, the inquiry contemplates a qualitative assessment, which includes a hard look at the soundness of statistical models. *Id.; In re Rail Freight Fuel Surcharge Antitrust Litig.*, 725 F.3d at 255. Fifth, Plaintiffs are not required to show that each element of the underlying cause of action is susceptible to classwide proof. *Amgen*, 133 S. Ct. at 1196. Rather, they need only show that common questions will predominate with respect to their case as a whole. *Id.*

With these principles in mind, this Court now turns to the elements and finds that common questions predominate overall and with regard to all three elements—antitrust violation, antitrust impact, and damages.

1. Antitrust Violation

Plaintiffs allege that Defendants engaged in an "overarching conspiracy" to eliminate competition among one another for skilled labor, with the intent and effect of suppressing the compensation and mobility of Defendants' employees. CAC ¶¶ 1, 2, 55. Accordingly, Plaintiffs

contend that, at trial, "[p]roving Defendants' conspiracy will be the overriding common issue for every Class Member." Class Cert. Mot. at 2. In support of their allegations, Plaintiffs have set forth copious common evidence in the form of Defendants' internal work documents, deposition transcripts, and email exchanges between Defendants' CEOs as well as other directors, officers, and senior managers, all of which support Plaintiffs' allegations that Defendants entered into express agreements not to compete for one another's employees.

Defendants concede that adjudication of Defendants' alleged antitrust violations will turn on common legal and factual issues. *See* Jan. 17 Tr. at 17:1-4 (Court: "Do you contest [the antitrust violation] prong of the analysis?" Defendants' Counsel: "Not for purposes of this motion."). As stated in this Court's April 5 Class Certification Order, this Court agrees and finds that Plaintiffs have demonstrated that "adjudication of Defendants' alleged antitrust violation will turn on overwhelmingly common legal and factual issues." Apr. 5 Class Cert. Order at 13.

To prevail on a cause of action for violation of Section 1 of the Sherman Act, a plaintiff must show that: "(1) there was an agreement, conspiracy, or combination between two or more entities; (2) the agreement was an unreasonable restraint of trade under either a per se or rule of reason analysis; and (3) the restraint affected interstate commerce."[9] *Am. Ad Mgmt., Inc. v. GTE Corp.*, 92 F.3d 781, 784 (9th Cir. 1996); *see also Tanaka v. Univ. of S. Cal.*, 252 F.3d 1059, 1062 (9th Cir. 2001). Plaintiffs here present substantial evidence of Defendants' antitrust violations, and all of that evidence is common to the Technical Class as a whole.

Plaintiffs' evidence indicates that the roots of Defendants' conspiracy appear to reach back to the mid-1980s, shortly after George Lucas (former Lucasfilm Chairman of the Board and CEO) sold Lucasfilm's "computer division," a "tech, research, and development company," to Steve Jobs (Co-Founder, Former Chairman, Former CEO of Apple), who then renamed the division "Pixar." Decl. of Lisa Cisneros ("Cisneros Decl."), Ex. NN (Lucas Depo.) at 16, 59, ECF No. 418-2. George Lucas believed that companies should not compete against each other for employees, because "[i]t's not a normal industrial competitive situation." *Id*. at 52. As George Lucas explained, "I always—the rule we had, or the rule that I put down for everybody," was that "we

[9] The third factor, whether the alleged restraint affected interstate commerce, is not disputed.

cannot get into a bidding war with other companies because we don't have the margins for that sort of thing." *Id*. at 44. Edward Catmull (Pixar President) agreed with George Lucas that the newly independent Pixar would reciprocate this non-compete "rule" with Lucasfilm. The companies thus agreed: (1) not to cold call each other's employees; (2) to notify each other when making an offer to an employee of the other company even if that employee applied for a job on his or her own initiative; and (3) that any offer would be "final" and would not be improved in response to a counter-offer by the employee's current employer (whether Lucasfilm or Pixar). Shaver Decl., Ex. 3 (McAdams Depo.) at 145-46; Def. Lucasfilm Ltd.'s Am. Ans. to Consol. Am. Compl. ¶ 59, ECF No. 168 ("Lucasfilm and Pixar had a general understanding that they would not actively solicit candidates from the other via cold-calling.").

Steve Jobs (Co-Founder, Former Chairman, Former CEO of Apple), who was "very adamant about protecting his employee force," proceeded to expand the Pixar-Lucasfilm agreement to include Apple and its labor competitors. Cisneros Decl., Ex. RR (Catmull Depo.) at 195. As such, beginning no later than 2004, Pixar sought Steve Jobs' permission before making offers of employment to Apple employees, regardless of whether Pixar solicited the employee or the employee applied independently. *See* Shaver Decl., Ex. 62 (showing email from Rob Cook (Pixar Vice President of Advanced Technology) to Steve Jobs in 2004 requesting permission to make an offer to an Apple employee). On April 30, 2007, Lori McAdams (Pixar Vice President of Human Resources and Administration) and Danielle Lambert (Apple Head of Human Resources), formalized the two companies' understanding on the same terms as the "gentlemen's agreement" between Pixar and Lucasfilm. *See id*., Ex. 66 (Lori McAdams informing recruiting team about her phone call with Danielle Lambert and that, "effective now, we'll follow a gentleman's agreement with Apple that is similar to our Lucasfilm agreement. That is . . . we won't directly solicit *any* Apple employee (including outside recruiters if we use them) . . . . Danielle will ask her Recruiting team to follow the same procedure." (emphasis added)).

These agreements extended to other Defendants. On February 18, 2005, Bill Campbell (Chairman of Intuit Board of Directors, Co-Lead Director of Apple, and advisor to Google) assisted Steve Jobs (Co-Founder, Former Chairman, Former CEO of Apple) in entering into an

agreement with Eric Schmidt (Google Executive Chairman, Member of the Board of Directors, and former CEO) at Google. *See id*., Ex. 17 (email from Bill Campbell to Steve Jobs informing Steve Jobs that Eric Schmidt "got directly involved and firmly stopped all efforts to recruit anyone from Apple"). That same day, Danielle Lambert (Apple Head of Human Resources) ordered her staff to "[p]lease add Google to your 'hands-off' list. We recently agreed not to recruit from one another so if you hear of any recruiting they are doing against us, please be sure to let me know. Please be sure to honor our side of the deal." *Id*., Ex. 23. Later that year, Arnnon Geshuri (Google Recruiting Director) was asked to create a formal "Do Not Cold Call" list of companies, including Apple, which had "special agreements" with Google not to compete for employees. *See id.*, Ex. 27. The draft was presented to Google's Executive Management Group, a committee consisting of Google's senior executives, including Eric Schmidt, Larry Page (Google Co-Founder), Sergey Brin (Google Co-Founder), and Shona Brown (former Google Senior Vice President, Business Operations). *See id*., Ex. 28. Eric Schmidt approved the list. *See id*. (email from Eric Schmidt stating "[t]his looks very good."). When Shona Brown asked Eric Schmidt whether he had any concerns with sharing information regarding the "Do Not Call" list with Google's competitors, Eric Schmidt responded that he preferred that it be shared "verbally[,] since I don't want to create a paper trail over which we can be sued later?" *Id*., Ex. 41. Shona Brown responded: "makes sense to do orally. i agree." *Id*.

Two months after entering into an agreement with Google, Steve Jobs (Co-Founder, Former Chairman, Former CEO of Apple) persuaded Adobe to enter into a nearly identical agreement with Apple. On May 26, 2005, Steve Jobs complained to Bruce Chizen (former Adobe CEO) that Adobe was recruiting Apple employees. *Id*., Ex. 18. Bruce Chizen responded by saying, "I thought we agreed not to recruit any senior level employees . . . . I would propose we keep it that way. Open to discuss. It would be good to agree." *Id*. Steve Jobs was not satisfied, and replied by threatening to send Apple recruiters after Adobe's employees: "OK, I'll tell our recruiters that they are free to approach any Adobe employee who is not a Sr. Director or VP. Am I understanding your position correctly?" *Id*. Bruce Chizen immediately gave in: "I'd rather agree NOT to actively solicit any employee from either company . . . . If you are in agreement I will let

my folks know." *Id*. (emphasis in original). The next day, Theresa Townsley (Adobe Vice President Human Resources) announced to her recruiting team, "Bruce and Steve Jobs have an agreement that we are not to solicit ANY Apple employees, and vice versa." *Id*., Ex. 19 (emphasis in original). Adobe then placed Apple on its "[c]ompanies that are off limits" list, which instructed Adobe employees not to cold call Apple employees. *Id*., Ex. 11.

In addition to Google's anti-solicitation agreement with Apple, Google also entered into a "no poaching policy" with Intel. *See, e.g.*, *id*., Ex. 51 (email from Paul Otellini (CEO of Intel and Member of the Google Board of Directors) to Intel recruiter, dated April 16, 2007, stating, "I have an unofficial no poaching policy with [Google]"). Eric Schmidt (Google Executive Chairman, Member of the Board of Directors, and former CEO) confirmed this policy in a June 4, 2007, email to Paul Otellini in which Eric Schmidt wrote, "I checked as to our recruiting policy with Intel. 'Intel has been listed on the Do Not Call List since the policy was created. No one in staffing directly calls, networks, or emails into the company or its subsidiaries looking for talent.' Hopefully there are no exceptions to this policy and if you become aware of this please let me know immediately!" *Id*., Ex. 56. Bill Campbell (Chairman of Intuit Board of Directors, Co-Lead Director of Apple, and advisor to Google) was also involved in the Google-Intel agreement, as reflected in an email exchange from 2006 in which Bill Campbell agreed with Jonathan Rosenberg (Google Advisor to the Office of CEO and former Senior Vice President of Product Management) that Google should call Paul Otellini before making an offer to an Intel employee, regardless of whether the Intel employee first approached Google. *See id*., Ex. 37. Paul Otellini then forwarded the email to Patricia Murray (Intel Senior Vice President and Director of Leadership Strategy and former President of Human Resources), with a note stating, "FYI . . . Do not fwd." *Id*. Two days later, in an email entitled "global gentleman agreement with Google," an Intel recruiter asked Paul Otellini and another senior executive, "Are either of you aware of any agreement with Google that prohibits us from recruiting Google's senior talent?" *Id*., Ex. 52. Paul Otellini replied, "Let me clarify. We have nothing signed. We have a handshake 'no recruit' between eric and myself. I would not like this broadly known." *Id*. Plaintiffs note that, while the DOJ alleged that the Google-Intel agreement began no later than September of 2007, other evidence suggests that the

agreement began in 2005, the same time as other Defendants' bilateral agreements. *See id.*, Ex. 28 (showing Intel on Google's "Do Not Call" list as early as 2005). In October of 2008, Intel also agreed with Pixar that it "will not proactively pursue any Pixar employees going forward." Shaver Decl., Ex. 70.

Bill Campbell (Chairman of Intuit Board of Directors, Co-Lead Director of Apple, and advisor to Google) also insisted that Google and Intuit enter into a non-compete agreement. Although Google's "non-solicit policy" initially "cover[ed] only 18 Intuit employees," "Bill [Campbell] requested that Intuit be added fully to the Do Not Call list." *Id.*, Ex. 31 (email, dated June 6, 2007, between Arnnon Geshuri (Google Recruiting Director) and Eric Schmidt (Google Executive Chairman, Member of the Board of Directors, and former CEO)). Thus, by June 12, 2007, Intuit was added fully to the list. *Id.*, Ex. 26; *id.* Ex. 30 ("please update the DNC list to now include Intuit 100% do not call."); *see also* Decl. of Dean Harvey ("Harvey Decl."), Ex. 25 at 13, ECF No. 248 (stating that "Google's [Do Not Cold Call] policy for Intuit began in April 2006 and was broadened in June 2007 to include all Intuit employees.").

Ultimately, by the time that the DOJ investigation began in the summer of 2009, Apple's own "Hands Off (Do Not Call List)" included every Defendant. *See* Shaver Decl., Ex. 22. Steve Jobs (Co-Founder, Former Chairman, and Former CEO of Apple) also tried, unsuccessfully, to enter into a similar agreement with Palm, Inc. ("Palm") following a period in which several employees moved between the two companies. On August 22, 2007, Steve Jobs called Edward Colligan (former President and CEO of Palm) to propose "an arrangement between Palm and Apple by which neither company would hire the other's employees, including high tech employees." Decl. of Edward Colligan ("Colligan Decl.") ¶ 6, ECF No. 293. Steve Jobs also threatened to retaliate against Palm if Palm resisted. *Id.* ("Mr. Jobs also suggested that if Palm did not agree to such an arrangement, Palm could face lawsuits alleging infringement of Apple's many patents."). Edward Colligan nevertheless refused, writing to Steve Jobs, "[y]our proposal that we agree that neither company will hire the other's employees, regardless of the individual's desires, is not only wrong, it is likely illegal." *Id.*, Ex. A. Edward Colligan stated further, "I can't deny people who elect to pursue their livelihood at Palm the right to do so simply because they now

work for Apple, and I wouldn't want you to do that to current Palm employees." *Id.* Edward Colligan held firm against Steve Jobs' threats, stating, "I want to be clear that we are not intimidated by your threat . . . . If you choose the litigation route, we can respond with our claims based on [Palm's] patent assets, but I don't think litigation is the answer." *Id.* Steve Jobs responded:

> This is not satisfactory to Apple . . . . We must do whatever we can to stop this. I'm sure you realize the asymmetry in the financial resources of our respective companies when you say: "We will both just end up paying a lot of lawyers a lot of money." . . . My advice is to take a look at our patent portfolio before you make a final decision [on an anti-solicitation agreement] here.

Id., Ex. B. Edward Colligan did not agree and did not communicate with Steve Jobs further regarding his proposal. *Id.* ¶ 8.

Defendants generally structured their agreements with each other to apply to all employees, regardless of job type, department, or geography. *See* Shaver Decl., Ex. 17 (Google would not recruit anyone from Apple); *id.*, Ex. 56 (Google would not call, network, or email into Intel or its subsidiaries looking for talent); *id.*, Ex. 19 (Apple and Adobe agreed not to solicit *any* employee from either company); *id.*, Ex. 60 (Lucasfilm and Pixar agreed "not to solicit each other's employees"); *id.*, Ex. 66 (Pixar agreed not to "directly solicit any Apple employee"); *see also* Harvey Decl., Ex. 25 at 13 (Google's Do Not Cold Call policy "include[d] all Intuit employees."). However, Defendants Apple and Intel agreed simply "NOT to hire top talent (esp technical) away from each other," rather than to avoid all anti-solicitation efforts. Shaver Decl., Ex. 55 (emphasis in original).

Plaintiffs maintain that Defendants' alleged conspiracy went on for years until revealed by the DOJ. After investigating Defendants' alleged conspiracy, "the DOJ concluded that Defendants reached 'facially anticompetitive' agreements that 'eliminated a significant form of competition . . . to the detriment of the affected employees who were likely deprived of competitively important information and access to better job opportunities.'" MTD Order at 3-4; CAC ¶ 112; *see also* Dep't of Just. Compl. Against Adobe, et al. ("DOJ Adobe Compl.") ¶¶ 2, 14, ECF No. 93-1; Dep't of Just. Compl. Against Lucasfilm ("DOJ Lucasfilm Compl.") ¶¶ 2, 15, 22, ECF No. 93-4. The

DOJ also determined that the agreements "were not ancillary to any legitimate collaboration," "were broader than reasonably necessary for the formation or implementation of any collaborative effort," and "disrupted the normal price-setting mechanisms that apply in the labor setting." DOJ Adobe Compl. ¶ 16; DOJ Lucasfilm Compl. ¶ 17; CAC ¶ 112. The DOJ concluded that Defendants entered into agreements that were restraints of trade that were per se unlawful under the antitrust laws. DOJ Adobe Compl. ¶ 35; DOJ Lucasfilm Compl. ¶ 3; CAC ¶ 112. However, the government only obtained injunctive relief from the Defendants. It did not obtain any compensation for employees injured by the allegedly collusive activities.

This substantial evidence presented by Plaintiffs suggests that adjudication of Defendants' alleged antitrust violation will turn on legal and factual issues that are common to the Technical Class. Accordingly, the Court finds that common questions will predominate with respect to the alleged antitrust violation.

2. Antitrust Impact

Having found that common questions will predominate with respect to the first element, antitrust violation, the Court now turns to the second element, impact. "Antitrust 'impact'—also referred to as antitrust injury—is the 'fact of damage' that results from a violation of the antitrust laws." *In re DRAM Antitrust Litig.*, 2006 WL 1530166 at *7. "It is the causal link between the antitrust violation and the damages sought by plaintiffs." *In re New Motors*, 522 F.3d at 19 n.18.

Plaintiffs marshal substantial evidence, including documentary evidence and expert reports using statistical modeling, economic theory, and data, to demonstrate that common questions will predominate over individual questions in determining the impact of the antitrust violations. The Court finds that the documentary evidence and expert reports paint a picture of Defendants' business practices and the market in which Defendants operate that suggests that common proof could be used to demonstrate the impact of Defendants' actions on Technical Class members. Accordingly, the Court finds that Plaintiffs' proposed methodology satisfies the predominance standard.

Specifically, the record suggests that all technical employees—not just those who would have received cold calls but for the anti-solicitation agreements—may have been impacted by the

agreements. Plaintiffs note that cold calling, a recruitment tool that Defendants viewed favorably, has the effect of spreading information about salaries and benefits from recruiters of one firm to employees of another. Leamer Rep. ¶ 71-76. Such information could then spread to other employees within a firm and beyond, leading to widespread increases in employee compensation across the labor market due to increased access to information. *Id.*

Further, Plaintiffs contend that Defendants had company-wide compensation structures, which organized employees into job groups, levels, and families that were evaluated and paid in relationship to all other groups. Suppl. Mot. at 15-22. In addition, Defendants valued internal equity (the idea that similarly situated employees should be compensated similarly) within their firms. *Id.* Because of a desire to maintain equity between employees, the upward pressure that cold calls placed on the salaries of individual employees who would have received the calls would have also affected other employees who were part of the same salary structure. As such, variances in individual employees' salaries would affect other employees who were in a similar position. Each Defendant's compensation structure could then have been influenced by the other Defendants' structures as Defendants saw each other as competitors for the same labor pool.

Finally, Plaintiffs point to the fact that Defendants were motivated to retain their employees. This, Plaintiffs contend, would have motivated each Defendant to provide financial incentives to employees to respond to and to prevent poaching by other Defendants. Leamer Rep. ¶ 105. Yet, because of the anti-solicitation agreements, Defendants did not need to initiate such measures, which would have benefitted the entire Technical Class.

Ultimately, the Court is not tasked at this phase with determining whether Plaintiffs will prevail on these theories. Rather, the question is narrower: whether Plaintiffs have presented a sufficiently reliable theory to demonstrate that common evidence can be used to demonstrate impact. The Court finds that, based on the extensive documentary evidence, economic theory, data, and expert statistical modeling, Plaintiffs' methodology demonstrates that common issues are likely to predominate over individual issues. The Court first discusses the substantial documentary evidence, which supports Plaintiffs' theory of common impact, and then proceeds to discuss the

expert reports. The Court concludes by rejecting Defendants' attempt to identify flaws that would undermine Plaintiffs' entire methodology.

a. Documentary Evidence

In Plaintiffs' Supplemental Motion for Class Certification, Plaintiffs submitted thousands of pages of documents—all common evidence—which support Plaintiffs' theories of classwide harm and undermine many of the representations previously made by Defendants. Plaintiffs' common evidence suggests that, for the purpose of ultimately proving impact, common issues will predominate over individual ones.

The Court begins by discussing the documentary evidence on the importance of cold calling as a recruitment tool and the effect of the preclusion of cold calling on the Technical Class as a whole. The Court then discusses the evidence of Defendants' rigid compensation structure and importance of internal equity. The Court finally turns to the documentary evidence that Defendants viewed each other as labor competitors, which may have resulted in individual Defendants' wage suppression depressing other Defendants' employees' wages.

i. Cold Calling and Recruitment

Plaintiffs produce significant evidence that cold calling was an important part of Defendants' recruitment practices and contend that the elimination of such recruitment through cold calling had adverse effects on all Technical Class members.

a) The Importance of Cold Calling as a Recruitment Practice to Defendants

Plaintiffs' documents support the allegation that, throughout the class period, Defendants viewed recruitment, particularly of "passive candidates"—that is, employees who were not actively looking for a new job—as crucial to their growth and development. Donna Morris (AdobeAdobe Senior Vice President, Global Human Resources) described recruiting talent as "critical" to company growth. Harvey Decl., Ex 1 (Morris Depo.), at 56:17-19 ("Q: Why is recruiting talent important to Adobe? A: So our critical, most critical asset is people. So really we're an [intellectual property]-based company."). Adobe also believed that an important way to source

"top talent" was to focus on "passive" talent, which it defined as "top performers [who] tend to be entrenched" but "may be 'willing to listen' if the right opportunity is presented." Shaver Decl., Ex. 14 at 3. As explained by Donna Morris, "often the very best candidates might not necessarily be looking for Adobe. They might not even know that Adobe is a company where they can leverage their capabilities. And so recruiting is a big, big aspect." *Id*. at 57:13-17. To support Google's rapid growth, which included hiring "several thousand employees per year from 2006 to 2009," Google employed "as many as 800 recruiters while also working with external recruiting agencies." *See id*., Ex. 25, at 7-8. Google also determined that "[p]assive sourcing will play an increasingly larger role in recruiting as we move forward as a company." Harvey Suppl. Decl., Ex. 14 (Google 2006 Sourcing Diagnostic).

The record also indicates that Defendants viewed cold calling as a key method to attract potential employees. Intel estimated that, historically, competitive sourcing, including cold calling and research, accounted for [redacted] percent of hires, Harvey Decl., Ex. 27, and stated in its "Complete Guide to Sourcing" that "[Cold] Calling candidates is one of the most efficient and effective ways to recruit, " Shaver Decl., Ex. 54. Similarly, Google found that although referrals were the largest source of hires, "agencies and passively sourced candidates offer[ed] the highest yield." Harvey Suppl. Decl., Ex. 14. Consequently, in response to concerns over slow hiring, Google's Chief Culture Officer stated that "[c]old calling into companies to recruit is to be expected unless they're on our 'don't call' list." Shaver Decl., Ex. 42.

Further, Defendants appear to have been particularly concerned about their ability to recruit employees for positions within the Technical Class. For example, shortly prior to Google's anti-solicitation agreement with Apple, Google determined that it needed to "dramatically increase the engineering hiring rate." Cisneros Decl., Ex. 1753. Thus, Google stated that it would "need to drain competitors to accomplish this rate of hiring." *Id.*; *see also* Harvey Suppl. Decl., Ex. 14 (Google 2006 Sourcing Diagnostic) (documenting a large "hiring gap" for engineering positions). Relatedly, when a Senior Apple Executive stated in 2007 that his biggest challenge in the "EE hiring plan" was finding high quality people, Mark Bentley (former Apple Director of Executive

Recruiting and Interim Human Resources Director) responded by stating: "Bottom line is that we need to do more targeted recruiting of 'passive' candidates." Harvey Suppl. Decl., Ex. 7.

Google also closely tracked the decline rate of its top technical candidates as well as the loss of its technical employees. *See* Cisneros Decl., Ex. 173, at 1 (showing that "Google's offer decline rates [redacted], especially among senior and top technical candidates."); *see also* Shaver Decl., Ex. 45 (documenting how, during 2010, "[redacted] of technical employees who reported leaving Google for another company went to a startup organization" and that Facebook accounted for the highest portion of overall departures).

b) Enforcement of the Anti-Solicitation Agreements by Defendants

While Defendants dispute that this absence of cold calling due to their anti-solicitation agreements had any effect on job opportunities or flow of information to the class members, *see* Opp'n at 17, Defendants' own documents created during the alleged conspiracy tell a different story.

First, Plaintiffs offer evidence indicating that, but for Defendants' anti-solicitation agreements, Defendants would have been cold calling one another's employees. For example, in November of 2005, Howard Look (former Pixar Vice President of Software) stated that Pixar was struggling to find candidates, but "of course cannot recruit out of Apple." Shaver Decl., Ex. 64. Adobe personnel recognized that "Apple would be a great target to look into" for the purpose of recruiting, but knew that they could not do so because, "[u]nfortunately, Bruce [Chizen (former Adobe CEO)] and Apple CEO Steve Jobs have a gentleman's agreement not to poach each other's talent." Shaver Decl., Ex. 13. As Bill Campbell (Chairman of Intuit Board of Directors, Co-Lead Director of Apple, and advisor to Google) explained at his deposition, anti-solicitation agreements prevented a competitor from going "A through Z" and calling "everybody that was a mid-level engineer and above . . . that was what I objected to." Cisneros Decl., Ex. EE (Campbell Depo.) at 30. Thus, by virtue of these anti-solicitation agreements, Defendants' employees were deprived of job information and opportunities.

Second, the evidence indicates that Defendants actively and aggressively enforced these anti-solicitation agreements, which further demonstrates their harmful effects. In an email from Arnnon Geshuri (Google Recruiting Director) to Eric Schmidt (Google Executive Chairman, Member of the Board of Directors, and former CEO) and Laszlo Bock (Google Senior Vice President of People Operations), Arnnon Geshuri confirmed: "[O]ur [Google] recruiters are strictly following the Do Not Call policy regarding Intel and no one has called, networked, or emailed into the company or its subsidiaries looking for talent." Shaver Decl., Ex 35. Intel memorialized its agreement with Pixar in a document which states, "We cannot recruit (including calling up, emailing or enticing in any way) current Pixar employees to come to work for Intel. If a Pixar employee applies to Intel without being recruited by Intel . . . [Pat Geslinger (former Intel Senior Corporate Vice President)] will contact the CEO of Pixar for approval to hire." *Id.*, Ex. 53.

Plaintiffs also offer evidence supporting their assertion that Defendants' agreements were particularly concerned with preventing the recruitment of one another's technical employees. Steve Jobs (Co-Founder, Former Chairman, and Former CEO of Apple) repeatedly contacted the CEOs of co-Defendants to thwart the recruitment of Apple's employees. For instance, when a recruiter from Google's engineering team contacted an Apple employee in 2007, Steve Jobs forwarded the message to Eric Schmidt (Google Executive Chairman, Member of the Board of Directors, and former CEO) and stated, "I would be very pleased if your recruiting department would stop doing this." *Id.*, Ex. 24. Google responded by making a "public example" out of the recruiter and "terminat[ing] [the recruiter] within the hour." *Id.* The aim of this public spectacle was to "(hopefully) prevent future occurrences." *Id.*; *see also* Cisneros Decl., Ex. 1869 (email from Bill Campbell (Chairman of Intuit Board of Directors, Co-Lead Director of Apple, and advisor to Google) to Sergey Brin (Google Co-Founder), stating "Steve just called me again and is pissed that we are still recruiting his browser guy."); Shaver Decl., Ex. 25 (email from Steve Jobs to Eric Schmidt) ("I am told that Googles [sic] new cell phone software group is relentlessly recruiting in our iPod group. If this is indeed true, can you put a stop to it?").

By "prevent[ing] future occurrences" of Google's recruitment of Apple employees, *see* Shaver Decl., Ex. 24, Apple employees were deprived of learning about potential job opportunities

at Google from more than 800 Google recruiters, as well as Google's external recruiting agencies. *See* Harvey Decl., Ex. 25, at 7-8. In fact, Google even declined to hire some *former* Apple engineers after Steve Jobs let it be known that he'd "strongly prefer that [Google] not hire these guys." Cisneros Decl., Ex. 653.

Plaintiffs offer further evidence supporting their assertion that Defendants' CEOs personally monitored and enforced their anti-solicitation agreements, especially as the agreements applied to members of the Technical Class. For example, on September 26, 2007, Paul Otellini (CEO of Intel and Member of the Google Board of Directors) received an internal complaint regarding Google's successful recruiting efforts of Intel's technical employees. Shaver Decl., Ex. 57 ("Paul, I am losing so many people to Google . . . . We are countering but thought you should know."). Paul Otellini's answer was to forward the email to Eric Schmidt (Google Executive Chairman, Member of the Board of Directors, and former CEO): "Eric, can you pls help here???" *Id.* Eric Schmidt obliged and forwarded the email to his recruiting team, who prepared a report for Eric Schmidt on Google's activities. *Id.*, Ex. 35. The next day, Eric Schmidt replied to Paul Otellini, "If we find that a recruiter called into Intel, we will terminate the recruiter." Ex. 50; *see also* Cisneros Dec'l, Ex. 651 (May 4, 2006, e-mail from Paul Otellini to Eric Schmidt: "Sorry to bother you again on this topic, but my guys are very troubled by Google continuing to recruit our key players.").

Additionally, an email forwarded to Edward Catmull (Pixar President) indicated that Pixar felt compelled to check with Steve Jobs (Co-Founder, Former Chairman, and Former CEO of Apple) before extending a job offer to even an administrative assistant. Shaver Decl., Ex. 68. In response, Edward Catmull emphasized to Rob Cook (Pixar Vice President of Advanced Technology) that "[t]he key is to stay away from the engineers." *Id.* Consistent with this position, Edward Catmull informed Steve Jobs via email that Pixar had received an application from an Apple employee to work as a test automation engineer, but "[w]e declined." Cisneros Decl., Ex. 424. Several months later, that employee contacted Pixar again informing Pixar that he had another offer and still planned to leave Apple. *Id.* Edward Catmull emailed Steve Jobs asking whether Jobs would "object" if Pixar communicated with the employee, and Steve Jobs gave

permission. *Id.* Thus, Plaintiffs' evidence supports their claim that these anti-solicitation agreements, enforced by Defendants' top officers, stifled recruitment efforts of Technical Class members.

c) The Effect of the Absence of Cold Calling on the Technical Class as a Whole

In addition to showing that Defendants valued cold calling and that the absence of cold calling hampered recruitment of members of the Technical Class, the documentary evidence also suggests that the lack of cold calls had a profound and common effect on all members of the Technical Class.

Plaintiffs allege that the elimination of cold calling deprived all employees of information regarding pay packages that the employees could have used to obtain more lucrative employment or to gain leverage over their existing employers in negotiating pay increases. Class Cert. Mot. at 16. The earning potential of a valuable employee who knows her market worth is illustrated by an email exchange at Adobe. Out of concern that one employee—a "star performer" due to his technical skills, intelligence, and collaborative abilities—might leave Adobe because "he could easily get a great job elsewhere if he desired," Adobe considered how best to retain him. Cisneros Decl., Ex.1250. In so doing, Adobe expressed concern about the fact that this employee had already interviewed with [redacted] other companies and communicated with friends who worked there. *Id.* Thus, Adobe noted that the employee "was aware of his value in the market" as well as the fact that the employee's friends from college were "[redacted] *Id.* In response, Adobe decided to give the employee an immediate pay raise. *Id.* Similarly, as explained by Alex Lintner (Intuit Head of Global Business Division), "[w]henever somebody's being targeted by an outside company and we want to retain them, we have a conversation around how we can retain them so they don't take the offer from the outside company." Hallock Rep. ¶ 199. In the example of one employee that Intuit wanted to retain, Intuit [redacted] which was an [redacted] but, in light of the employee's skills and contributions to the company, Intuit was "willing to make an investment." *Id.*

While Defendants claim that counter-offers were generally made only to particular individuals to retain key talent, Plaintiffs' evidence supports their allegation that the risk imposed by cold calls and subsequent counteroffers may have had much broader effects. As noted by one Google employee in response to Google's decision to make counteroffers to some individuals who were recruited to go elsewhere, "[i]t's impossible to keep something like this a secret. The people getting counter offers talk, not just to Googlers and ex-Googlers, but also to the competitors where they received their offers (in the hopes of improving them), and those competitors talk too, using it as a tool to recruit more Googlers." Shaver Decl., Ex. 59. This employee expressed frustration, stating that by staying at Google, "it feels like my loyalty is being punished." *Id.*

Alan Eustace (Google Senior Vice President) commented on concerns regarding competition for workers and Google's approach to counteroffers by noting that, "it sometimes makes sense to make changes in compensation, even if it introduces discontinuities in your current comp, to save your best people, and send a message to the hiring company that we'll fight for our best people." *Id*. Because recruiting "a few really good people" could inspire "many, many others [to] follow," Alan Eustace concluded, "[y]ou can't afford to be a rich target for other companies." *Id.* According to him, the "long-term . . . right approach is not to deal with these situations as one-off's but to have a *systematic approach* to compensation that makes it very difficult for anyone to get a better offer." *Id*. (emphasis added).

This documentary evidence suggests that Defendants would have responded to the information spread by cold calls not merely on an individual basis, but with a structural response that affected all members of the Technical Class. Thus, Plaintiffs' evidence suggests not only that the anti-solicitation agreements eliminated a key tool of recruitment, cold calling, but also that the impact of this elimination affected the entire Technical Class. The documentary evidence supports Plaintiffs' theory that Defendants' elimination of cold calling allowed Defendants not to have to put in place structural incentives to retain employees. This common evidence provides support for Plaintiffs' theory that if the anti-solicitation agreements did not exist, Defendants would have had to take actions not only to retain the particular employees who may have received the cold calls,

but also that Defendants would have had to take broader action that would have affected the Technical Class as a whole.

ii. Compensation Structure and Internal Equity

As set forth below, Plaintiffs' documentary evidence further shows that Defendants maintained formal compensation structures and made significant efforts to maintain internal equity within those structures. This additional documentary evidence further supports Plaintiffs' theory that the anti-solicitation agreements' downward pressure on individual employees' salaries would have applied similar downward pressure across Defendants' salary structure and on all Technical Class employees' salaries.

First, Plaintiffs' evidence supports their claim that, during the class period, all Defendants used formal administrative compensation structures and divided jobs into pay bands, zones, grades, and ranges by which they evaluated and paid employees in groups in relationship to other groups. At Adobe, every job position was assigned a job title, and every job title had a corresponding salary range within Adobe's salary structure, which included a salary minimum, middle, and maximum. *See* Cisneros Decl., Ex. C (Arriada-Keiper Depo.) at 16, 20, 159 189-90, 259; *id*., Ex. G (Vijungco Depo.) at 29. Adobe expected that the distribution of its existing employees' salaries would fit [redacted] *Id*., Ex. F (Streeter Depo.) at 57. Similarly, Apple's compensation data shows that, for each year in the Class Period, Apple had a "job structure system," which included categorizing and compensating its workforce according to a discrete set of company-wide job levels assigned to all salaried employees and [redacted] sets of base salary ranges applicable to [redacted]. *Id*., Ex. M (Burmeister Depo.) at 14-15, 52-53; Brown Decl., Ex. 16 (Burmeister Decl.) ¶¶ 6, 10 & Ex. B. Every salary range comprised centrally established "min," "mid" and "max" amounts. *See ids*.

Google also had many job families, many grades within job families, and many job titles within grades. *See, e.g.*, Harvey Suppl. Decl., Exs. 15, 16; *see also* Cisneros Decl., Ex. S (Brown Depo.) at 74-76 (discussing salary ranges utilized by Google); *id*., Ex. X (Wagner Depo.) at 49-50 (testifying that Google's [redacted] salary ranges had generally the same structure" as the [redacted] salary ranges). Throughout the class period, Google utilized salary ranges and pay bands with minima

and maxima and either means or medians. Hallock Rep. ¶ 66; *see* Cisenors Decl., Ex. S (Brown Depo.) at 74-76, *id.*, Ex. X (Wagner Depo.) at 49-50 (testifying that Google's [redacted] salary ranges had generally the same structure as the [redacted] salary ranges). As explained by Shona Brown (former Google Senior Vice President, Business Operations), "if you discussed a specific role [at Google], you could understand that role was at a specific level on a certain job ladder." Cisneros Decl., Ex. S (Brown Depo.) at 94-95; *id.*, Ex. Y (Conrad Depo.) at 23.

Likewise, Intel had a "compensation structure," with job grades and job classifications. *See id.*, Ex. BB (McKell Depo.) at 73 ("[W]e break jobs into one of three categories—job families, we call them—R&D, tech, and nontech, there's a lot more . . . ."). The company assigned employees to a grade level based on their skills and experience. *Id.*, Ex. Y (Conrad Depo.) at 23; *see also id.*, Ex. CC (Murray Depo.) at 45 (explaining that everyone at Intel is assigned a "classification" similar to a job grade). Intel standardized its salary ranges throughout the company; each range applied to multiple jobs and most jobs spanned multiple salary grades. *Id.*, Ex. BB (McKell Depo.) at 59. Intel further [redacted], and compensation at Intel, like Adobe, [redacted] *Id.* at 62-63.

The other Defendants had similarly set salary structures. Intuit had job families and job titles—as indicated by documents tracking salary low, mid, and high information, job codes, and percentiles—and categorized jobs into [redacted] formal bands. Hallock Rep. ¶¶ 85, 89. Lucasfilm's compensation scheme included job titles that were matched to job families, *see* Cisneros Decl., Ex. LL (Coker Depo.) at 246, as well as set salary ranges for employees who had similar job titles or job classifications, *id.*, Ex. NN (Lucas Depo.) at 137-138. Pixar used job families and groups, *see id.*, Ex. VV (Sheehy Depo.) at 78, 136, and established salary ranges for each position, *id.*, Ex. SS (McAdams Depo.) at 29.

Second, to ensure that employees were paid within the prescribed salary ranges, Defendants used specific guidelines and tools. For instance, to assist managers in staying within the prescribed ranges for setting and adjusting salaries, Adobe had an online salary planning tool as well as "salary matrixes" which provided managers with guidelines based on market salary data. *See*

Cisneros Decl., Ex. C (Arriada-Keiper Depo.) at 82-3 ("[E]ssentially the salary planning tool is populated with employee information for a particular manager, so the employees on their team [sic]. You have the ability to kind of look at their current compensation. It shows them what the range is for the current role that they're in . . . . The tool also has the ability to provide kind of the guidelines that we recommend in terms of how managers might want to think about spending their allocated budget.").

Apple also created a Human Resources and recruiting tool called [redacted] which was an internal system for tracking employee records and performance, and required managers to grade employees at [redacted] pre-set levels. *See id.*, Ex. I (Baja Depo.) at 142-43, 145-46); *id.*, Ex. N (Fadell Depo.) at 52-53; *id.*, Ex. O (Mansfield Depo.) at 33. As explained by Tony Fadell (former Apple Senior Vice President, Ipod Division, and advisor to Steve Jobs), [redacted] "would say, this is the employee, this is the level, here are the salary ranges, and through that tool we were then – we understood what the boundaries were." *Id.*, Ex. N (Fadell Depo.) at 53.

Intel also used a software tool to provide guidance to managers about an employee's pay range which would also take into account market reference ranges and merit. *See* Harvey Suppl. Decl., Ex. 9. As explained by Randall Goodwin (Intel Technology Development Manager), "[i]f the tool recommended something and we thought we wanted to make a proposed change that was outside its guidelines, we would write some justification." Cisneros Decl., Ex. Z (Goodwin Depo.) at 52; *accord* Hallock Rep. ¶ 77.

Intuit similarly gave compensation guidelines to managers throughout the company. *See* Cisneros Decl., Ex. GG (McNeal Depo.) at 76, 99. Michael McNeal (Intuit Vice President of Talent Development, former Vice President of Talent Strategy, Vice President of Talent Acquisition, Director of Talent Acquisition, and Manager of Executive Recruitment) acknowledged, for example, that Intuit provided guidance about "the variables that [the company] usually use[s] to the make . . . decision[s]" about compensation. *Id.* at 99.

Similarly, Frank Wagner (Google Director of Compensation), testified that he could locate the target salary range for jobs at Google through an internal company website. *See id.*, Ex. X (Wagner Depo.) at 57-58 ("Q: And if you wanted to identify what the target salary would be for a

certain job within a certain grade, could you go online or go to some place . . . and pull up what that was for that job family and that grade? . . . A: Yes.").

Third, Plaintiffs' evidence indicates that Defendants expected compensation to be set within their salary ranges; deviations required special approval. Adobe's practice, if employees were below the minimum recommended salary range, was to "adjust them to the minimum as part of the annual review" and "red flag them." *Id.*, Ex. C (Arriada-Keiper Depo.) at 24. Deviations from the salary ranges would also result in conversations with managers, wherein Adobe's officers explained, "we have a minimum for a reason because we believe you need to be in this range to be competitive." *Id.*

Similarly, Intel regularly ran reports showing the salary range distribution of its employees, *id.*, Ex. BB (McKell Depo.) at 64, and, at Intuit, recruiters could not deviate from salary guidelines without express approval, *id.*, Ex. HH (Nguyen Depo.) at 72-73, 90-92. At Apple, going outside prescribed "guidelines" also required extra approval. *See id.*, Ex. J (Bechtel Depo.) at 217; *id.*, Ex. N (Fadell Depo.) at 53 ("And if we were to go outside of that, then we would have to pull in a bunch of people to then approve anything outside of that range."). Google's compensation programs were designed, monitored, and overseen by a special department called "People Ops." *See id.*, Ex. 5 (Brown Depo.) at 24. And finally, at Pixar, Stephanie Sheehy (Pixar Manager of Human Resources Analysis) and Lori McAdams (Pixar Vice President of Human Resources and Administration) were responsible for ensuring that salaries for each job group remained within their allocated pool. Cisneros Decl., Ex. VV (Sheehy Depo.) at 77-78.

Fourth, Plaintiffs' evidence shows not only that Defendants maintained formal compensation structures, but that the details of these structures were driven by concerns about maintaining internal equity—the idea that employees doing the same work would generally be paid similarly—in both hiring and promotions.

As explained by Debbie Streeter (Adobe Vice President, Total Rewards), Adobe "always looked at internal equity as a data point, because if you are going to go hire somebody externally that's making . . . more than somebody who's an existing employee that's a high performer, you need to know that before you bring them in." *Id.*, Ex. F (Streeter Depo.) at 175. Similarly, when

considering whether to extend a counteroffer, Adobe advised "internal equity should ALWAYS be considered." *Id.*, Ex. 216.5.

Concerns about internal equity also permeated Apple's compensation program. Steven Burmeister (Apple Senior Director of Compensation) testified that internal equity—which Burmeister defined as the notion of whether an employee's compensation is "fair based on the individual's contribution relative to the other employees in your group, or across your organization"—inheres in some, "if not all," of the guidelines that managers consider in determining starting salaries. *Id.*, Ex. M (Burmeister Depo.) at 61-64; *id.*, Ex. 1856. In fact, as explained by Patrick Burke (former Apple Technical Recruiter and Staffing Manager), when hiring a new employee at Apple, "compar[ing] the candidate" to the other people on the team they would join "was the biggest determining factor on what salary we gave." *Id.*, Ex. L (Burke Depo.) at 279 (emphasis added).

Likewise, Google considered internal equity to be an important goal. Google utilized a salary algorithm in part for the purpose of "[e]nsur[ing] internal equity by managing salaries within a reasonable range." *Id.*, Ex. 1613. Furthermore, because Google "strive[d] to achieve fairness in overall salary distribution," "high performers with low salaries [would] get larger percentage increases than high performers with high salaries." *Id.*, Ex. 1618.14.

Similarly, Intel used internal equity "to determine wage rates for new hires and current employees that corresponded to each job's relative value to Intel." *Id.*, Ex. BB (McKell Depo.) at 210-211; *id.*, Ex. 398.8. To assist in that process, Intel used a tool that generates an "Internal Equity Report" when making offers to new employees. *Id.*, Ex. BB (McKell Depo.) at 212-13. In the words of Ogden Reid (Intel Director of Compensation and Benefits), "[m]uch of our culture screams egalitarianism . . . . While we play lip service to meritocracy, we really believe more in treating everyone the same within broad bands." *Id.*, Ex. 2035.4.

At Lucasfilm, all new positions and out-of-cycle compensation adjustments presented to its compensation committee for approval were to be accompanied by "Peer Relationship" information regarding how the subject employee's (or candidate's) colleagues inside the company were compensated, and this factored heavily into committee decisions. *See id.*, Exs. 710, 729, 2084,

2092, 2094, 2096; *id.*, Ex. MM (Condiotti Depo.) at 41-42 ("[I]n most cases, when we got a comp request . . . it would have the survey data and all of the internal people that had—were in similar positions."). Chris Galy (Lucasfilm Director of Talent Acquisition) testified that internal equity is "always one of the considerations" in determining pay for new hires and that he always discusses internal equity with the manager requesting the new hire. *See id.*, Ex. FF (Galy Depo.) at 200-03. Chris Galy explained that maintaining internal equity was important because "[y]ou don't want to . . . hire one person and lose ten." *Id.* at 201. Chris Galy also testified about a specific recent situation in which bringing in a new person at a higher salary required raising another employee's salary in order to preserve internal equity. *Id.* at 194-95 ("[A]nd so we did an action [pay increase] for [redacted].").[10]

Pixar similarly expressed concerns with maintaining internal equity. *See, e.g., id.*, Ex. QQ (Batali Depo.) at 67 ("[I]f someone feels like they're being paid more than someone I know who has more value, it raises a bit of a flag"); *id.*, Ex. UU (Zissimos Depo.) at 71 (discussing comparing salaries of similar employees to ensure they were not "out of whack").

Due to Defendants' formalized pay structures and compensation design, Plaintiffs' evidence indicates that Defendants' concerns with internal equity could lead to classwide changes in compensation levels as a result of the anti-solicitation agreements. In the face of inequities between new hires and existing employees, Defendants considered increasing compensation for existing employees. This precise dynamic is best reflected in Defendants' own internal documents and emails before and after the anti-solicitation agreements. Lucasfilm regularly and proactively reviewed employee salaries to ensure its workforce was within range and implemented "[C]all-[O]ut [E]quity [A]djustment[s]"—individual compensation increases for the explicit purpose of "align[ing] the employee more appropriately in their salary range . . . [and] based on how that

[10] Chris Galy stated in his deposition: "Where a manager would come in and say 'I believe that I have an [sic] high-performing' -- in fact, I just had one of these about a month ago, couple months ago, where we went out and hired somebody, and as we were looking at some of the folks on the team, we recognized that the person is -- we were at risk of potentially having this person feel like they were, you know, not in the market range, so we did an action for [redacted]. . . . We gave [redacted] a salary increase." Cisneros Decl., Ex. FF (Galy Depo.) at 195. Defendants contest this anecdote by contending that the employee in question received a salary increase for purposes unrelated to internal equity. Yet the portions of Chris Galy's deposition that the Defendants cite are not in the record. The Court relies on the materials that the parties placed in the record.

employee aligns with their internal peer group based on the same set of criteria." *Id.*, Ex. OO (Maupin Depo.) at 194; *id.*, Ex. 730.

At Intel, a human resources document from 2002—prior to the anti-solicitation agreements—recognized "[redacted]" and "[redacted]" *Id.*, Ex. 392. In response, Intel planned to: (1) "[redacted] and (2) [redacted] *Id.* An Intel human resources document confirms that, [redacted] Harvey Suppl. Decl., Ex. 10 at 7 (emphasis added).

At Adobe, five months before Bruce Chizen (former Adobe CEO) entered into an agreement with Steve Jobs (Co-Founder, former Chairman, and Former CEO of Apple) to eliminate cold calling between the companies, Donna Morris (Adobe Senior Vice President, Global Human Resources Division) expressed concern "about internal equity due to [redacted] Harvey Decl., Ex. 17 ("[redacted]"). Adobe personnel stated that, because of the [redacted], they may not be able to respond to the problem immediately "[redacted]" *Id.*

The effects of internal equity may have been even more concentrated within the Technical Class. Intuit, for example, differentiated between compensation for engineers and other technical positions versus "all other[s]." Cisneros Decl., Ex. 2739.70. Technical employees had a [redacted] range of salaries and, even for employees of similar salaries, technical employees [redacted]. *Id.* Pixar had a "Tools Software Engineer leveling matrix" that it used "to give [Pixar] a consistent framework for evaluating the expected contribution of [their] software engineers" and to justify adjusting salaries. *See id.*, Ex. 1309.1. After Pixar determined that some of its [redacted], Pixar decided to make "[redacted]." *Id.* From Pixar's

perspective, "[t]he goal of the new salary proposals is [to] compensate the lowest paid team-members who are performing at the highest levels. This is a 'pre-emptive strike.' We want to send a clear message to these [redacted] that we value them at least as much as some new hires who are seeing much more competitive offers from other companies." *Id*.

In sum, Plaintiffs' evidence supports their theory that Defendants' formal compensation structures combined with the premium Defendants' placed on internal equity created a market for the Technical Class of employees in which any individual's compensation was intertwined with that of her peers. The Court finds persuasive Plaintiffs' contention that common questions about the impact of Defendants' compensation structures, their focus on internal equity, and the effects of these factors on the Technical Class as a whole are likely to predominate over any individual questions.

iii. Impact of Labor Market Competition

Thus far, the Court has discussed Plaintiffs' documentary evidence of the effects of cold calling, Defendants' compensation structures, and Defendants' internal equity concerns on wage suppression across the Technical Class. Now, the Court turns to documentary evidence that suggests that wage suppression within an individual Defendant firm may have affected Technical Class members employed by other Defendant firms because the Defendants viewed each other as competitors for the same employees. This competition often meant that Defendants benchmarked compensation based on each other or based on common external sources.

Adobe, for example, viewed Google and Apple to be among its top competitors for talent and expressed concerned about whether Adobe was "winning the talent war." Shaver Decl., Ex. 14. Adobe further considered itself in a "[redacted]-horse race from a benefits standpoint," which included Google, Apple, and Intuit as among the other "horses." *See* Shaver Decl., Ex. 15. In 2008, Adobe benchmarked its compensation against [redacted] companies including Google, Apple, and Intel. Shaver Decl., Ex. 15; *cf*. Cisneros Decl., Ex. 2800 (showing that, in 2010, Adobe considered Intuit to be a "direct peer," and considered Apple, Google, and Intel to be "reference peers," though Adobe did not actually benchmark compensation against these latter companies).

Similarly, throughout the class period, Google analyzed and compared its equity compensation to Apple, Intel, Adobe, and Intuit, among other companies, each of which it designated as a "peer company" based on meeting criteria such as being a "high-tech company," a "high-growth company," and a "key labor market competitor." *Id.*, Ex. 173. In 2007, based in part on an analysis of Google as compared to its peer companies, Laszlo Bock (Google Senior Vice President of People Operations) and Dave Rolefson (Google Equity Compensation Manager) wrote that "[o]ur biggest labor market competitors are [redacted] to beat Google for talent." *Id.*

Apple identified Google, Intel, as well as The Walt Disney Company (which now owns Pixar and Lucasfilm), as "peer companies," a phrase Apple defined as "U.S.-based, stand-alone, public companies that, in [the Apple compensation committee's] view, compete with [Apple] for talent, have revenue, market capitalization, and performance that are generally comparable to [Apple]." Cisneros Decl., Ex. 1855.

Intel also benchmarked compensation against other "tech companies generally considered comparable to Intel," which Intel defined as a "[b]lend of semi, software, networking, communications, and diversified computer companies." Cisneros Decl., Ex. 2030.115. According to Intel, in 2007, these comparable companies included Apple and Google. *Id.*

At Lucasfilm, a 2007 "Recruiting and Human Resources Update" prepared for a Board of Directors meeting corroborates many of the dynamics that appear to have been at play for Defendants. The update states that (1) passive talent was "difficult to find;" (2) Lucasfilm had "[e]xtremely diverse needs for each division;" (3) its Bay Area competition included other Defendants in this case including Pixar, Google, and "Silicon Valley" generally; and (4) some of its most difficult positions to fill included members of the Technical Class, including [redacted] *Id.*, Ex. 690.19-.22.

Further, there is evidence that Defendants also benchmarked their compensation data to common external sources, most commonly Radford or Croner. Adobe, for example, pegged its compensation structure as a [redacted]. *See id.*, Ex. C (Arriada-Keiper Depo.) at 16; *see also id.*, Ex. M

(Burmeister Depo.) at 52-55 (discussing how Apple used external market data, such as Radford, as a "reference" when determining salary ranges); *id.*, Ex. 1309.1 (showing that Pixar compared itself against the Radford survey). Bruce Chizen (former Adobe CEO) explained that the particular market targets that Adobe used as benchmarks for setting salary ranges "tended to be software, high-tech, those that were geographically similar to wherever the position existed." *Id.*, Ex. A (Chizen Depo.) at 98. At times, Defendants would make adjustments to their salaries in order to stay competitive. For example, Intel would "[redacted]," *id.*, Ex. BB at 89, and use that as part of the process for determining its "own focal process or pay delivery," *id.*, Ex. CC at 23. [redacted] *Id.*, Ex. BB at 90.

Plaintiffs' documentary evidence further suggests that when determining the competitiveness of their own pay practices, Defendants matched job title compensation within the company to similar titles across multiple companies and shared compensation information. *See* Shaver Suppl. Decl., Ex. 122 (email from Lori McAdams (Pixar Vice President of Human Resources and Administration) to Sharon Coker (former Lucasfilm Director and Senior Director of Human Resources), among others, asking about others' "salary increase budget for FY '07" and stating "[o]urs is [redacted], but we may manage it closer to [redacted] on average. Are you doing anything close, more or less?"); Cisneros Decl., Ex. 621 (email from Laszlo Bock (Google Senior Vice President of People Operations) stating, "[o]ur budget is comparable to other tech companies . . . . We called tech companies this week to check merit budgets to compare to our 3.9%. They told us their merit budgets are: . . . Adobe – [redacted] . . . Apple – [redacted] . . . Intel – [redacted] . . .). Defendants could safely share this data only because they were not in fact competing for employees due to the anti-solicitation agreements.

The pressure Defendants would have experienced due to market competition, including competition against other Defendants in this case, is reflected in a 2006 email from Howard Look (former Pixar Vice President of Software) to Lori McAdams (Pixar Vice President of Human Resources and Administration), Ed Catmull (Pixar President), and Ali Rowghani (Pixar CFO and Senior Vice President of Strategic Planning):

> This new market data [from Radford] corroborates what we've been feeling about the bay area tech market heating up, and helps partially explain why recruiting has been so hard, and why we've lost two people to other tech companies ([redacted]) . . . . We obviously want to be fiscally prudent and do our best to stay within our [redacted] budget, but we should also acknowledge the much higher cost of backfilling for experienced engineers. We have lots going for us beyond base salary . . . but for a software apps engineer, there's a lot going on out there, and with [redacted], there is risk that we may lose more.

Cisneros Decl., Ex. 1306.

The concern Defendants felt about competition for employees contributed to Defendants' decisions to enter into anti-solicitation agreements. For example, in 2005, after hearing that Google was trying to recruit employees from Apple's Safari team, Steve Jobs (Co-Founder, Former Chairman, Former CEO of Apple) threatened Sergey Brin (Google Co-Founder), stating, as Brin recounted, "if you [Brin] hire a single one of these people that means war." *Id.*, Ex. 1871. In an email to Google's Executive Management Team as well as Bill Campbell (Chairman of Intuit Board of Directors, Co-Lead Director of Apple, and advisor to Google), Sergey Brin advised: "lets [sic] not make any new offers or contact new people at Apple until we have had a chance to discuss." *Id.* Similarly, in 2005, when considering whether to enter into an anti-solicitation agreement with Apple, Bruce Chizen (former Adobe CEO), expressed concerns about the loss of "top talent" if Adobe did not enter into an anti-solicitation agreement with Apple, stating, "if I tell Steve [Jobs] it's open season (other than senior managers), he will deliberately poach Adobe just to prove a point. Knowing Steve, he will go after some of our top Mac talent like [redacted] and he will do it in a way in which they will be enticed to come (extraordinary packages and Steve wooing)." Harvey Decl., Ex. 14.

In addition, Defendants appear to have perceived the anti-solicitation agreements as a way to stifle rising costs. From the perspective of George Lucas (former Lucasfilm Chairman of the Board and CEO), Lucasfilm "c[ould]not get into a bidding war with other companies because we don't have the margins for that sort of thing." Cisneros Decl., Ex. NN at 44; *see also* Shaver Decl., Ex. 60 (stating in an email that Pixar and Lucasfilm "have agreed that we want to avoid bidding wars"). As expressed by Edward Catmull (Pixar President), "[e]very time a studio tries to grow rapidly . . . it seriously messes up the pay structure . . . by offering high salaries to grow at the rate

[a company] desire[s], people will hear about it and leave." *Id*., Ex. 61; *see also* Cisneros Decl., Ex. RR (Catmull Depo.) at 179 ("So it messes up the pay structure. It does. It makes it very high. . . . That's just the reality we've got. And I do feel strongly about it."). Writing in response to the head of Disney Studios, Edward Catmull explained, "[w]e have avoided wars up here in Norther[n] California because all of the companies up here - Pixar, ILM [Lucasfilm], Dreamworks, and a couple smaller places - have conscientiously avoided raiding each other." Shaver Decl., Ex. 61. Notably, shortly after Steve Jobs entered into an anti-solicitation agreement with Google, Meg Whitman (former CEO of eBay) called Eric Schmidt (Google Executive Chairman, Member of the Board of Directors, and former CEO) "to talk about [Google's] hiring practices." Cisneros Decl., Ex. 872. As Eric Schmidt told Google's senior executives, Ms. Whitman said "Google is the talk of the valley because [you] are driving up salaries across the board." *Id.*

The evidence therefore indicates that Defendants sought to enter into anti-solicitation agreements in an effort to stifle increased competition for labor and rising wages. To the extent that they were successful, Defendants did not need to increase compensation as much as they otherwise would have to attract and retain employees. This common evidence further suggests that the anti-solicitation agreements reached beyond individual members of the Technical Class and affected the compensation of the Technical Class as a whole, including across Defendant firms. The extensive documentary evidence Plaintiffs present therefore supports their theory that they will be able to prove the impact of the antitrust violations on a classwide basis.

b. Expert Reports and Statistical Evidence

To show that common issues predominate for the purpose of assessing classwide impact, Plaintiffs further retained the services of two experts: Edward E. Leamer, Ph.D.,[11] and Kevin F. Hallock, Ph.D.[12] Defendants presented reports from their own experts, Kevin M. Murphy, Ph.D.,[13]

[11] Edward E. Leamer, Ph.D, is the Chauncey J. Medberry Professor of Management, Professor of Economics, and Professor of Statistics at the University of California, Los Angeles. Dr. Leamer earned a B.A. in Mathematics from Princeton University in 1966, and a Masters in Mathematics and a Ph.D. in Economics at the University of Michigan in 1970. He has published on the topics of econometric methodology and statistical analysis, international economics, and macro-economic forecasting, including on the subject of inferences that may appropriately be drawn from non-experimental data.

[12] Kevin F. Hallock, Ph.D., is the Donald C. Opatrny '74 Chair of the Department of Economics, Joseph R. Rich '80 Professor, Professor of Economics, Professor of Human Resources Studies, and

and Kathryn Shaw, Ph.D.,[14] to attack Dr. Leamer's and Dr. Hallock's analyses and conclusions. The Court begins by describing the methodologies and analyses of Dr. Leamer and Dr. Hallock, which support Plaintiffs' theories of common impact of harm. The Court then turns to Defendants' criticisms of Dr. Leamer, Dr. Hallock, and the materials on which Dr. Leamer and Dr. Hallock rely. The Court finds that methodological deficiencies in Defendants' expert reports render the criticisms unpersuasive. The Court therefore finds that the methodologies and theories of Dr. Leamer and Dr. Hallock demonstrate that common questions are likely to predominate over individual questions.

i. Dr. Leamer's Opinions Based on Economic Theory, Documentary Evidence, Data, and Statistical Analyses

In Dr. Leamer's first expert report, which was presented in support of Plaintiff's Motion for Class Certification, Plaintiffs asked Dr. Leamer to evaluate whether classwide evidence was capable of showing that the anti-solicitation agreements artificially reduced the compensation of: (1) members of the Technical and All Employee classes generally, and (2) all or most members of each class. *See* Leamer Rep. ¶ 10(a). In addition, Plaintiffs asked Dr. Leamer to assess whether there was a reliable classwide or formulaic method capable of quantifying the amount of suppressed compensation suffered by each class member. Leamer Rep. ¶ 10(b). Dr. Leamer answered these questions in the affirmative.

Director of the Cornell Institute for Compensation Studies at Cornell University. Dr. Hallock earned a B.A. in Economics at the University of Massachusetts at Amherst in 1991, and a Ph.D. in Economics from Princeton University in 1995. He is a leading labor economist and an expert in compensation structure and design.

[13] Kevin M. Murphy, Ph.D., is the George J. Stigler Distinguished Service Professor of Economics in the Booth School of Business and the Department of Economics at the University of Chicago. Murphy received a bachelor's degree in economics from the University of California, Los Angeles, in 1981, and a Ph.D. in economics from the University of Chicago in 1986. Dr. Murphy has published on labor markets and the determinants of wages and compensation. His work in labor economics has addressed the market determinants of wage by skill level as well as the determination of relative wages across industries and occupations.

[14] Kathryn Shaw, Ph.D., is the Ernst C. Arbuckle Professor of Economics at the Stanford Graduate School of Business. Dr. Shaw received an A.B. degree from Occidental College and Ph.D. in Economics from Harvard University. Dr. Shaw has published on the topic of personnel economics. She also co-pioneered the field of "insider econometrics," a research field in personnel economics in which researchers go within companies and use insider knowledge and data to identify the performance gains from management practices.

Dr. Leamer's analysis proceeded in two steps. First, Dr. Leamer explained that economic studies and theory, documentary evidence, and statistical analyses were capable of showing that the anti-solicitation agreements "tend[ed] to suppress employee compensation generally, by preventing class members from discovering the true value of their work." Class Cert. Mot. at 16. In other words, Dr. Leamer illustrated how classwide evidence was capable of showing that, at the very least, Defendants were paying some members of the class less than they would have been paid in the absence of the anti-solicitation agreements. Second, Dr. Leamer illustrated how economic studies and theory, documentary evidence, and statistical analyses are capable of showing that this suppression of compensation affected all or nearly all class members. Plaintiffs noted that Dr. Leamer's approach followed a roadmap widely accepted in antitrust class actions that use evidence of general price effects plus evidence of a price structure to conclude that common evidence is capable of showing widespread harm to the class. *See, e.g.*, *Johnson*, 2009 WL 5031334 at *8, 11 (finding predominance where conduct was alleged to suppress bill rates for nurses generally and evidence was presented that bill rates were correlated with nurse pay rates); *see also In re Linerboard Antitrust Litig.*, 305 F.3d 145, 153-55 (3d Cir. 2002) (endorsing regression plus pricing structure study to show classwide impact).

In Dr. Leamer's supplemental expert report, which was prepared in support of the supplemental motion for class certification, Plaintiffs asked Dr. Leamer to respond to questions raised by the Court related to whether Dr. Leamer's initial methodology could show classwide impact. Dr. Leamer focused his supplemental report on the Technical Class and found that his additional analyses confirmed his "original finding of a somewhat rigid pay structure at each Defendant that would have transmitted the effects of the agreements broadly, including throughout the Technical Class." Leamer Suppl. Rep. ¶ 13.

a) Suppressed Compensation Generally

Dr. Leamer first concluded that classwide evidence was capable of showing that the anti-solicitation agreements suppressed compensation of Technical Class members generally. According to Dr. Leamer, this first step was supported by principles of information economics, such as "market price discovery." Dr. Leamer noted that, when evaluating the functioning of labor

markets, economists often use a market equilibrium model, which "presume[s] that market forces are powerful enough and work rapidly enough that virtually all transactions occur at approximately the same price—the 'market price' which equilibrates supply and demand." Leamer Rep. ¶ 71. In reality, when labor market conditions change, high transaction costs and limited information flow can slow the process by which transaction prices reach market equilibrium. *Id.* ¶¶ 72-73. "Market price discovery" is the process by which participants in a market search for this equilibrium. *Id.* ¶ 71.

Dr. Leamer opined that the high transaction costs—including time, money, and personal dislocation—involved in searching for high tech jobs limit the number of existing workers seeking new employment. *Id.* ¶ 74. Defendants and other high tech companies value potential employees who are not actively looking for new employment opportunities ("passive candidates") more than those who are looking for new jobs ("active candidates") because currently satisfied employees: (1) tend to be perceived as more qualified, diligent, and reliable; (2) often have training, on-the-job experience, and track records that save the hiring company search and training costs; and (3) are valuable assets that, if hired away from rivals, can harm competitors. *Id.* ¶ 62. Thus, recruiting these passive candidates by cold calling is both an important tool for employers and a key channel of information for employees about outside opportunities. *Id.* ¶¶ 57-62, 75.

Dr. Leamer hypothesized that, by restricting cold calling and other competition over employees, Defendants' anti-solicitation agreements impaired information flow about compensation and job offers. Class Cert. Mot. at 3. Defendants' inhibition of employees' ability to discover and obtain the competitive value of their services meant employees were afforded fewer opportunities to increase their salaries by moving between firms and deprived of information that could have been used to negotiate higher wages and benefits within a firm. *See* Leamer Rep. ¶¶ 71-76. In addition, Dr. Leamer opined that, by limiting the information available to employees, Defendants could avoid taking affirmative steps, such as offering their employees financial rewards and other forms of profit sharing, to retain employees with valuable firm-specific skills. *Id.* ¶¶ 77-80.

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In support of this hypothesis, Dr. Leamer cited to the work of Nobel Prize winning economists, such as Joseph Stiglitz, for the proposition that "even a small amount of information imperfection could have a profound effect on the nature of the equilibrium." Joseph Stiglitz, *Information and the Change in the Paradigm in Economics*, 92 Am. Econ. Rev. 460, 461 (2002); *see* Leamer Reply Rep. ¶¶ 37, 38; *see also id*. ¶ 40 ("The fact that actions convey information leads people to alter their behavior, and changes how markets function. This is why information imperfections have such profound effects.").

Dr. Leamer also relied on the documentary evidence—common to the class as a whole—as further support for the link between the anti-solicitation agreements and compensation reduction. *See* Leamer Rep. ¶¶ 81-88. For example, he cited to Defendants' internal documents indicating that, but for the anti-solicitation agreements, Defendants would have been competing for labor and cold calling each other's employees, and that Defendants recognized that cold calling and other forms of employee solicitation had the potential to drive up the cost of specific employees, which could then have broader effects. *Id.*

Finally, Dr. Leamer bolstered his findings with standard econometric analysis utilizing solely classwide evidence and methods. Dr. Leamer performed an analysis to show that employees who changed firms received higher compensation than those who stayed, reflecting the economic theory of price discovery at work. *Id*. ¶¶ 89-93. Dr. Leamer also performed multiple regression analyses,[15] utilizing Defendants' internal compensation data, to illustrate class members' undercompensation by comparing compensation during the conspiracy with compensation in a conspiracy-free, but-for world. Dr. Leamer concluded that the multiple regression analyses showed that the anti-solicitation agreements artificially suppressed compensation at each Defendant. Leamer Rep. ¶¶ 145-46, Figs. 20-24.

b) Widespread Effect

[15] "A regression is a statistical tool designed to express the relationship between one variable, such as price, and explanatory variables that may affect the first variable. Regression analysis can be used to isolate the effect of an alleged conspiracy on price, taking into consideration other factors that might also influence price, like costs and demand." *In re Aftermarket Auto. Lighting Prods. Antitrust Litig.*, 276 F.R.D. 364, 371 (C.D. Cal. 2011) (internal quotation marks and citation omitted).

Second, Dr. Leamer opined that economic studies and theory, documentary evidence, and statistical analyses were capable of showing that this compensation suppression had widespread effects. In both his initial report and his supplemental report, Dr. Leamer relied on economic studies and theories of loyalty, fairness, and internal equity, as well as documentary evidence and data, to explain how the adverse effects on compensation due to Defendants' anti-solicitation agreements would have been felt by employees who would have received a cold call or had a significant chance of receiving a cold call and employees who are linked to these groups due to internal equity considerations. Leamer Rebuttal Suppl. Expert Decl. ("Leamer Suppl. Reply Rep.") ¶¶ 27-28.

Based on economic studies and theories involving loyalty, fairness, and internal equity, Dr. Leamer contended that labor markets do not behave like commodity markets. Rather, labor markets rely on committed long-term relationships built on trust, understanding, and mutual interests. Leamer Rep. ¶ 102. As Dr. Leamer explained: "If workers were commodities, every small change to external or internal conditions would lead to recontracting, separation, or termination. This would create enormous uncertainty and disruption and insecurity for employer and employee." *Id.* Thus, both employers and employees seek ways to turn the market transaction into secure long-term relationships, which "can come either from commitment (emotional or financial) to the mission of the organization, or from jointly owned firm-specific assets." *Id.* Companies thus attempt to create loyalty "by getting buy-in from the firm's mission and by making the place of work as appealing as possible." *Id.* ¶ 103.

"One foundation of employee loyalty is a feeling of fairness that can translate into a sharing of . . . [a firm's] rewards with more equality than a market might otherwise produce." *Id.* ¶ 104. Firms seek to promote a feeling of fairness among employees to maintain or to increase employees' commitment and contentment, which also leads to higher levels of productivity. Leamer Suppl. Rep. ¶ 16. Dr. Leamer explained that, "[t]o maintain loyalty, it is usually better for a firm to anticipate rather than to react to outside opportunities, since if a worker were to move to another firm at a much higher level of compensation, coworkers left behind might feel they have

not been fairly compensated. That can have an adverse effect on worker loyalty, reducing productivity and increasing interest in employment elsewhere." Leamer Rep. ¶ 105.

Dr. Leamer opined that the information conveyed by an outside offer or a cold call could stimulate a response by management that could extend beyond the specific individual who received the cold call. As Dr. Leamer explained, "when management becomes aware of an attractive outside opportunity for one individual this may make management aware also of the implicit competitive threat to similar individuals and management may feel it wise to make a preemptive move against that threat by an increase in compensation for these newly-threatened similar employees." Leamer Suppl. Rep. ¶ 15. Even though the market may not mandate a rise in compensation for these similar individuals until they actually receive an outside offer, "preemptive improvements" can minimize the disruption to employee loyalty that might occur when an employee discovers the she was undercompensated. Leamer Rep. ¶ 105. Thus, "[c]old-[c]alling—as well as just the threat of [c]old-[c]alling—puts upward pressure on compensation." *Id.* ¶ 106. Dr. Leamer opined that "a broad preemptive response is completely analogous to salary increases that are tied to information provided by employment services regarding the compensation offered by the 'market.'" Leamer Suppl. Rep. ¶ 15. Essentially, Dr. Leamer opined that the "response to bursts of cold calls and, even more, the response to the threat of cold calls" would raise internal equity concerns that would spread the impact throughout the Technical Class. Leamer Suppl. Reply Rep. ¶ 27.

In further support of his opinion, Dr. Leamer relied on documentary evidence, including Defendants' compensation data. This documentary evidence showed Dr. Leamer that Defendants each employed company-wide compensation structures that included grades and titles, and that high-level management established ranges of salaries for grades and titles, which left little scope for individual variation. *Id.* ¶¶ 121-22. Defendants also established and regularly updated compensation levels with the goals of: (1) providing similar compensation for all employees in the same employment category; (2) providing specific relative compensation levels for employees in different, hierarchically ordered, employment categories; (3) retaining employees; and (4) maintaining employee productivity and contentment. *See id.* ¶ 122.

Dr. Leamer looked to standard economic labor theory and statistical analyses as additional evidence that the anti-solicitation agreements would broadly affect members of the Technical Class. He explained that his "statistical task is to identify the common factors in the individual data and to apportion these common factors between internal and external forces." Leamer Suppl. Reply Rep. ¶ 29.

In his first expert report, Dr. Leamer conducted regression analyses based on Defendants' salary structures and compensation data, to which the Court referred as Dr. Leamer's "Common Factors Analyses." *See* Leamer Rep., Figs. 11-14. Specifically, Dr. Leamer's Common Factors Analyses assessed Defendants' "firmwide compensation structures, and the formulaic way in which total compensation was varied over time." *Id.* ¶ 128. According to Dr. Leamer, approximately 90 percent of the variation in any individual employee's compensation can be explained by common factors "such as age, number of months in the company, gender, location, title, and employer." *Id.*; *see also id.*, Figs. 11-14. Defendants do not dispute the "fact that job titles explain a large fraction of the firm-wide variation in compensation." Murphy Expert Report ("Murphy Rep.") ¶ 92, ECF No. 230. Dr. Leamer concludes that "[t]he fact that nearly all variability in class member compensation at any point in time can be explained by common variables means there was a systematic structure to employee compensation at each of the Defendant firms." Leamer Rep. ¶ 130. Dr. Leamer opined that these rigid wage structures, and the fact that the coefficients in his regressions did not vary substantially over time, suggested that "compensation of class members tended to move together over time and in response to common factors," such that the effects of the anti-solicitation agreements would be expected to be experienced broadly. *Id.*

Second, Dr. Leamer opined that the evidence showed "a persistent salary structure across employees consistent with important elements of equity in the Defendants' compensation practices." *Id.* ¶ 134. Dr. Leamer specifically relied on five charts that depicted changes in the base salaries and total compensation for ten major job titles at Apple between 2006 and 2009, and the ten major job titles at Google between 2005 and 2009. *See id.*, Figs. 15-17. The Court referred to these five charts as Dr. Leamer's "Compensation Movement Charts." Apr. 5 Class Cert. Order

at 36. Dr. Leamer contended that these charts offered further evidence that compensation for different positions tended to move together over time (*i.e.*, if software engineers received a raise, so did account executives). *See* Leamer Rep. ¶¶ 133-34. Based on this evidence, Dr. Leamer opined that the anti-solicitation agreements that focused on subsets of workers would nonetheless have broader effects because of a desire on Defendants' part to maintain the overall salary structure. *Id.* ¶ 134.

Third, Dr. Leamer used a regression model to show that the anti-solicitation agreements had some general impact on the Class and to quantify the total amount of that impact on the Class. *See* Leamer Rep., Figs. 20-24. This model, to which the Court previously referred as the "Conduct Regression" analysis, incorporated a range of variables designed to account for factors including: (1) age, sex, and years at the company; (2) the effects on compensation caused by the anti-solicitation agreements; and (3) the effects caused by factors specific to each Defendant (*e.g.*, firm revenue, total number of new hires, etc.). *See id.*, Figs. 20, 23. Dr. Leamer used the model to estimate the average or net under-compensation at each firm during the conspiracy period. *See id.*, Fig. 22 and 24; Reply at 33.

In the Court's April 5 Class Certification Order, the Court stated that, "[a]ccepting arguendo that the Common Factors Analyses are accurate, they show that factors such as where an employee works and what an employee does play a large role in determining the employee's salary." Apr. 5 Class Cert. Order at 36. However, the Court found that Dr. Leamer did not establish that this fact implied that Defendants' salary structures were so rigid that compensation for employees with *different* titles would move together through time such that a detrimental impact to an employee with one job title would result in an impact to other employees in entirely different jobs (*i.e.*, that any impact would ripple across the entire salary structure). *Id.*

The Court also found that Dr. Leamer's Compensation Movement Charts shed little light on whether compensation of members of the All Employee Class (*e.g.*, a custodian at an Intel office in Texas and an engineer at an Intel office in California) moved together over time because the Compensation Movement Chart included only twenty job titles, primarily job titles from the Technical Class at two companies out of the thousands of job titles at the seven companies

included in the classes. *Id.* at 36-38. The Court expressed concern that the twenty positions reflected on the chart were not representative of the compensation movement of all Class members. *See id.* at 36-38. The Court also found that these charts did not provide particularly compelling evidence regarding whether salaries at each company were linked because Dr. Leamer admitted that the allegedly parallel movement reflected in the charts was also consistent with a "non[-]rigid wage structure." Brown Decl., Ex. 1 (Leamer Depo.) at 283:23-25.

Finally, the Court found that Dr. Leamer's Conduct Regression analysis was capable of showing that Defendants' total expenditures on compensation was less than they would have been in the absence of anti-solicitation agreements and thus capable of showing classwide damages. Apr. 5 Class Cert. Order at 38. The Court further found that the Conduct Regression was capable of showing that the anti-solicitation agreements had a general impact on class members. *Id.* The Court rejected Defendants' contentions to the contrary. *Id.* at 39-42. In this Order, the Court discusses Conduct Regression primarily for the analysis's utility in demonstrating classwide damages. However, the Court also notes, as it did in its previous order, that the Conduct Regression analysis is also capable of demonstrating a general classwide impact.

In response to the Court's concerns that the extant statistical analyses could not show a rigid wage structure, Dr. Leamer submitted additional statistical analyses in his supplemental expert report. These new analyses focused on demonstrating that Defendants maintained a somewhat rigid wage structure not only within job titles, but also that Defendants maintained such a rigid wage structure *across* job titles. To demonstrate this, Dr. Leamer performed a correlation analysis on a job-title-by-job-title basis that compared the "movement over time of the average compensation of each title with the average compensation of the firm's Technical Class." Leamer Suppl. Rep. ¶ 4 (emphasis omitted). Dr. Leamer looked to the correlation analysis to measure "statistically how closely different variables move together." *Id.* ¶ 22; *see also* Suppl. Reply at 4 (stating that this correlation analysis is the quantitative equivalent of the co-movement charts). Dr. Leamer conducted the correlation analysis for all job titles, not just the twenty that Dr. Leamer presented in his initial report. Leamer Suppl. Rep. ¶ 4. This included all titles for which Dr. Leamer had at least six observations (a statistical threshold), which included 94% of Class Period

employee years. *Id.* ¶¶ 14, 30. He analyzed correlation over time in two dimensions: "correlation of compensation levels and correlations of compensation *changes*." *Id.* ¶ 23 (emphasis in original). The former focuses on long-term movements, while the latter focuses on year-by-year movements. *Id.*

With respect to both, Dr. Leamer found that the "vast majority" of Technical Class employee job titles (weighted by number of employee years) at each firm correlated positively over time with the compensation of the overall set of Technical Class employees at that firm. *See id.* ¶ 32, Figs. 2, 3.[16] As such, an increase in the compensation of each job title within any given firm was correlated with an increase in the overall compensation of Technical Class employees in that firm. In combination with the fact that 90% of employee total compensation is driven by common factors, Dr. Leamer contended that this sharing of gains across job titles over time further supported an inference of a somewhat rigid salary structure. *See id.* ¶ 4, Figs. 2, 3. Accordingly, Dr. Leamer's supplemental analysis bolstered his finding of a rigid salary structure because it demonstrated that not only was there a rigid salary structure within job titles (which his initial analysis showed) but also that there was a rigid salary structure across job titles.

Dr. Leamer next presented a multiple regression model for each company designed to detect the effect of internal forces acting on class member compensation (*i.e.*, a rigid compensation structure), as opposed to external market forces. *See id.* ¶¶ 24-29. The model measured the effect of a number of explanatory variables on job title compensation. One variable was average Technical Class compensation at a particular company. *See id.* The effect of this variable reflects the degree to which compensation increases for the group are shared broadly at the same time. *Id.* ¶ 25. The next variable measured the effect of the *previous* year's compensation, showing the degree to which gains in one year are later shared with other members of the Technical Class at the same company. *See id.* ¶ 26. Dr. Leamer's model also included variables for the firm's revenue and job growth in the San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area to allow for the possibility of alternative explanations for compensation increases. *Id.* ¶¶ 27-28.

[16] To account for titles with insufficient data to run the title-by-title analysis, Dr. Leamer also divides the employee groups into deciles and measures the correlation of each decile to the mean; these groups exhibit the same positive relationship. *See* Leamer Suppl. Rep. Figs. 9, 10.

Dr. Leamer estimated the regression on a title-by-title basis for job titles with adequate data within each company. *Id*. ¶¶ 24, 34-42; *see* Fig. 1 (Intel example), Figs. 6-8 (results).[17] *Id*. ¶¶ 43-49, Figs. 11-12. The regressions indicated that the "vast majority" of employees fall within titles or groups that show: (1) that gains for the titles or groups are shared broadly at the same time and (2) that gains for some are shared with others in different job titles in a subsequent year. *See id.* ¶ 8.[18] Dr. Leamer contended that this is consistent with his previous opinion that "all or almost all Defendants' employees would have been impacted by the non-compete agreements." *Id*. Moreover, Dr. Leamer opined that the fact that gains were shared over time strongly indicated that an internal sharing force, rather than only external market forces, drove the structure of class member compensation. *Id*. Dr. Leamer also demonstrated there is a much stronger correlation between compensation of job titles within a firm than there is between compensation of job titles between firms. This finding further reinforced his conclusion that each Defendant maintained a somewhat rigid pay structure and undermined Defendants' contention that internal forces and pay structure play no role in setting compensation. *Id.* ¶¶ 65-68.

Dr. Leamer recognized that his analyses do include outliers—job titles that do not positively correlate to the average or do not show sharing over time. *Id.* ¶ 12. He noted, however, that the number of outliers was small, and in most cases the outliers involved titles with incomplete data. *See id.* ¶¶ 12, 50-64. Thus, the presence of a few outliers did not undermine his basic conclusions about how Defendants paid their employees. Such conclusions were also supported by

[17] Dr. Leamer also estimated regressions by splitting the Technical Class titles into deciles. Dr. Leamer explains that, to form the ten groups, he ranked titles on the basis of average (inflation adjusted) total compensation over the lifetime of the title and then divided these up into deciles based on employee-years. Although Dr. Leamer attempted to break the firms up into 10 equal sized groups (equal based on employee years), some groups ended up being larger than others because some titles were more populous than others. Leamer Suppl. Rep. ¶ 43, n.8.

[18] Plaintiffs argue that this latter result is particularly significant. Defendants' expert, Dr. Murphy, initially contended that an "alternative hypothesis that the level of compensation of Defendants' employees is broadly determined by competition in a vast labor market for similar employees and that adjustments for unique circumstances of particular employees are highly individualized." Murphy Rep. ¶ 89. Plaintiffs argue that this contention becomes unsupportable when used to explain why gains for some are shared with others in a *subsequent year*; there is not a sensible reason that an external force such as increased demand for computers would affect some employees in one year and the rest in the next, without resort to internal forces such as fairness concerns. Leamer Suppl. Rep. ¶ 8 ("Furthermore, the sharing of gains over time strongly indicates the existence of an internal sharing force driving the structure of class member compensation, rather than only external market forces.").

economic theory and the evidentiary record. *See id.* ¶ 64. Importantly, Dr. Leamer also contended that he had not seen any evidence that any of the titles within the Technical Class would not have been harmed by the anti-solicitation agreements. *Id.*

Ultimately, Dr. Leamer concluded that common proof, "in the form of documents, data, economic theory, and statistical methodologies," were capable of demonstrating that the anti-solicitation agreements artificially suppressed compensation of all or nearly all members of the Technical Class. Leamer Rep. ¶ 149.

ii. Dr. Hallock's Opinions Based on Defendants' Testimony, Contemporaneous Documents, and Data

In further support of Class Certification, Plaintiffs present a second expert report from Dr. Kevin F. Hallock, a leading labor economist and an expert in compensation structure and design. *See* Hallock Rep. ¶¶ 1-3. Dr. Hallock investigated whether Defendants used formal administrative pay systems, and whether the anti-solicitation agreements at issue would have suppressed the compensation of all or nearly all members of the Technical Class. In forming his opinions, Dr. Hallock reviewed only common evidence: Defendants' testimony, contemporaneous documents, and data. Suppl. Class Cert. Mot. at 2.

Dr. Hallock found that Defendants all used formalized compensation systems that organized employees into pay ranges, grades, or families under umbrella systems. Hallock Rep. ¶ 45. In finding that all Defendants utilized formalized pay systems, Dr. Hallock relied on evidence that, among other things: (1) Defendants sorted their employees into job families and/or grades; (2) Defendants utilized salary ranges with a minimum, mid-point and maximum set based on external employment market data; and (3) Defendants used internal tools to assist managers with setting other employees' compensation levels. *See id.* ¶¶ 45-109.

An important feature of these formal systems is that job titles, levels, and grades are valued relative to all other employee categories in the company. Employees who receive compensation outside of their guideline ranges are identified and corrected to bring them in line with the company structure. *See, e.g., id.* ¶¶ 114, 140, 160, 166, 181. According to Dr. Hallock, "[i]f the ratios [between a person and someone else who is similarly situated] diverge from each other, the

person will experience reactions of unfairness and inequity," thus making internal equity "important not only in setting up the original structure of a compensation system but also when managing it." *Id.* ¶ 110 (internal quotation marks omitted).

Dr. Hallock also found that Defendants used their compensation system to pay their employees in systematic and structured ways. Dr. Hallock found that nearly all compensation decisions were made company-wide on an annual basis and in a fashion that preserves existing compensation relationships. When Defendants made "out of cycle" adjustments to retain certain employees (such as to make counteroffers or pay retention bonuses in light of a competitor's solicitation), Defendants were careful to adjust the system to take the exceptions into account. Dr. Hallock also found that Defendants adhered to principles of internal equity whereby similarly situated and similarly performing employees were paid similarly. *See id.* ¶¶ 111-81.

Given Defendants' formalized pay structures and compensation design, as well as issues of equity and fairness present in the Defendant firms, Dr. Hallock opined that the anti-solicitation agreements would have a widespread and systematic impact on compensation. *Id.* ¶ 237. First, Dr. Hallock opined that "[a] direct impact on pay could occur if an employee did not receive a cold call, or if the upward wage pressures on any of the employees in related groups or job families were disrupted." *Id.* ¶ 238. For example, Dr. Hallock hypothesized that one way that pay could be lowered at Defendants for nearly all workers has to do with extraordinary employees. Dr. Hallock noted that Defendants employed certain elite employees, and that cold calling often targeted these top employees. *Id.* ¶ 239. Since the anti-solicitation agreements suppressed salaries of these top employees and therefore lowered "the top of the box" in terms of the salary range, Hallock opined that the entire box may be lowered as well, thus impacting "nearly all other workers." *Id.*

Dr. Hallock also opined that external market data could influence wages, as there is evidence that Defendants benchmark their data to external sources, most commonly Radford or Croner. *See id.* ¶ 240. "[T]o the extent that pay is lowered at other firms through anti-competitive and other behavior of firms," Dr. Hallock found that "the market data they use for their own structure will be lower" and hence "their own pay levels will be lower than they would be in the absence of such agreements." *Id.*

Finally, in support of Plaintiffs' Technical Class definition, Dr. Hallock examined Defendants' pay structures and compensation design as they pertain to the Technical Class, and concluded that the same mechanisms that would have transmitted pay suppression throughout the Defendants' firms apply with even greater force to technical employees. *Id.* ¶ 246. Thus, if the anti-solicitation agreements suppressed the pay of certain members of the Technical Class, all or nearly all other members would be expected to have also been impacted. *See* Suppl. Mot. at 3.

c. The Court's Conclusions and Defendants' Contentions

Defendants argue that this Court should not certify the Technical Class because individualized inquiries regarding who was impacted will predominate over common questions. Defendants contend that their compensation policies and practices were highly individualized with wide variation in compensation. According to Defendants, compensation was set by hundreds of different managers who were directed to differentiate pay and reward high achieving employees. As such, Defendants argue that pay raises to one employee would not necessarily affect the salary of all other employees in the Technical Class.

In furtherance of their contention that individualized issues predominate, Defendants contend that the individual pieces of evidence offered by Plaintiffs are unpersuasive. However, as discussed below, Defendants cannot rebut the voluminous documentary evidence from Defendants' internal files and the expert reports that rely on this documentary evidence.

First, the Court finds, as it did previously, that Dr. Leamer's market price discovery and internal equity hypotheses offer theories subject to common proof for how Defendants' anti-solicitation agreements suppressed compensation broadly. *See* Apr. 5 Class Cert. Order at 21. While Defendants' expert, Dr. Murphy, criticized the economic literature upon which Dr. Leamer relied, Dr. Murphy did not dispute the basic principles of information economics undergirding Dr. Leamer's hypothesis. *See. e.g.*, Harvey Decl., ECF No. 297, Ex. 13 (Murphy Depo.) at 188:6-14; 192:25-193:6; 194:10-196:10; 197:7-19. Similarly, although Dr. Murphy criticized Dr. Leamer's initial expert report because it did not compare the importance of maintaining internal equity to other goals, such as procedural equity or the value of rewards for individual contributions as a loyalty motivator, s*ee* Murphy Rep. ¶ 81, the Court does not find that this undermines Dr. Leamer's

hypothesis that internal equity played some role in affecting employment compensation. This is particularly true in light of the extensive documentary evidence showing that Defendants valued internal equity.

Second, the Court finds that Plaintiffs' documentary evidence provides substantial further support for Plaintiffs' method of proving impact. Indeed, at trial, the Court predicts that this evidence is likely to be among the most persuasive to a jury as it illustrates and confirms many of the actual dynamics at play within Defendants' firms. While Defendants characterize Plaintiffs' new evidence as "mostly old and off point," *see* Suppl. Opp'n at 13, the Court finds that this evidence significantly bolsters Plaintiffs' showing that their method of proving impact will turn on common evidence. For example, rather than a few documents showing that some Defendants valued internal equity in their compensation practices, Plaintiffs' documentary evidence now indicates that *all* Defendants valued internal equity. Further, the evidence now suggests that internal equity was such an important aspect of Defendants' compensation practices that: (1) Defendants utilized software tools to generate internal equity reports and to compare each employee to his or her peers; (2) Defendants advised managers that internal equity was a prime consideration when setting and adjusting salaries; and (3) Defendants actively monitored their compensation structure to identify discrepancies within and beyond job titles and groups and to make adjustments as necessary**.**

Despite this documentary evidence, Defendants contend that managers exercised broad discretion when setting and adjusting salaries and that Defendants valued performance—to which Defendants refer as "pay for performance"—over internal equity. However, Defendants' documents indicate otherwise. For example, in a 2004 Human Resources presentation, Intel states that, although "[c]ompensation differentiation is desired by Intel's Meritocracy philosophy," "short and long term high performer differentiation is questionable." Harvey Suppl. Decl., Ex. 10 at 13. Indeed, Intel notes that "[l]ack of differentiation has existed [redacted]." *Id*. at 19. As key "[v]ulnerability [c]hallenges," Intel identifies: (1) "[m]anagers *(in)ability* to distinguish at [f]ocal"—"actual merit increases are significantly reduced from system generated increases," "[l]ong term threat to retention of key players"; (2) "*[l]ittle to no actual pay*

differentiation for [redacted]"; and (3) "[n]o explicit strategy to differentiate." *Id.* at 24 (emphasis added).

Further, the documentary evidence indicates that even where "pay for performance" exists, such differentiation is not inconsistent with Dr. Leamer's theories of internal equity. For example, a chart from Google shows that for a given level of performance, the higher the pre-adjustment position, the lower the merit increase. *See, e.g.*, Cisneros, Ex. 1609.9 (Google documents noting that it "tries to manage salaries in the [redacted] range and thus give minimal increases to very strong performers who are paid relatively high."). Specifically, Google's documents show that an employee whose salary is below the target salary would receive a larger percentage pay increase than an employee whose salary exceeds the target even though both employees receive the same performance review. *See* Cisneros, Ex. 1855.107. This demonstrates the coexistence of performance-based pay and concerns of internal equity.

To contend that they valued "pay for performance" over internal equity, Defendants rely principally on declarations from top management in their human resources, recruitment, compensation, and benefits departments. However, the Court has already recognized that these declarations were drafted for the specific purpose of opposing Plaintiffs' class certification motion, and accordingly, the Court finds that these documents are of a diminished probative value. *Cf. In re Wells Fargo Home Mortg. Overtime Pay Litig.*, 527 F. Supp. 2d 1053, 1061 (N.D. Cal. 2007) (scrutinizing carefully declarations from Defendants' employees that appeared "litigation driven"). Indeed, many of the claims made in those declarations are inconsistent with the discovery Plaintiffs obtained from Defendants after the hearing on Plaintiffs' initial class certification motion. For example, in a declaration created for the purposes of opposing the initial class certification motion, Mason Stubblefield (Intuit Vice President of Human Resources) stated that "Intuit does not use salary bands or ranges, either for existing employees or new hires." Stubblefield Decl. ¶ 10. Yet, in his deposition after the hearing on the class certification motion, Mason Stubblefield took the diametrically opposite position, when he stated that "[t]here are [redacted] bands [at Intuit] inside the company . . . . Each job that we have fits within a band . . . . Jobs fit into levels . . . . And different numbers of levels get used in different job families based on business needs." Stubblefield Depo.

87:8-88:24. In light of these demonstrated inconsistencies, the Court is more persuaded by the internal documents Defendants created before and during the anti-solicitation agreements, such as CEO-to-CEO emails, presentations regarding compensation and recruitment from the heads of Defendants' human resources departments, and inter-office communications about internal equity concerns, than the declarations Defendants created to oppose class certification and testimony that is litigation driven.

Defendants further rely on Dr. Shaw's report to rebut Plaintiffs' contentions that Defendants maintained formalized compensation structures. Dr. Shaw opines that Defendants maintain a "pay for performance" philosophy implemented by individual managers based on subjective evaluations of employees. Shaw Rep. ¶ 16. Dr. Shaw further contends that Dr. Hallock's "top of the box" theory is unsupportable. *See id.* ¶¶ 41, 42, 54, 62, 66. Dr. Shaw opines that, "[b]ased on Defendants' compensation systems, pay practices, and pay philosophy," she "would not expect that a suppression of wages to some employees would affect all or nearly all Technical Class members." *Id.* at 27.

The Court finds Dr. Shaw's criticisms of Plaintiffs' theories and of Dr. Hallock's report unpersuasive. Dr. Shaw's report is conclusory and contrary to the overwhelming evidence in the record. For example, Dr. Shaw relies heavily on the declarations Defendants created to oppose class certification even though many of the claims in those declarations are inconsistent with Defendants' own internal documents. *See id.* at 20-21 n.25 & n.26; 21 n.30 & n.32; and 23 n.35; Shaw App. C ¶¶ 1, 2, 3, 4, 7, 8, 10, 11, 18, 24; Shaw App. D ¶¶ 1, 9. Further, although Dr. Shaw emphasizes managers' broad discretion in setting compensation, Dr. Shaw did not systematically investigate whether Defendants supervised and controlled their managers' use of discretion, and Dr. Shaw admits that she did not assess whether managerial discretion made any significant difference to employee pay. *See* Shaver Suppl. Decl. Ex. O (Shaw Depo.) 74:1-75:16, 93:16-22, 98:14-15. Dr. Shaw also asserts that, in technology-based firms, pay ranges assigned to job codes are "mere guidelines for managers" and that the pay of workers is highly individualized. *See* Shaw Rep. ¶ 30. However, the Court finds that Dr. Shaw's emphasis on managerial discretion is contrary to the extensive documentary evidence discussed above, which suggests that the exercise of any

discretion was limited and that managers had to obtain authorization to deviate from Defendants' compensation structure. *See supra* section IV.B.2.a.ii; *see, e.g.*, Cisneros Decl., Ex. N (Fadell Depo.) at 53 (stating that to deviate from a prescribed salary range, Apple managers "would have to pull in a bunch of people to then approve anything outside of that range"); *id.*, Ex. C (Arriada-Keiper Depo.) at 24 (Adobe admonished managers who deviated from salary ranges that Adobe had "a minimum for a reason"). Moreover, Dr. Shaw's contentions regarding the individualized nature of compensation are contrary to the statistical analysis provided by Dr. Leamer—which show that in 97% of class member employee-years, pay was within the prescribed range. Leamer Suppl. Reply Rep. ¶¶ 31, 67.

Defendants' principal contentions, however, are challenges to Dr. Leamer's statistical analyses.[19] Before the Court turns to an analysis of the competing methodologies of Dr. Leamer and Defendants' expert, Dr. Murphy, the Court notes that the importance of these statistical models is diminished in light of the extensive documentary evidence that supports Plaintiffs' theory of impact. In other contexts, courts have long noted that statistical and anecdotal evidence must be considered in tandem. *See Coral Const. Co. v. King Cnty.*, 941 F.2d 910, 919 (9th Cir. 1991) ("[T]he combination of convincing anecdotal and statistical evidence is potent."). This Court could not identify a case at the class certification stage with the level of documentary evidence Plaintiffs have presented in the instant case. The Court agrees with Dr. Leamer that "interpretation of non-experimental data needs to be sensitive to the context in which the data were generated, and persuasive conclusions from the numerical data require the information in the numerical data and the documents to be aligned." Leamer Suppl. Rebuttal Rep. ¶ 11. After all, class certification

[19] Defendants moved to strike Dr. Leamer's report in support of Plaintiffs' initial motion for class certification for failure to provide reliable, relevant, and admissible testimony under *Daubert v. Merrell Dow Pharmaceutical*, 509 U.S. 579 (1993), and Rule 702 of the Federal Rules of Evidence. Defs.' Mot. to Strike Rep. of Dr. Edward E. Leamer ("Mot. to Strike"). ECF No. 210. The Court rejected Defendants' motion in its April 5 Class Certification Order. *See* Apr. 5 Class Cert. Order at 49-50 ("While the Court has concerns about the probativeness of some of Dr. Leamer's statistical evidence . . . the Court does not find this evidence is so methodologically flawed as to warrant exclusion."). In their Opposition to the Supplemental Motion for Class Certification, Defendants do not raise any new *Daubert* challenges to the expert opinions set forth by Dr. Leamer or Dr. Hallock. *See* Suppl. Opp'n.

requires a holistic, qualitative assessment; as the Seventh Circuit has noted, the class certification analysis is not "bean counting." *Butler*, 727 F.3d at 801.

The Court now turns to Defendants' contentions that Dr. Leamer's methodologies are unpersuasive. Defendants contend that Dr. Leamer should not have relied on averages in his correlation and multiple regression analyses because (1) averaging masks individualized issues, (2) Dr. Leamer's regression analysis is faulty due to an endogeneity problem, and (3) Dr. Leamer's statistical evidence cannot show causation. Suppl. Opp'n 13-14. Defendants argue that these flaws render dubious Dr. Leamer's conclusion that Defendants maintained a "rigid wage structure." *See id.* at 1-2. The Court finds that several of Defendants' arguments are contrary to their own internal documents and methodologies. Moreover, the Court finds that Defendants' remaining contentions do not suggest that Dr. Leamer's statistical analyses should be rejected wholesale, particularly in light of the extensive documentary evidence that supports Dr. Leamer's conclusions. Thus, as discussed below, the Court rejects Defendants' contentions and accepts Dr. Leamer's methodology.

Defendants' primary criticisms of Dr. Leamer's supplemental report turn on his use of averaging in his correlation and multiple regression analyses. *See* Suppl. Opp'n at 1-2. Defendants take issue with Dr. Leamer's use of averages in his job-title-by-job-title correlation analysis, which analyzes the "movement over time of the average compensation of each title with the average compensation of the firm's Technical Class." Leamer Suppl. Rep. ¶ 4. Defendants contend that, "[b]y averaging the compensation of all employees who hold the same job title or fall into the same decile," Dr. Leamer "necessarily wipes out the very thing he is supposed to be measuring—the significant variation in individual employees' compensation." Suppl. Opp'n at 5. According to Defendants, Dr. Leamer's "correlation of averages would reach the same conclusion regardless of whether all employees with the same job title received identical or vastly different compensation over time and whether their compensation moved in lockstep or in opposite directions." *Id.* at 6. Defendants also object to Dr. Leamer's use of averages in his company-specific multiple regression models, designed to detect the effects of internal forces (*i.e.*, a wage structure) acting on class member compensation, as opposed to merely external market forces. *See id.* at 5-6; 11-13. Specifically, Defendants claim that Dr. Leamer's multiple regression analysis masks individual

variation by using average job title compensation data rather than individual compensation data. *Id.* at 13.

However, the Court finds that Dr. Leamer's averaging of the data appears to yield results that, in the context of the correlation and multiple regression analyses, are consistent with Plaintiffs' theory that there is a somewhat rigid wage structure. Dr. Leamer notes in his rebuttal supplemental report that "the inherent noise in the individual level data tends to drown out the signal of the internal pay structure [Plaintiffs] are trying to detect." Leamer Suppl. Rebuttal Rep. ¶ 32. Dr. Murphy admits that averaging aggregate data is an appropriate statistical tool for the same reasons given by Dr. Leamer. Shaver Decl., Ex. N (Murphy Depo.) 553:18-20 ("The reason you do the averaging is so that you are left with a more systematic part and the idiosyncratic parts get averaged out.").

With respect to both correlation and multiple regression analyses, Dr. Leamer averaged the compensation of employees within each job title. Leamer Suppl. Rep. ¶¶ 18-29. While this kind of averaging may have masked some of the individual variations *within* each job title, it was necessary to determine whether there was a wage structure *across* job titles. *See* Aug. 8 Tr. at 97:11-22; 106:5-13.[20] The Court is therefore not persuaded that it should disregard the correlation analysis for the purposes of showing a wage structure across job titles. The Common Factors Analysis shows that approximately 90 percent of each employee's compensation is explained by common factors—primarily by job title. Leamer Rep. ¶ 128; Aug. 8 Tr. at 105:10-24. Because individual compensation is primarily determined by job title, as shown by the Common Factors Analysis (which was run on an employee-by-employee basis without averaging, *see* Leamer Rep. ¶

[20] Dr. Leamer explains in his supplemental report that he chose to work with title averages because:

> individual data is likely to be dominated by forces that operate at the individual level, which can make it difficult to detect the firm wide effects including the spread of the anti-cold-calling agreements broadly across the firms. Averaging across individuals in a title can average out the individual effects, thus making the firm-wide effects more transparent. In addition, a title-level analysis provides a clearer perspective on the compensation structures the documentary evidence shows Defendants used to maintain their many employees and maintain internal equity among their employees.

Leamer Suppl. Rep. ¶ 19.

128, Fig. 11), and the correlation and multiple regression analyses show that compensation across job titles move together, the Court believes that Dr. Leamer's analysis bolsters Plaintiffs' theory that there is a wage structure in place under which an impact on some employees would have resulted in an impact to all or nearly all employees. The Court further notes that Dr. Leamer's conclusions in the Common Factors and correlation analyses are consistent with the documentary evidence that suggests that Defendants maintained a formal wage structure and valued internal equity.

Defendants' contention that averaging rendered unpersuasive Dr. Leamer's analyses is particularly unconvincing considering that Defendants themselves often aggregated their entire compensation budget and compared it to the budgets of other firms, or matched job title compensation within the company to similar titles across multiple companies. *See, e.g.*, Bock Depo. 44:12-20 (Google Senior Vice President of People Operations, testifying that Google's bonus amounts were calculated by taking "a set of people in like jobs, you calculate the [redacted]. All those people, because they're in like jobs, will have the same [redacted] . . . . The [redacted] will be based on the [redacted] rather than on their [redacted]."); *see also* Shaver Decl., Ex. 122 (email from Lori McAdams (Pixar Vice President of Human Resources and Administration) to Sharon Coker (former Lucasfilm Director and Senior Director of Human Resources), among others, asking about others' salary increase budget for FY '07 and stating "Ours is [redacted], but we may manage it closer to [redacted] on average. Are you doing anything close, more or less?"); Cisneros Decl., Ex. F (Streeter Depo.) at 46-47 (discussing how Adobe uses aggregated and average data from Radford for job titles and classifications, which it then uses in developing its own compensation structure).

Defendants further criticize Dr. Leamer's supplemental expert report on another similar basis. Defendants contend that Dr. Leamer ignores data that shows substantial variation in the levels and changes in individual employees' compensation. In contrast to Dr. Leamer, Dr. Murphy examines variation at the individual employee level and finds substantial divergence in compensation over time for individuals who start with the same job title. Defendants argue that these results show that it is wrong to infer that an increase in compensation for some employees

would result in an impact to all or nearly all employees. Rather, Defendants contend that the results reflect managerial discretion. Opp'n at 10 (citing Murphy Rebuttal Rep., Exs. 2-3, & App. B).

However, that Defendants differentiated pay is not inconsistent with Dr. Leamer's finding that the Defendants maintained compensation structures that restrained that differentiation. Indeed, as discussed above, the evidence supports the notion that differentiation, such as based on a "pay for performance" philosophy, is not inconsistent with theories of internal equity. *See, e.g.*, Cisneros Decl., Ex. 1609 (Google Chart showing that a high performance rating will result in an employee compensated at [redacted] of Google's target salary having his/her salary increased by a higher percentage than an individual with the same rating but compensated at a level higher than Google's target salary). For example, Google notes that it "tries to manage salaries in the [redacted] range and thus give minimal increases to very strong performers who are paid relatively high." *Id.*; *see also* Cisneros Decl., Ex. 1855.107 (showing that managerial discretion and performance based compensation is not necessarily inconsistent with principles of internal equity at Google).

Second, Defendants contend that Dr. Leamer's multiple regression analysis is unpersuasive because it suffers from an endogeneity problem. Suppl. Opp'n at 13. An "'endogeneity problem[]' . . . arises when some of the same unmeasured common factors drive both the independent and dependent variables." Murphy Suppl. Rep. ¶ 43. Defendants argue that Dr. Leamer's "external" San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area variable and unnamed omitted variables affect "both average job title compensation [the dependent variable] *and* Leamer's 'internal' firm-wide average compensation variable [the independent variable]." Suppl. Opp'n at 13. Defendants argue that by "[i]gnoring this 'endogeneity' among his variables, Dr. Leamer improperly concludes that the "internal" variable meaningfully explains average job title compensation . . . while the 'external' variable does not." *Id.* Defendants contend that this is a fundamental error that renders Dr. Leamer's model uninformative and his inferences from it unsound. *Id.*

The Court is not persuaded by this concern. With respect to the San Jose variable, Defendants have not provided quantitative analysis to show that the San Jose employment variable skews the results with respect to the internal firm-wide average compensation variable. Rather, Defendants offer the endogeneity theory without any support in the form of data, analysis, or case law. A similar lack of specificity plagues Defendants' argument with respect to the unknown variables that Defendants contend cause this endogeneity problem. Specifically, as Plaintiffs note, Defendants have not "identif[ied] a single omitted variable, or show[n] how adding one would change the results." Suppl. Reply at 9; *see also* Leamer Suppl. Rebuttal Rep. ¶ 61 (noting that Dr. Murphy has "not presented *any* analysis showing that omitted non-sharing external or internal effects are responsible for the positive sharing in [Dr. Leamer's] results").

Finally, Defendants argue that Dr. Leamer's analyses cannot address the question of causation underlying Plaintiffs' theory of classwide impact, which Defendants characterize as "whether compensation for class members was so rigidly interlinked that a wage increase for some would cause a wage increase for substantially all." Suppl. Opp'n at 14. That is, Defendants contend that Plaintiffs have not demonstrated that the anti-solicitation agreements *caused* any depression in wages. However, Plaintiffs clarify that "Plaintiffs never argued that the impact of the agreements would have been 'lockstep'—that a $5 raise to one employee would have required a simultaneous $5 raise across the firm." Suppl. Reply at 8. Rather, as shown by the documentary evidence, "by shielding their employees from waves of recruiting, Defendants not only avoided individual raises, they also avoided having to make across-the-board preemptive increases to compensation." *Id*.

As the documentary evidence above demonstrates, there is compelling evidence that in the absence of the anti-solicitation agreements, Defendants would have had to make structural preemptive or reactive changes. *See, e.g.*, Cisneros Decl., Ex. VV at 106 (Sheehy Depo.) (explaining that a group of Pixar employees' base salary needed to be increased because Pixar was "competing with technology companies in the Bay Area, and [its] recruiting team was hearing from candidates that they were getting better offers elsewhere."); Leamer Suppl. Rebuttal Rep. ¶ 23 (citing deposition of Patricia Murray (Intel Senior Vice President and Director of Leadership

Strategy and former President of Human Resources), in which Murray explained, in response to a question regarding whether Intel raised compensation for particular job categories or job ranges to preemptively prevent attrition, "[i]f attrition was high in a particular job category somewhere in the globe, that would be a fact considered in the many facts we assessed"). The Court finds persuasive Dr. Leamer's statement that economists "analyze correlations, which are routinely used. . . to draw causal conclusions when supported by compelling frameworks and complementary information." Leamer Suppl. Rebuttal Rep. ¶ 13. In the instant case, the compelling documentary evidence along with Plaintiffs' expert theories and correlation analyses are capable of demonstrating causation on a classwide basis.

In sum, the Court does not find persuasive Defendants' criticisms of Dr. Leamer's methodology. Defendants have not presented any analysis that undermines Dr. Leamer's analysis, and many of Defendants' arguments are contradicted by the documentary evidence. Accordingly, the Court finds that Dr. Leamer's methodology, in conjunction with and bolstered by the extensive documentary evidence, is sufficient to meet the predominance standard with respect to impact.

d. Conclusion on Impact

Plaintiffs' documentary evidence, along with the expert reports and statistical analyses that rely on this evidence, establish that common issues between class members will predominate over individual issues in proving antitrust impact. The documentary evidence supports Plaintiffs' theory that Defendants had formal compensation structures on a company-wide basis that placed a premium on internal equity concerns, and that collusive communications between various Defendants limited the proportion of each Defendants' budget that would be dedicated to merit increases. Further, the evidence suggests that the Defendants benchmarked their compensation structures to external data and to each other. The documentary evidence and the expert reports also support Plaintiffs' theory that the top companies and top employees at these companies set a ceiling, based on which all or nearly all employees of the Technical Class's compensation was set. This extensive evidence supports Plaintiffs' theory that each technical employee's compensation was linked to those of her peers within and across Defendants' firms.

Plaintiffs have also presented documentary and expert evidence about labor market dynamics that would have affected compensation on a classwide basis. For example, Defendants would have had to take preemptive steps, through bonuses and raises to ward off threats of poaching by other Defendants. Further, Defendants would have had to react to any cold calling and poaching of employees by increasing compensation in response to the spread of information from outside and within Defendants' firms. Because of the structural concerns regarding internal equity and the existing rigid compensation structures, the evidence suggests that any such preemptive or reactive steps, in the absence of the anti-solicitation agreements, would have had classwide effect and would have impacted all or nearly all members of the Technical Class.

One example, which concerns interactions between Google and non-party Facebook, illustrates many of these theories, including the significance of the threat imposed by cold calling, the disruption of internal equity, and how these dynamics would have, in the absence of the anti-solicitation agreements, prompted Defendants to offer employees incentives to minimize attrition.

In March of 2008, Arnnon Geshuri (Google Recruiting Director) discovered that non-party Facebook had been cold calling into Google's Site Reliability Engineering ("SRE") team. Geshuri's first response was to suggest contacting Sheryl Sandberg (Chief Operating Officer for non-party Facebook) in an effort to "ask her to put a stop to the targeted sourcing effort directed at our SRE team" and "to consider establishing a mutual 'Do Not Call' agreement that specifies that we will not cold-call into each other." Cisneros Decl., Ex. 614. Arnnon Geshuri also suggested "look[ing] internally and review[ing] the attrition rate for the SRE group," stating, "[w]e may want to consider additional individual retention incentives or *team incentives* to keep attrition as low as possible in SRE." *Id*. (emphasis added). Finally, an alternative suggestion was to "[s]tart an aggressive campaign to call into their company and go after their folks—no holds barred. We would be unrelenting and a force of nature." *Id*.

In August of 2008, after losing one of many employees to Facebook, Google's Vice President of Communications emailed Google's executive management group and Bill Campbell (Chairman of Intuit Board of Directors, Co-Lead Director of Apple, and advisor to Google). In this email, the Google Vice President expressed concern about Facebook's "poaching" and stated that

she had "offered [the employee] different roles and discussed his future at Google" but that she had "gone as far as [she could] without making promises about pay or title that would cause significant problems across [her] team." *Id.* Bill Campbell's response was to ask, "Who should contact Sheryl [Sandberg] (or [Facebook Founder] Mark [Zuckerberg]) to get a cease fire? We have to get a truce." *Id.* Facebook refused.

Facebook continued to poach Google's employees. In 2010, for example, [redacted] of Facebook's new employees were recruited from Google. Leamer Rep. ¶ 109. Accordingly, in October 2010, Google began studying Facebook's solicitation strategy. *Id.* A month later (and two months after the DOJ made public its investigation of Defendants), Google announced its "Big Bang," which involved an increase to the base salary of *all* of its salaried employees by 10% and provided an immediate cash bonus of $1,000 to all employees. Shaver Decl., Ex. 46. In an internal email, Laszlo Bock (Google Senior Vice President of People Operations) explained that the rationale for the Big Bang included: (1) being "responsive to rising attrition;" (2) supporting higher retention because "higher salaries generate higher fixed costs;" and (3) being "very strategic because start-ups don't have the cash flow to match, and big companies are (a) too worried about internal equity and scalability to do this and (b) don't have the margins to do this." Shaver Decl., Ex. 48.

The increased salaries within Google impacted the other Defendants as well. For example, Google's "Big Bang" disrupted Apple's compensation structure by forcing Apple to pay more for new hires which then created internal equity issues with current employees. David Alvarez (Apple Recruiting Manager and former Research Manager) responded as follows:

> We will go back and review internal equity again and come up with a new proposal for your review. . . . [redacted] This is due to the market changing. This will most likely create an internal comp issue with current employees. In order to stay ahead and be competitive, we must be aggressive with our offers in order to close good talent. Having these new data points will help justify adjusting current employees. Great talent does come at a cost. . . . Just as a data point, Google gave its employees a 10% increase to deal with the aggressive offers out in the market.

Cisneros Decl., Ex. 1376. Google's reaction to Facebook's solicitation of its employees, and Apple's subsequent reaction to Google's actions, demonstrates the weakness of Defendants'

contention that the impact of the anti-solicitation agreements was localized to individual employees who would have been solicited but for the agreements or that class members would have been impacted differently depending on their individual circumstances. These contemporaneous reactions of the Defendants to genuine competition for labor suggest instead that their response to widespread solicitation of their employees would have been structural rather than individual.

3. Damages

In addition to disputing whether Plaintiffs can show impact on a classwide basis, the parties dispute whether Plaintiffs can show damages on a classwide basis. The Supreme Court has held that damages "[c]alculations need not be exact, but at the class-certification stage (as at trial), any model supporting a 'plaintiff's damages case must be consistent with its liability case, particularly with respect to the alleged anticompetitive effect of the violation.'" *Comcast*, 133 S. Ct. at 1433 (citing ABA Section of Antitrust Law, Proving Antitrust Damages: Legal and Economic Issues 57, 62 (2d ed. 2010)). In other words, "a damages suit cannot be certified to proceed as a class action unless the damages sought are the result of the class-wide *injury* that the suit alleges." *Butler*, 727 F.3d at 799 (emphasis in original).

Here, Plaintiffs rely on their expert, Dr. Leamer, to demonstrate that they can use reliable methods to compute damages by applying classwide methods and analyses. *See* Class Cert. Mot. at 22 (citing Leamer Rep. ¶¶ 135-48). Dr. Leamer concluded that common evidence and a regression approach could be used to create a model for quantifying the estimated cost to Technical Class members resulting from Defendants' challenged conduct. *Id.* ¶¶ 141-48. This model generated percentages by which Defendants undercompensated their Technical Class employees in each of the conspiracy years. *Id.*, Fig. 24. Specifically, Dr. Leamer estimated the effect of the anti-solicitation agreements by contrasting compensation during the periods when the anti-solicitation agreements were in effect with compensation before and after the anti-solicitation agreements. *Id.* ¶ 136. Dr. Leamer's model incorporated a range of variables designed to account for factors including: (1) age, sex, and years at the company; (2) the effects on compensation caused by the anti-solicitation agreements; (3) the effects caused by factors specific to each Defendant (*e.g.*, firm revenue, total number of new hires, etc.); and (4) the effects caused by the industry. *See id.*, Fig.

23. Dr. Leamer used the model to show that the anti-solicitation agreements had some impact on the Technical Class generally, and to estimate the average or net under-compensation at each Defendant firm during the period in which the anti-solicitation agreements were in effect. *See id.* Fig. 24; Reply at 33. Dr. Leamer's model accounted for variations in the effect of the anti-solicitation agreements over time and for variations among different kinds of employees. *Id.* ¶ 146. Dr. Leamer contended that this econometric model of employee compensation could be used in a straightforward formulaic fashion in conjunction with Defendants' compensation data to calculate damages for employees in the Technical Class. *See id.* ¶ 148; *see also id.* Figs. 3 & 4.

In the Court's April 5 Class Certification Order, the Court considered Defendants' criticisms of Dr. Leamer's Conduct Regression, but ultimately found the Conduct Regression model sufficient to satisfy Plaintiffs' burden for the purpose of Rule 23(b)(3) on the issue of damages. Apr. 5 Class Cert. Order at 43-44.

First, the Court rejected Defendants' criticism that Dr. Leamer failed to conduct a sensitivity analysis—an "exploration of how sensitive [a model's] conclusions are to a choice of variables." Leamer Depo. at 351:4-6. Defendants argued that Dr. Leamer should have performed "disaggregated" analyses for each Defendant using only data from that Defendant's employees. However, in light of the limited compensation data available to Dr. Leamer, Leamer Reply Rep. ¶ 99, including the relatively short length of the data period, 2001-2011, the Court found that aggregation may provide "a [more] robust analysis and yield more reliable and more meaningful statistical results." *Ellis v. Costco Wholesale Corp.*, 285 F.R.D. 492, 523 (N.D. Cal. 2012). The Court also was not persuaded by Dr. Murphy's competing disaggregated model—which included 42 Defendant-specific variables, only 28 of which related to the effect of the anti-solicitation agreements, *see* Murphy Rep., App. 9A, because the Court found that Dr. Murphy's use of that many variables could also "minimize artificially" the effects of the anti-solicitation agreements by spreading those effects across a wider range of variables. *See* Apr. 5 Class Cert. Order at 39-40 (citing Leamer Reply Rep. ¶ 101).

Second, the Court rejected Defendants' criticisms of Dr. Leamer's choice of a benchmark period. Apr. 5 Class Cert. Order at 40; Mot. to Strike at 13. Defendants argued that, if the

benchmark period was changed from the two years preceding and the two years following the period during which the anti-solicitation agreements were in effect to only the two years following this period, then the model showed net over-compensation rather than under-compensation. *See id.* However, the Court noted that Defendants failed to explain why the benchmark period should be limited in this way. Apr. 5 Class Cert. Order at 40. Defendants did not show that the pre-conduct data was not comparable to data from the conduct period and therefore should be excluded. Furthermore, the Court expressed concern that, in altering the benchmark periods, Defendants reduced the total amount of data available regarding the non-conduct periods, which could then result in less accurate results. *Id.* at 40-41.

Third, the Court rejected Defendants' argument that the Conduct Regression was flawed because Dr. Leamer failed to include a variable to "control for changes in the value of . . . equity compensation [to employees] over time." Mot. to Strike at 13. Defendants argued that when Dr. Murphy introduced an equity variable, specifically a variable that tracks changes in the S&P 500, the Conduct Regression yielded much smaller under-compensation for the All-Salaried Employee Class and overcompensation for the Technical Class. *See* Murphy Rep. ¶ 138. The Court was not persuaded by Defendants' contention because the equity variable Defendants selected—a variable reflecting changes in the S&P 500—tracked variations in the stock price of hundreds of unrelated companies. *See* Leamer Reply Rep. ¶ 89. Thus, the fact that including this variable significantly altered the results of Dr. Leamer's analysis did not persuade the Court that Dr. Leamer's results should be disregarded or that the Conduct Regression is flawed.

In addition to the sensitivity issues discussed above, Defendants argued that the Conduct Regression was flawed because Dr. Leamer failed to account for the fact that compensation for employees within the same firm is correlated. *See* Mot. to Strike at 16; Murphy Rep. ¶ 126. Dr. Murphy opined that, given this correlation, Dr. Leamer should have clustered the standard errors. *See* Murphy Rep. ¶ 126 ("A generally accepted method to take into account the fact that observations used to estimate a regression contain[] 'groups' of observations that are affected by certain common factors (such as those affecting a particular company or present in a single year) is commonly referred to as 'clustering' the standard errors"). For the reasons set forth below, the

Court did not find that Dr. Leamer's failure to cluster the standard errors provided a sufficient basis to reject the Conduct Regression. Apr. 5 Class Cert. Order at 42.

Even assuming that Dr. Leamer should have clustered the standard errors, the fact that when the errors were clustered, the Conduct Regression's results were not statistically significant at the 95 percent confidence level did not persuade the Court that the regression was unpersuasive. *See Cook v. Rockwell Int'l Corp.*, 580 F. Supp. 2d 1071, 1105 (D. Colo. 2006). Dr. Murphy testified that a model's results need not necessarily be statistically significant to be reliable. Murphy Depo. at 366:14-20. Further, as explained by Dr. Leamer, adjusting the standard errors was only one way of controlling for correlations between employees. *See* Leamer Reply Rep. ¶¶ 76, 78, 82, 83. Another approach would be to include variables to explain the commonalities across firms. *See id.* ¶ 83. The Court noted that Dr. Leamer had already included one such variable, revenue. *See id.* ¶¶ 82-83. Thus, the Court concluded that Dr. Leamer's failure to cluster the standard errors did not provide a sufficient basis to conclude that the Conduct Regression failed to provide a reliable methodology for the purposes of class certification. Apr. 5 Class Cert. Order at 42.

Defendants now raise additional arguments not raised in their initial opposition to contend that Dr. Leamer's methodology cannot be used to show that common questions are likely to predominate with respect to damages. Specifically, renewing their argument that the use of a single conduct variable for all Defendants was inappropriate,[21] Defendants argue that Dr. Leamer's most recent correlation analyses show that total compensation and changes in total compensation at

[21] Defendants also contend that, because the Court "'encouraged' Leamer to address . . . whether additional variables were needed," Suppl. Opp'n at 23, and Dr. Leamer did not add variables to his Conduct Regression analysis, Dr. Leamer's model should be rejected now. Defendants argue that this is an issue of even greater importance now that Dr. Leamer opines that compensation within a firm is highly correlated. Suppl. Opp'n at 23. Defendants maintain that, "[w]ithout accounting for the correlation, Leamer's model cannot reliably determine or measure impact or damages." Suppl. Opp'n at 23-24 (citing Murphy Suppl. Rep. ¶¶ 68-69). Dr. Leamer contends that he "considered whether to add any variables" but is "not aware of any [he] need[s] to add at the present time." Leamer Suppl. Reply Rep. ¶ 66. Given that the Court's acceptance of the Conduct Regression as a means of proving and calculating harm to the Class was not contingent upon Dr. Leamer's addition of more variables to his analysis, the Court does not reject Dr. Leamer's model on this basis.

Defendants diverged and sometimes moved in opposite directions. Suppl. Opp'n at 24 (citing Leamer Rep., Tables 1 and 2). Defendants assert that, in light of these divergences, the use of a single conduct variable for all Defendants is inappropriate. As set forth in the April 5 Class Certification Order, Dr. Leamer's decision to use a single variable in his Conduct Regression was understandable because "the available [compensation] data regarding Defendants' compensation practices [is] 'limited.'" Apr. 5 Class Cert. Order at 39-40. Dr. Leamer's approach of aggregating Defendants' data and calculating a single conduct variable, rather than using the limited data regarding each Defendant to calculate separate conduct variables, "allowed Dr. Leamer to produce a 'more coherent, more efficient model.'" *Id.* The Court is not persuaded that Dr. Leamer's use of a single conduct variable prevents the Conduct Regression from serving as a reliable method of determining damages.

Finally, Defendants argue that Dr. Leamer's Conduct Regression is overly sensitive to variable choice. Opp'n at 24. The Court disagrees. Dr. Leamer specifically addresses this concern in his reply report and rebuttal supplemental expert report. *See* Leamer Reply Rep. ¶¶ 85-97; Leamer Suppl. Rebuttal Rep. ¶ 66 (discussing "the lack of sensitivity of [his] findings to inclusion of alternative external control variables such as firm stock prices and to a different level of aggregation."). The Court is not persuaded that the Conduct Regression model is so sensitive to variable choice that it cannot be used to satisfy Plaintiffs' burden at class certification.

Because Dr. Leamer's model is supported by the economic literature (including Dr. Shaw's), is statistically robust (*i.e.*, insensitive to alternative control variables), and is buttressed by Dr. Leamer's subsequent analysis, the Court finds that Dr. Leamer's model is capable of calculating classwide damages. Suppl. Reply at 15.

4. Conclusion Regarding Predominance

This Court's rigorous analysis shows that common issues are likely to predominate over individual issues. Importantly, this Court's analysis of predominance involves a "qualitative assessment." *See Butler*, 727 F.3d at 801. This qualitative assessment includes some analysis into how this case, should it proceed to trial, would actually be litigated. *See In re New Motors*, 522 F.3d at 20 ("Under the predominance inquiry, a district court must formulate some predication as

to how specific issues will play out in order to determine whether common or individual issues predominate in a given case." (internal quotation marks omitted)).

As such, this Court notes that there is no dispute that antitrust violation can be shown using exclusively evidence that is common to the entire Technical Class for the reasons discussed above. The Court further finds that antitrust violation is likely to be a central, disputed issue at summary judgment and at trial. Defendants have made quite clear—both through their motions to dismiss and their initial opposition to the motion for class certification—that Defendants will seek to contest the issue of antitrust violation by contending that their agreements had no anti-competitive effect on the market. Specifically, Defendants have stated that they intend to "demonstrate that the agreements should be evaluated under the rule of reason, were reasonable and lawful under that standard, and could not have conceivably had any adverse effect on compensation in any relevant labor market." Opp'n at 5, n.1. The Supreme Court has stated that the rule of reason analysis entails "significant costs" and is often "extensive and complex." *See Arizona v. Maricopa Cnty. Med. Soc'y*, 457 U.S. 332, 343 (1982).

Given the considerable, compelling common proof Plaintiffs have submitted regarding Defendants' alleged antitrust violation, as well as the parties' actions indicating that they will vigorously litigate the question of whether Defendants engaged in an antitrust violation, this question is likely to be central to this litigation. At the very least, this aspect of the trial should not be understated. *See In re Static Random Access Memory (SRAM) Antitrust Litig.*, 264 F.R.D. 603, 611 (N.D. Cal. 2009) ("Plaintiffs need not show that there will be common proof on each element of the claim. 'In price-fixing cases, courts repeatedly have held that the existence of the conspiracy is the predominant issue and warrants certification even where significant individual issues are present.'" (quoting *Thomas & Thomas Rodmakers, Inc. v. Newport Adhesives & Composites, Inc.*, 209 F.R.D. 159, 167 (C.D. Cal. 2002))); *see* 6 Newberg on Class Actions § 18.25 (4th ed. 2002) ("[C]ommon liability issues such as conspiracy or monopolization have, almost invariably, been held to predominate over individual issues."); 7AA Charles Alan Wright, Arthur Miller & Mary Kay Kane, *Federal Practice and Procedure*, § 1781 (3d ed. 2005) ("whether a conspiracy existed is a common question that is thought to predominate over other issues in the case"); *cf. Cordes &*

Co. Fin. Servs. v. A.G. Edwards & Sons, Inc., 502 F.3d 91, 108 (2d Cir. 2007) ("Even if the district court concludes that the issue of injury-in-fact presents individual questions, however, it does not necessarily follow that they predominate over common ones and that class action treatment is therefore unwarranted."). As a result, the voluminous classwide proof of antitrust violation weighs in favor of a finding that common questions predominate.

In addition to concluding that common questions will predominate with respect to the central element of antitrust violation, the Court, having conducted a rigorous analysis, also finds that common questions will predominate over individual questions with respect to impact. The extensive documentary evidence suggests that Defendants maintained a formal wage structure and valued internal equity. This suggests that the anti-solicitation agreements had a structural impact on class members' compensation. Furthermore, the Court, having taken a hard look at the experts' reports, concludes that Plaintiffs have presented a methodology that supports a finding that the evidence common to the class will be utilized in demonstrating impact. Finally, the Court finds that Plaintiffs have set forth a methodology for calculating damages on a classwide basis. Thus, following a rigorous analysis, the Court finds that Plaintiffs have satisfied Rule 23(b)(3)'s predominance requirement with respect to all three elements—antitrust violation, impact, and damages.

C. Rule 23(b)(3): Superiority

Rule 23(b)(3) also tests whether "a class action is superior to other available methods for fairly and efficiently adjudicating the controversy." Fed. R. Civ. P. 23(b)(3). Under Rule 23(b)(3), the Court must consider four non-exclusive factors in evaluating whether a class action is a superior method of adjudicating plaintiffs' claims: (1) the interest of each class member in individually controlling the prosecution or defense of separate actions; (2) the extent and nature of any litigation concerning the controversy already commenced by or against the class; (3) the desirability of concentrating the litigation of the claims in the particular forum; and (4) the difficulties likely to be encountered in the management of a class action. *Zinser*, 253 F.3d at 1190-92.

Plaintiffs state that "[c]lass treatment is by definition superior to thousands of individual claims in an antitrust case where common issues of liability and impact predominate." Class Cert. Mot. at 23 (citing *In re TFT-LCD (Flat Panel) Antitrust Litig.*, 267 F.R.D. at 314 ("[I]f common questions are found to predominate in an antitrust action . . . the superiority prerequisite of Rule 23(b)(3) is satisfied.")). Plaintiffs contend that Class members' individual damages, even after mandatory trebling, are insufficiently large to warrant individual litigation. *In re TFT-LCD (Flat Panel) Antitrust Litig.*, 267 F.R.D. at 314-15 (noting that, in antitrust cases, individual damages "are likely to be too small to justify litigation, but a class action would offer those with small claims the opportunity for meaningful redress").

Plaintiffs further contend that "[c]lass treatment will also be more manageable and efficient than hundreds or thousands of individual actions litigating the same issues with nearly identical proof. . . . Either defendants colluded or they did not; either their conspiracy artificially suppressed their compensation structure or it did not. Any trial here will focus on these questions and the same evidence, whether it involves a single employee or the Class as a whole." Class Cert. Mot. at 23-24.

Defendants, however, argue that "[t]he 'numerous and substantial separate issues' each class member would have to litigate to 'establish his or her right to recover individually' means that 'class action treatment is not the 'superior' method of adjudication." Opp'n at 25 (citing *Zinser*, 253 F.3d at 1192). During the hearing on Plaintiffs' Supplemental Motion for Class Certification, Defendants proposed instead holding multiple "bellwether" trials to accommodate the groups of people impacted. Aug. 8 Tr. at 31-32. In response, counsel for Plaintiffs argued that such an approach would not conserve resources because, "in every single case, the proof of impact would be the opinion that this conduct . . . affected the pay structure of the entire company." *Id.* at 67-68. The Court agrees. Given that Plaintiffs' case rises and falls with their common evidence, the Court does not find that conducting numerous bellwether trials, which will effectively be trials

with Plaintiffs representing subclasses of employees, will ease case management. [22] In fact, this would merely multiply the number of trials with the same issues and evidence.

Thus, the Court finds that the Technical Class members' interests weigh in favor of having this case litigated as a class action. In addition, the nature of Defendants' alleged overarching conspiracy and the desirability of concentrating the litigation in one proceeding weigh heavily in favor of finding that class treatment is superior to other methods of adjudication of the controversy. *See Zinser*, 253 F.3d at 1190-92. The Court also finds that questions regarding manageability weigh in favor of finding class treatment superior to other methods of adjudication. Thus, the Court finds that Plaintiffs have satisfied the superiority requirement.

V. CONCLUSION

For the reasons set forth above, the Court finds that Plaintiffs have satisfied all of the requirements for Rule 23(a) of the Federal Rules of Civil Procedure, as well as the requirements of Rule 23(b)(3). Accordingly, the Court GRANTS Plaintiffs' Motion for Class Certification as to the Technical Class and appoints named Plaintiffs as Class Representatives.

IT IS SO ORDERED.

Dated: October 24, 2013

Lucy H. Koh

LUCY H. KOH
United States District Judge

[22] Defendants further suggest that certifying the Technical Class would violate the Rules Enabling Act because it would prevent Defendants from asserting statutory defenses to which they are entitled. In making this argument, Defendants rely on a section of *Dukes* in which the Supreme Court held that Rule 23(b)(2), which provides for the certification of a class seeking injunctive relief and not damages, was not an appropriate vehicle for certifying a class of discrimination plaintiffs who sought backpay under Title VII. Opp'n at 25 (citing *Dukes*, 131 S. Ct. at 2561). The Supreme Court held that the putative class could not be certified in part because the defendant would not be able to litigate Title VII defenses that it may have had against individual class members. *Dukes*, 131 S. Ct. at 2561. As a result, class certification would have expanded plaintiffs' substantive rights under Title VII. This *Dukes* holding applied to a class under Rule 23(b)(2), which provides for only injunctive relief and not for damages; thus, this holding is inapplicable to the instant case. Further, Defendants here have not identified any statutory defenses that Defendants would have against particular class members, nor have Defendants contended that certification would expand Plaintiffs' rights under the antitrust laws.