"The Apple iPod iTunes Anti-Trust Litigation"

Exhibit 1

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			Page 233			Page 234
1	UNITED STATES	DISTRICT COURT		1	APP	EARANCES
2	NORTHERN DISTRIC	I OF CALIFORNIA		2	For the Plaintiffs:	Bonny Sweeney, Esq.
3 4	OAKLAND D	IVISION		4	for the franching.	ROBBINS GELLER RUDMAN & DOWD, LLP 655 West Broadway
r	THE APPLE iPOD iTUNES) Lead Case No. C	05-00037			Suite 1900
5	ANTI-TRUST LITIGATION)		5		San Diego, CA 92101
6)				619.231.1058
7)		6		bonnys@rgrdlaw.com
8	This Document Relates To:)		8		
9	ALL ACTIONS)		9		
10)			For the Defendant Apple	
11)		10		David C. Kiernan, Esq. JONES DAY
12 13				11		555 California Street 26th Floor
14				12		San Francisco, CA 94104
						415.626.3939
15	CONFIDENTIAL - ATT			13		dkiernan@jonesday.com
16 17	VIDEOTAPED DEPOSITION O		·•	14		
	VOLUME			15 16	Also Present:	Thomas C. Tracy, videographer
18 19	January 08 Bhoonix A			17		inomab c. iracy, videographer
20	Phoenix, A	rizona		18		
				19		
21	Poported Bu.			20		
	Reported By:			21		
	Cathy A. Miccolis RPR, CRR, CSR No. 50068			23		
	Job No. 10009198			24		
25	JOD NO. 10009198			25		
			Page 235			Page 236
1	IND	EX		1		PED DEPOSITION OF KEVIN M. MURPHY,
2	Witness		Page	2		continued on January 8, 2014,
4	KEVIN M. MURPHY, Ph.D.			3	commencing at 9:11 a.m	. at the offices of BONNETT,
4	EXAMINATION BY MS.	CLIPPNEV	237	4	FAIRBOURN, FRIEDMAN & 1	BALINT, P.C., 2325 East Camelback
5	EXAMINATION DI MO.	JWEENET	237	5	Road, Suite 300, Phoen	ix, Arizona, before CATHY MICCOLIS,
6				6	a Certified Reporter is	n the State of Arizona.
7				7		
8	ЕХНІ	вття		8		APHER: The time on the record is
	Exhibit Description		Page	9	-	e is January 8, 2014. My name is
	Exhibit 6 Supplemental Rep	ort	257	10		rt Reporting. The court reporter is
11	suppremental Kep		207	11	Cathy Miccolis of Aptu	s Court Reporting located at 600
12				12	West Broadway, Suite 3	00, San Diego, California 92101.
13				13	This begins	the videotaped deposition of Kevin
14				14	Murphy, Volume II, tes	tifying in the matter of the Apple
15				15	iPod iTunes Trust (sic) Litigation, pending in the
16				16	District Court of Cali	fornia, Oakland Division, Case
17				17	Number C 05-00037 YGR.	This deposition is taking place at
18				18	2325 East Camelback, S	uite 300, Phoenix, Arizona 85016.
19				19		l please identify themselves,
20				20	starting with the plain	
1				21		: Bonny Sweeney for the plaintiffs.
21				22		: David Kiernan for Defendant
21 22						
22			1	23	Apple, and Scott Murra	v, in-house counsel from Apple. may
				23		y, in-house counsel from Apple, may
22 23				23 24 25	be on the phone.	y, in-house counsel from Apple, may you on the phone?

Page 238 Page 237 1 Okay. No answer. 1 MR. KIERNAN: There is a -- it makes a beeping 2 THE VIDEOGRAPHER: Thank you, Counsel. The 2 sound. 3 court reporter may swear in the witness so we can proceed. 3 MS. SWEENEY: Okay. BY MS. SWEENEY: 4 4 KEVIN M. MURPHY, Ph.D., So Professor Murphy, you remember that I 5 5 **0**. 6 having been first duly sworn to tell the truth, the whole 6 deposed you once before in this matter; correct? truth, and nothing but the truth, was examined and 7 Yes, I do. 7 Α. 8 testified as follows: 8 And that was in November of 2013? ٥. 9 9 Α. Sounds about right, although I couldn't tell 10 EXAMINATION 10 you for sure. 11 BY MS. SWEENEY: 11 **0**. And since that deposition what work have you 12 Good morning, Professor Murphy. We have met done on the Apple case? **0**. 12 13 before. My name is Bonny Sweeney. I'm going to be taking 13 Α. I have done the work that's reflected in the 14 your deposition again today in the Apple case. 14 declaration that I gave here. I have continued to read 15 MS. SWEENEY: Before we get started, I just 15 through the declarations prepared by plaintiffs' experts, 16 wanted to ask counsel for Apple a question. So I just both Professor Noll and Professor Wooldridge, and evaluate 16 want to make sure, you have an open telephone line. I 17 those reports and the claims that are made therein. 17 want to know anyone who is on that line. 18 Okay. When you say you've done the work that's 18 0. 19 MR. KIERNAN: There is no one else on the line. 19 reflected in the declaration, are you referring to the 20 supplemental report that you submitted together with MS. SWEENEY: Okay. 20 21 MR. KIERNAN: It's just an open line for Scott Professor Topel dated December 20, 2013? 21 22 Murray, counsel from Apple, and if he joins, he will 22 A. Yes, because that was produced after our 23 announce himself. 23 earlier deposition, so when you asked me what we had 24 MS. SWEENEY: Will there be any indication as worked on since then, that was a component that I 24 25 to when and who joins? 25 definitely had worked on since that date. Page 240 Page 239 Okay. And for the -- and we will just refer to 1 recall whether I had primary responsibility for one or the 1 0. 2 that as the supplemental Murphy and Topel report, if 2 other. I know I worked on the whole thing, so I don't 3 that's okay with you. even remember which one I started with. 3 Α. That's fine. Did anyone assist you and Professor Topel in 4 4 0. 5 **0**. So with respect to the supplemental Murphy and 5 writing the supplemental report? Yes, we had some assistance from Anita Garten 6 Topel report, did both you and Professor Topel write the 6 Α. who we work with regularly. And certainly in preparation 7 report? 7 8 Yes, we worked on it together. in terms of the tables and other things that went in Α. 8 there, other people, Ricardo Cossa would be a primary 9 And how does that work when two people are Q. 9 10 writing a single document in your case, how does that person who worked on doing a lot of the programming and 10 11 work? statistical work based on our direction that's in the 11 12 Α. We first talk about what it is we want to do 12 report. 13 and what -- you know, what we are, what we are presenting 13 0. Anyone else? 14 in the report. We then set out to write that up. There would be others. I don't recall all the 14 A. people who worked on the statistical end of things. In 15 Obviously one person at a time writes. We don't sit next 15 16 to each other and write. So one of us will take a 16 terms of drafting the report it would be me, Professor 17 different part and work on writing that part up. And then Topel, Anita Garten. I believe other people looked at it 17 18 the other one will review it, make changes, edits, 18 and gave us their thoughts. That would be Ricardo Cossa 19 whatever, probably discuss it further back and forth 19 and Bin Chen I believe would be the other one and possibly 20 between us with writing and discussing material that's in 20 Naraj. 21 the report. 21 Q. And when you and Professor Topel sat down to 22 Q. And you said that "each of us would take 22 put together the supplemental report, what were you 23 different parts." What part or parts did you have primary 23 addressing in that report? 24 responsibility for? 24 A. We -- I think we state right at the beginning A. You know, I don't really recall. I don't 25 of the report, we address some of the issues that 25

	Page 241		Page 242
1	Professor Noll brought up in his I don't know exactly	1	But the basic take of what we did there in terms of
2	what the title of his rebuttal or his most recent report	2	redoing his regression analysis was very similar to what
3	that was filed after our earlier reports. So we based our	1	we had done before. It just simply worked with his latest
4	discussion there on the claims made by Professor Noll in	4	specification rather than the specification that was in
5	his report. And we focused on the topics he discussed in	5	his earlier report. I think the substance of what we
6	his supplemental report or whatever the specific actual	6	discussed there is very similar. We went on and because
7	name of it is, not back to his original report, and we	7	he had changed the way he did his weighting and
8	make reference to his original report only when it's	8	calculation of his standard errors, we went and did some
9	needed for context. I think this is described directly in	9	new work using the same methodology to illustrate that
10	the report that we filed.	10	there was still a correlation problem with his residuals
11	Q. And in preparing the supplemental report, did	11	from his regression. That would be different than what we
12	you or staff at CRA take any additional statistical	12	had in the earlier report, not in the sense that the
13	analysis?	13	methodology is different, is because he had done something
14	MR. KIERNAN: Object to form.	14	different. The specifics of the results would be somewhat
15	THE WITNESS: Yes, I believe there is	15	different, although the basic conclusion would be the same
15	statistical analyses presented in that report. Yes. So	15	that he continues to have a rather severe problem with
17	we did do statistical analysis for purposes of that	17	correlation between different observations in his dataset
11/		18	that causes him to greatly understate the standard errors
19	report. BY MS. SWEENEY:	10	of his estimates.
20	Q. Can you describe the analyses that you did?	20	Q. So when you say you conducted some new work
20	A. They are contained in the report. It mostly	20	using the same methodology that you had used in your
21	consisted of variations of the regression model that	21	previous reports, and when I say reports here I'm
22	Professor Noll estimated, many of the variations we had	22	referring to the earlier Murphy and Topel reports, am I
	_	23	
24	done before. Although since he had changed the specification in some ways, it was a little different.	24	correct in sort of rephrasing to say that you didn't conduct any new tests, but you just used the different
25	specification in some ways, it was a fittle difference.	25	conduct any new tests, but you just used the different
1	Page 243	1	Page 244
	data that were in the Noll rebuttal report?	1	A. I think I don't know if we did some F-tests
2	A. No, I think we did I think we did some	2	or not. I know we did some specific ones here I believe than we did before.
3	things that were different. I think the basic thrust of what we did was very similar. I believe we did some	3 4	
4	-		Q. And are those reflected in the report?
5	different things in this, in this report than we did in	5	A. Yes, they are reflected in I believe Table 5.
6	the other. They are not inconsistent with what we did	6	It's JT-5 or something like that is the table that has those.
7	before, but we did add some to that. But the biggest	8	
8	difference, particularly in terms of the regression	-	Q. And then you said you did two different
9		10	versions of clustering, whereas in your prior report you'd
10 11	<pre>new regression specification rather than the old one.</pre>	10	only done one different version of clustering. What do you mean by that?
12	A. You know, I don't recall each one of them	12	A. In this one we did I believe clustering by
12	individually so there may be some that I leave out. For		family as opposed to by family quarter. I think if I
13	example, I know we did some F-tests on various blocks of	13	recall correctly, that's I don't want to it's either
14	coefficients in this draft that we had not done in the	14	JT-3 or JT-4. I can't remember which one, but we did that
15	earlier one. We did I think two different versions of	15	in this report.
17	clustering in this particular report that we hadn't we	17	Q. And did you also do clustering by family
	had done just the single version before. We also examined	17	guarter?
18	the correlation of the residuals somewhat further from	19	A. Yes. That's a primary thing, but that's what
20	what we had done in the previous example. So we had done		we had done before, so that wouldn't be different. That
		20	
21	a few things different. I don't recall all of them off the top of my head	21 22	<pre>was how we had done it previously. Q. And when you say "family," what are you</pre>
22	the top of my head. Q. So you said you did F-tests on blocks of	22	Q. And when you say "family," what are you referring to?
23	Q. So you said you did F-tests on blocks of coefficients. You hadn't done any F-tests prior to this	24	A. It's the iPod family, which is a categorization
24	supplemental report?	24	that Apple uses to distinguish different models of their
25	publicat roboro.	25	and the area of argenigaton attractive moders of cheft

	Page 245		Page 246
1	iPod, so it might be like an iPod mini, second generation,	1	further writing of reports or presenting of analyses that
2	given quality level, say good, better or best, one of	2	will reflect your conclusions regarding Professor
3	those.	3	Wooldridge's analysis?
4	Q. And then you said that you also examined	4	MR. KIERNAN: And I'm going to object and
5	correlation of residuals in a way that you hadn't before.	5	instruct the witness not to answer any, to the extent it
6	Can you explain that a little more?	6	reveals any communication or requests from counsel. So
7	A. I don't recall everything that we put that's	7	I'm instructing you not to answer the question to the
8	in the report, so I just know that we redid that analysis	8	extent that it would reveal requests from counsel.
9	based on his new results, and I'm not sure everything we	9	BY MS. SWEENEY:
10	did there is exactly the same as what we did before. I'd	10	Q. Are you going to answer the question?
11	have to go back and look at the report to tell you.	11	A. I have been instructed not to answer, so
12	Q. You also testified that you evaluated the	12	Q. Well, let's break that up a little bit. So the
13	plaintiffs' experts' declarations, including the	13	stipulation in this case says that certain categories of
14	Wooldridge report. Have you done any subsequent	14	data, information, documents and materials need not be
15	statistical analysis since reviewing the Wooldridge	15	produced, and that includes written correspondence between
16	report?	16	an expert and the attorneys, notes taken and prepared by
17	A. Yes, I have. I have looked at the data to	17	or for an expert in connection with the matter, including
18	evaluate whether his claims are correct or not, and I	18	notes of conversations with the attorneys, but then the
19	think the data overwhelmingly say that his claims are	19	stipulation goes on to say, and what I was paraphrasing
20	incorrect.	20	was in paragraph 3 of the stipulation, goes on to say
21	Q. And when you say you looked at the data, what	21	paragraph 3 excuse me, paragraph 5 says, nothing in
22	data did you look at?	22	paragraph 3 however shall be construed to prevent
23	A. The data based on Professor Noll's regression	23	substantive deposition questions with respect to
24	data in his regression model.	24	alternative theories, methodologies, variables, data,
25	Q. And do you have do you anticipate doing any	25	production of materials or assumptions that the expert may
	Page 247		Dogo 249
1		1	Page 248 objections and instructions that you gave Dr. Noll,
		1	SELECTION AND THEFTACTION CHAR YOU GAVE DI. MOTT
2			
2	paragraph 6 of the stipulation order should not be	2	relying upon MS. SWEENEY: Good luck with that. I never
	paragraph 6 of the stipulation order should not be construed to preclude reasonable questions at deposition	2	relying upon MS. SWEENEY: Good luck with that. I never
3 4	paragraph 6 of the stipulation order should not be construed to preclude reasonable questions at deposition going to the expert's compensation, hours expended in	2	relying upon MS. SWEENEY: Good luck with that. I never stopped him from answering those kind of questions.
3	paragraph 6 of the stipulation order should not be construed to preclude reasonable questions at deposition going to the expert's compensation, hours expended in preparing his or her report and testimony and frequency	2 3 4 5	relying upon MS. SWEENEY: Good luck with that. I never stopped him from answering those kind of questions. MR. KIERNAN: Are you going to continue to
3 4 5	paragraph 6 of the stipulation order should not be construed to preclude reasonable questions at deposition going to the expert's compensation, hours expended in preparing his or her report and testimony and frequency and duration of meetings with counsel.	2 3 4	relying upon MS. SWEENEY: Good luck with that. I never stopped him from answering those kind of questions.
3 4 5 6	paragraph 6 of the stipulation order should not be construed to preclude reasonable questions at deposition going to the expert's compensation, hours expended in preparing his or her report and testimony and frequency and duration of meetings with counsel. So what I'm getting at is I think that counsel	2 3 4 5 6	relying upon MS. SWEENEY: Good luck with that. I never stopped him from answering those kind of questions. MR. KIERNAN: Are you going to continue to interrupt me?
3 4 5 6 7	paragraph 6 of the stipulation order should not be construed to preclude reasonable questions at deposition going to the expert's compensation, hours expended in preparing his or her report and testimony and frequency and duration of meetings with counsel. So what I'm getting at is I think that counsel for Apple has construed overly broadly the restrictions of	2 3 4 5 6 7	relying upon MS. SWEENEY: Good luck with that. I never stopped him from answering those kind of questions. MR. KIERNAN: Are you going to continue to interrupt me? MS. SWEENEY: No. Go ahead. Let's create this record.
3 4 5 6 7 8	paragraph 6 of the stipulation order should not be construed to preclude reasonable questions at deposition going to the expert's compensation, hours expended in preparing his or her report and testimony and frequency and duration of meetings with counsel. So what I'm getting at is I think that counsel	2 3 4 5 6 7 8	relying upon MS. SWEENEY: Good luck with that. I never stopped him from answering those kind of questions. MR. KIERNAN: Are you going to continue to interrupt me? MS. SWEENEY: No. Go ahead. Let's create this record. MR. KIERNAN: Okay.
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1 Decause that is just completely false. So if you're ⁻ 1 THE WITNESS: I 2 instructing the witness not to answer, that is an improper 2 MR. KIERNAM: And i 3 instructing the witness not to answer, that is an improper 3 I gave. 4 make sure the record is clear on this. 5 WR. KIERNAM: And i 5 BY MS. SKEENEY: 5 questions. If there are spec. 6 O. Professor Murphy, are you on the advice of supposed to answer because that is on improper 9 commal for Apple refusing to answer my question about 6 of the court I see is to try i 9 commal for Apple refusing to answer my question that 1 I have not made a broad objec 13 Apple. instructing gree or that is presumably what I should do. 13 question by question, di if 14 task about instructions given to you by counsel for 13 won't assert the objection. 15 A. If that's what I'm instructed to do by counsel 13 dise with the Court. 16 task about instructing a report to be submitted not advice of counsel? 14 to ask him about whatever you 16 oprovided information toyou that you've relied on, are you		Page 249		Page 250
3 instruction, and I will take it to the court. So let me 3 I gave. 4 make sure the record is clear on this. 4 THE WITNESS:w 5 BY MS. SWEENEY: 5 questions. If there are spece 6 0. Professor Murply, are you on the advice of coursel for Apple refusing to answer my question about 6 supple. Since I'm not a lawyer, I can't tell you all the 1 I have not made a broad object 13 Apple. Since I'm not a lawyer, I can't tell you all the 16 went not made a broad object 14 interpretation, and I can beel I can do is go with the 16 violating or outside the stip 15 will op question hy question that 16 violating or outside the stip 15 avis consel? 17 14 to ask him about whatever you 16 Q. So you're refusing to answer any question that 16 violating or outside the stip 17 I ask about instructions given to you by counsel for 18 westrongly disagree. I thin 18 Apple? 17 i davise of counsel? 20 NS. SWEENEY: Well 20 A. I forit know. Wapport the submitted rom. 21 westrongly disagree. I thin 21 <th>1</th> <th></th> <th>1</th> <th>•</th>	1		1	•
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5 BY NS. SWEENEY: 5 questions. If there are spected supposed to answer because the supposed to answer back the best I can do is of the court I see is to try is the best I can do is of the court I see is to try is the best I can do is of the court I see is to try is the best I can do is of the court is supposed to answer back the I is and the best I can do is of the court I see is to try is the best I can do is of the court I and a broad object is advice of counsel. 1 A. Yeah, I'm taking the advice of the counsel for apple, that is presumably what I should do. 1 1 have not made a broad object ion. 2 A. I finthis matter? 12 14 we strongly disagree. I thin is raise with the Court. 2 A. I anticipate continuing my work, evaluating the advice of counsel? 2 0. Did you adopt the is ounsel for the supplemental report? 3 and boweer long it takes. 9 0. Did hey writing a report to be submitted next. 4 a. I don't know whether there is going to be apposition to plaintiffs' motion to exclude apposition to plaintiffs' motion to exclude apposition to plaintiffs' motion to exclude apport submitted ornot. 5 0. D	3	instruction, and I will take it to the court. So let me	3	I gave.
6 Q. Professor Murphy, are you on the advice of sounsel for Apple refusing to answer my question about 6 supposed to answer because the stipulation, the best I can do of the court I see is to try f the best I can, and for that i 10 work that you have performed or will perform in this 8 6 the best I can, and for that i 11 matter? 1 I have not made a broad object 12 A. Yeah, I'm taking the advice of the counsel for advice of counsel. 10 usestion by question, and if to ask him about whatever you is dvice of counsel. 16 0. So you're refusing to answer any question that if fail that's what I'm instructed to do by counsel for Apple, that's presumably what I should do. 10 10 11 assert the chyection. 10 westrongly disagree. I thin i agoing to refuse to answer question about that based i going to refuse to answer question. Object to form. 10 11 westrongly disagree. I thin i raise with the Court. 17 anticipate doing in this matter? 2 Q. Did you adopt the i sounching any sont westward i dowever long it takes. 2 Q. Did you adopt the i sounching any sont westward i and however long it takes. 2 Q. Did you write or di i portions of your testimony and Professor Woldridey i work. And there is a possibility that that would persume i whether there is going to do my work and continue to thi i westim oppositint to plaintiffs' motino to exclude i portions of your testimony an	4	make sure the record is clear on this.	4	THE WITNESS: will do my best to answer your
7 Professor Murphy, are you on the advice of 7 stipulation, the best I can de 8 communications that you had with Apple's counsel about 9 the court I see is to try i 9 communications that you had with Apple's counsel about 9 the court I see is to try i 10 work that you have performed or will perform in this 9 the court I see is to try i 11 matter? 1 I have not made a broad object 12 A. Yeah, I'm taking the advice of the counsel for 13 question by question, and if I 14 interpretation, and I can best I can do is go with the 14 to ask him about whatever you 15 advice of counsel. 14 to ask him about whatever you 16 Q. So you're refusing to answer any question that 16 violating or outside the stip 17 I sk about instructions given to you by counsel for 18 feel that it's not covered by 18 Apple. 2. So if counsel for Apple has instructed you or 20 NS. MENENY: Well 12 Q. So if counsel for Apple has instructed you or 21 feel that it's not covered by 13 apple. A. I anticipate doing in this matter? <th>5</th> <td>BY MS. SWEENEY:</td> <td>5</td> <td>questions. If there are specific things that I'm not</td>	5	BY MS. SWEENEY:	5	questions. If there are specific things that I'm not
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8 counsel for Apple refusing to answer my question about 8 of the court I see is to try if 9 communications that you had with Apple's counsel about 9 the best I can, and for that if 10 work that you had with Apple's counsel about 9 the best I can, and for that if 11 matter? 11 I have not made a broad object 12 A. Yeah, I'm taking the advice of the counsel for 13 13 Apple. Since I'm not a lawyer, I can't tell you all the 13 14 interpretation, and I can best I can do is go with the 14 to ask him about whatever you 15 advice of counsel. 15 will og question by question, and if 17 task about instructions given to you by counsel for 18 will og question by question. 16 of Apple, that's what I'm instructed to do by counsel 17 objection and instruct the will 20 for Apple has instructed you or 27 going to refuse to answer questions about that based on 28 21 going to refuse to answer question. Object to form. 29 Q. Did you adopt the is 2 A. I anticipate continuing my work,	7	Professor Murphy, are you on the advice of	7	stipulation, the best I can do to comply with the desires
9 communications that you had with Apple's counsel about 9 the best I can, and for that is 10 work that you have performed or will perform in this 9 the best I can, and for that is 11 matter? 10 MR. KIERNAN. And 11 I have not a lawyer, I can't tell you all the 10 MR. KIERNAN. And 12 A. Yeah, I'm taking the advice of the counsel for 13 question by question, and if 4 14 to ask him about whatever you 15 will go question by question, and if 4 14 to ask him about whatever you 15 will go question by question, and if 4 16 Q. So you're refusing to answer any question that 16 violating or outside the stip 16 Q. So you're refusing to answer any question that 16 violating or outside the stip 17 Jo for Apple, that's presumably what I should do. 20 16 violating or outside the stip 12 Q. So if counsel for Apple has instructed you or 20 NS. SWEENEY: 13 anticipate doing in this matter? Page 251 1 10 14 thad's ongoing, and I can -	8		8	of the court I see is to try to follow those directions to
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 15 advice of counsel. Q. So you're refusing to answer any question that 17 I ask about instructions given to you by counsel for 18 Apple? A. If that's what I'm instructed to do by counsel 20 for Apple, that's presumably what I should do. 21 Q. So if counsel for Apple has instructed you or 23 going to refuse to answer question. Object to form. 24 the advice of counsel? 25 MR. KIERNAN: Objection. Object to form. 26 A. I anticipate continuing my work, evaluating the 3 claims made by Professor Noll and by Professor Wooldridge, 4 that's ongoing, and I can I would, I would presume that 5 I would continue to do that in the coming days and weeks 6 and however long it takes. 7 Q. Are you writing a report to be submitted next 8 week in opposition to plaintiffs' motion to exclude 9 portions of your testimony and Professor Topel's 10 testimony? 11 A. I don't know whether there is going to be a 12 report submitted or not. I I know I'm continuing to a work. And there is a possibility that that would lead to 13 work. And there is a possibility that that would lead to 14 a report. I would understand, but I can't tell you 15 whether there is going to be me submitted or not. 16 That's I'm just going to do my work and continue to try 17 to evaluate the claims of plaintiffs' experts. 18 Q. Did you receive input from Apple's counsel in 19 your report, your supplemental report? 10 A. What do you mean by received input from them? 17 the gave they gave us comments. That's prety much 18 yashta do on drafts of the report. I don't know. Usually 20 Haw long strike 				to ask him about whatever you want to ask him, then we
16 Q. So you're refusing to answer any question that 16 violating or outside the stip 17 I ask about instructions given to you by counsel for 18 Apple? 18 Apple? 18 feel that it's not covered by 20 for Apple, that's presumably what I should do. 20 NS. SWEENEY: Well 21 Q. So if counsel for Apple has instructed you or 21 we strongly disagree. I thin 21 provided information to you that you've relied on, are you 21 we strongly disagree. I thin 23 going to refuse to answer questions about that based on 22 we strongly disagree. I thin 24 the advice of counsel? 23 we strongly disagree. I thin 25 MR. KIERNAN: Objection. Object to form. 23 raise with the Court. 24 ha anticipate doing in this matter? 25 Q. Did you adopt the stap 3 claims made by Professor Noll and by Professor Wooldridge, 4 A. Not really. 4 that's ongoing, and I can I would, I would presume that 5 Q. Did you write or date 6 apple's counsel? 7 A. No. 7 Q. Are you writing a report to be submitted next				will go question by question, and if I feel that it's
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	Page 253		Page 254
1	A. I don't recall.	1	from Professor Noll's deposition?
2	Q. More than 10?	2	A. I did. I did, but that was a while back.
3	A. Yeah, it would have been more than 10.	3	Q. Can you summarize for me the opinions that are
4	Q. More than 100?	4	stated in your supplemental report?
5	A. It would have been less than 100.	5	A. Probably not all of them. I mean, I think
6	Q. Less than 50?	6	there is some basic ones. One is I think the first and
7	A. I would assume so.	7	foremost is Professor Noll has continued to overstate the
8	Q. Less than 40?	8	significance of his results by un by failing to account
9	A. That I now we are getting down to my	9	for the strong degree of correlation across transactions,
10	level of resolution I think is about that level.	10	and that's a very substantial error. It results in him
11	Q. Do you know how much time Professor Topel spent	11	calculating standard errors that are roughly 100 times too
12	on it?	12	small. I mean, not always exactly that. Sometimes a lot
13	A. I do not. You'd have to ask him.	13	more; sometimes less. But it's a gross misestimate of the
14	Q. Is there anything today that you would like to	14	precision of his estimates.
15	revise or correct in your supplemental report?	15	That the his reasons for not taking account
16	A. Nothing that specifically I'm aware of, no.	16	of the correlation are invalid, and we go through each of
17	Q. Is there anything in your prior report that you	17	those in the report. The residuals at the family by
18	want to correct or revise?	18	quarter level are demonstrably correlated to a high
19	A. No, not that I'm aware of.	19	degree. The fact that he has all the transactions,
20	Q. Have you reviewed the Wooldridge deposition	20	actually nearly or nearly all the transactions, what he
21	transcript?	21	calls it's a population rather than a sample doesn't
22	A. I skimmed through it. I just got it yesterday,	22	diminish the need to account for the correlation that's
23	and I was busy at school with things yesterday, so I only	23	present in the data that he has.
24	had a chance to skim through it.	24	That he continues to have omitted variables in
25	Q. And did you review the deposition transcript		his regression, that important determinants of iPod
1	Page 255 pricing that he leaves out which biases his results and	1	Page 256 A. I don't recall what all we cited in our first
2	causes him to misestimate the impact of any of the iTunes	2	report. There is certainly a broad economic literature
3	7.0 release. He continues to use the wrong but-for world	3	that supports what we put forward there. I would say what
4	and the wrong specification of the impact of iTunes 7 on	4	we cite here is certainly you could find other cites that
5	iPod prices.	5	would echo the same points. The articles we have cited,
6	The basic methodology he continues to use is	6	you know, sort of Cameron and Miller and Donald and Lang
7	greatly flawed because of the fact that again his	7	and Angrist and Pischke and the Hansen, Chris Hansen's
8	estimates are not isolating the impact of the challenged	8	work, I mean a number of things that we have referred to
9	conduct, that simultaneous with the release of iTunes 7	0	and looked at all support the same thing.
	other things in the marketplace changed, including the	10	If you want to see more, I think Cameron and
10	models being offered by Apple, the characteristics of	10	Miller have a pretty extensive discussion of the
12	those products, and rendering his analysis sort of invalid	12	underlying further literature that you might want to look
13	conceptually. Those are the ones I remember. There might	13	at if you wanted more literature, but we didn't cite those directly.
14	be some more conclusions, but those are the basic ones.	14	directly.
15	Q. And are the bases for all of the opinions that	15	Q. Do you consider yourself an expert on clustering issues?
16	you've just summarized set forth in your supplemental	16	5
17	report?	17	A. I would consider myself an expert at applied
18	A. Yes. I think we tried to summarize the bases	18	econometrics generally and in particular methods to be
19	for those opinions at the time we wrote the report, yes.	19	used for these type of data. I have spent my career
20	Q. Now, you said that Professor Noll has continued	20	analyzing aggregate more aggregated phenomena using
21	to overstate the significance of his results, and you say	21	microdata, so this is an area I'm very familiar with. So
22	that there is a strong degree of correlation. Did you	22	it's something that I would say, yeah, I would consider
23	rely upon any economic literature other than the	23	myself very well versed in.
24	literature you cited in your first report to support your	24	Q. Have you ever written any articles that have
25	conclusions regarding the clustering?	25	been published specifically relating to clustering?

 A. I don't think I published any specific articles on clustering. I have certainly talked about how you use lata of this type where you have market-level phenomena you're interested in and micro-level data used to estimate to the estimate in the structure, which we made exactly the point that we are talking about here, that even though you might have nundreds of thousands of observations from underlying latasets, when it comes to estimating the determinants of market prices, you have much less data because in fact you only have data on a limited number of market equilibrium. And that's exactly the same point that's being made here. Q. Now, why don't we go ahead and mark the supplemental report as Murphy Exhibit 6, because there were five exhibits marked in your prior deposition. (Exhibit 6 market.) Q. Now, you said that you and Professor Topel 	1 2 3 4 5 6 7 7 8 9 10 11 12 13 14 15	<pre>report. I mean, we didn't like write them and then glue them together and send them in. We worked on them back and forth. We talked about it before we ever wrote anything. Even if one of us wrote the paragraph the first time, the other one went through it, and we ended up with something we were both satisfied with. Q. So you agree with all the statements in the report; is that correct? A. To the best of my knowledge, yes. Q. In paragraph 5.a., you say that Professor Noll simply ignores the clustering problem. In your opinion did Professor (sic) in his rebuttal MR. KIERNAN: Page 2. BY MS. SWEENEY: Q report ignore the clustering problem?</pre>
data of this type where you have market-level phenomena you're interested in and micro-level data used to estimate it. I did a lot of well-cited work on the wage structure, which we made exactly the point that we are calking about here, that even though you might have nundreds of thousands of observations from underlying datasets, when it comes to estimating the determinants of market prices, you have much less data because in fact you only have data on a limited number of market equilibrium. And that's exactly the same point that's being made here. And my work in that area goes back probably almost 30 years. Q. Now, why don't we go ahead and mark the supplemental report as Murphy Exhibit 6, because there mere five exhibits marked in your prior deposition. (Exhibit 6 marked.)	3 4 5 6 7 8 9 10 11 12 13 14	<pre>and forth. We talked about it before we ever wrote anything. Even if one of us wrote the paragraph the first time, the other one went through it, and we ended up with something we were both satisfied with. Q. So you agree with all the statements in the report; is that correct? A. To the best of my knowledge, yes. Q. In paragraph 5.a., you say that Professor Noll simply ignores the clustering problem. In your opinion did Professor (sic) in his rebuttal MR. KIERNAN: Page 2. BY MS. SWEENEY:</pre>
<pre>you're interested in and micro-level data used to estimate it.</pre>	4 5 6 7 8 9 10 11 12 13 14	<pre>anything. Even if one of us wrote the paragraph the first time, the other one went through it, and we ended up with something we were both satisfied with. Q. So you agree with all the statements in the report; is that correct? A. To the best of my knowledge, yes. Q. In paragraph 5.a., you say that Professor Noll simply ignores the clustering problem. In your opinion did Professor (sic) in his rebuttal MR. KIERNAN: Page 2. BY MS. SWEENEY:</pre>
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(Exhibit 6 marked.)	1.1	
0. Now, you said that you and Professor Topel		
g, jeu sune jeu unu recessor reper		
jointly wrote the report; correct?		
A. That's correct.		
Q. For those parts that you didn't yourself write,		
lo you agree with them?		
A. Yeah, I mean, I worked on every part of the		
Page 259		Page 260
Q. Professor Noll disagrees with you that there is	1	supplemental report?
a clustering problem; isn't that correct?	2	A. Are you referring to analyses done before the
A. Yes, but he disagrees by just denying it, not	3	report or after the report?
by presenting evidence that there is no correlation. He	4	Q. Let's start with before the report.
doesn't he doesn't calculate the correlation and say,	5	A. Yeah, I'm sure we did additional analyses that
look, the correlation is low. He never he never does	6	we are not relying on. I don't there is nothing that
chat. I mean, we present a graphical representation of	7	would be inconsistent with what we have done there. There
just how highly correlated the residuals are and uses	8	are often many ways to do things, and when it comes time
you know, he just asserts things without really doing any	9	to write a report, you settle on one that you think
	10	accurately what you did. But nothing that I'm relying on,
Q. That's interesting.	11	no.
Did you perform any cluster analyses that are	12	Q. And is that true also for your initial report,
not presented in your exhibits?	13	that is, that you conducted certain analyses relating to
A. What does that mean?	14	your clustering opinions that are not reflected in the
Q. Well, you and your staff at CRA performed some	15	tables and exhibits attached to your report?
analyses on the clusters; correct?	16	MR. KIERNAN: Objection; argumentative.
A. We have continued to work on the clustering	17	THE WITNESS: Nothing that I would be relying
analysis. Well, it's actually not really the clustering	18	on.
analysis. Analysis of Professor Noll's model and analysis	19	BY MS. SWEENEY:
of the error terms in that model and their properties. So	20	Q. But nonetheless, is it your testimony, let's
we have continued to work on that subsequent to the	21	start with the supplemental report, that those analyses
report. Is that what you're asking?	22	that are not reflected in your exhibits in which you're
Q. No. What I want to know is, did you perform	23	not relying on are nonetheless consistent with your
any analyses that relate to your opinion regarding	24	opinions?
clustering that are not presented in the tables in your	25	A. Yes, I would say the analysis we have done is
	Q. For those parts that you didn't yourself write, do you agree with them? A. Yeah, I mean, I worked on every part of the Page 259 Q. Professor Noll disagrees with you that there is a clustering problem; isn't that correct? A. Yes, but he disagrees by just denying it, not by presenting evidence that there is no correlation. He doesn't he doesn't calculate the correlation and say, look, the correlation is low. He never he never does that. I mean, we present a graphical representation of just how highly correlated the residuals are and uses you know, he just asserts things without really doing any analysis. Q. That's interesting. Did you perform any cluster analyses that are not presented in your exhibits? A. What does that mean? Q. Well, you and your staff at CRA performed some analyses on the clusters; correct? A. We have continued to work on the clustering analysis. Well, it's actually not really the clustering analysis. Analysis of Professor Noll's model and analysis of the error terms in that model and their properties. So we have continued to work on that subsequent to the report. Is that what you're asking?	 Q. For those parts that you didn't yourself write, do you agree with them? A. Yeah, I mean, I worked on every part of the Page 259 Q. Professor Noll disagrees with you that there is a clustering problem; isn't that correct? A. Yes, but he disagrees by just denying it, not by presenting evidence that there is no correlation. He doesn't he doesn't calculate the correlation and say, look, the correlation is low. He never he never does that. I mean, we present a graphical representation of just how highly correlated the residuals are and uses 8 you know, he just asserts things without really doing any analysis. Q. That's interesting. Did you perform any cluster analyses that are not presented in your exhibits? A. What does that mean? Q. Well, you and your staff at CRA performed some analysis. Well, it's actually not really the clustering analysis. Analysis of Professor Noll's model and analysis of the error terms in that model and their properties. So we have continued to work on that subsequent to the report. Is that what you're asking? Q. No. What I want to know is, did you perform analyses that relate to your opinion regarding

	65		Page 266
		1	documents or anything in this case would tell me to move
		2	in that direction. So that's not something I would have
		3	instructed them to do, at least as I recall. I can't tell
		4	you what all anything they did, but not that I know of.
	And we settled on quarter	5	It's the best answer I can give.
6	because we thought it represented a reasonable compromise	6	BY MS. SWEENEY:
7	between taking account of that correlation while still	7	Q. You testified a little bit ago about the
8	allowing for some independence over time. I think that's	8	difference that Professor Noll asserted between samples of
9	the best justification you have for focusing on quarters.	9	data and the population of data. Are you familiar with
10	If somebody wanted to aggregate further, I think that	10	any other instance in which the kind of adjustment that
11	could be reasonable. I think aggregating less is going in	11	you performed with respect to the standard errors was used
12	the wrong direction. I think I would continue to stand by	12	to adjust standard errors for clustering when the dataset
13	that. And certainly doing what Professor Noll did because	13	was a population rather than a sample?
14	it neither aggregates over time nor across transactions at	14	A. Yeah. I mean, for example, in Professor
15	a point in time doesn't make any sense.	15	Wooldridge's work that he did on unilateral divorce, the
16	BY MS. SWEENEY:	16	sample the data on divorce there are population. They
17	Q. So you think it's going in the wrong direction	17	are the divorces that occurred in each state from vital
18	to cluster at any shorter time interval, but you don't	18	statistics, which is a population, not a, not a sample.
19	know in fact whether your staff at CRA conducted the	19	The
20	clustering analysis by week; correct?	20	Q. Anything else?
21	MR. KIERNAN: Object to form.	21	A. Yeah. I mean, in like price-fixing cases and
22	THE WITNESS: I don't believe they did because	22	things like that where you have all the transactions for a
23	I didn't ask them to do that because I wouldn't have	23	company, you don't and you're doing a price analysis,
24	thought going in that direction made much sense. It's not	24	you typically don't treat all the prices as independent
25	something that would tell economics or the data or the	25	because they are determined by common factors. You would
	Page 267		De #4 000
		1	Pade 268
1		1	Page 268 Q. So I asked you whether you tested weekly I
1 2	-	1 2	•
	allow for clustering.		Q. So I asked you whether you tested weekly I
2	allow for clustering. Or when people analyze go back to the	2	Q. So I asked you whether you tested weekly I asked about weekly. Did I ask about monthly clusters?
2	allow for clustering. Or when people analyze go back to the original work of Fama and McBeth. They have you know,	2	Q. So I asked you whether you tested weekly I asked about weekly. Did I ask about monthly clusters? Did you conduct that analysis?
2 3 4	allow for clustering. Or when people analyze go back to the original work of Fama and McBeth. They have you know, they have all the stock market data. They have all the	2 3 4	Q. So I asked you whether you tested weekly I asked about weekly. Did I ask about monthly clusters? Did you conduct that analysis? A. You know, I don't recall whether we did or not.
2 3 4 5	allow for clustering. Or when people analyze go back to the original work of Fama and McBeth. They have you know, they have all the stock market data. They have all the closing prices on a daily basis for all the stocks in	2 3 4 5	Q. So I asked you whether you tested weekly I asked about weekly. Did I ask about monthly clusters? Did you conduct that analysis? A. You know, I don't recall whether we did or not. It's not something I remember. We might have done that as
2 3 4 5 6	allow for clustering. Or when people analyze go back to the original work of Fama and McBeth. They have you know, they have all the stock market data. They have all the closing prices on a daily basis for all the stocks in their universe. They don't have a sample of dates. They	2 3 4 5 6	Q. So I asked you whether you tested weekly I asked about weekly. Did I ask about monthly clusters? Did you conduct that analysis? A. You know, I don't recall whether we did or not. It's not something I remember. We might have done that as a sensitivity check back when. It's not something I have
2 3 4 5 6 7	allow for clustering. Or when people analyze go back to the original work of Fama and McBeth. They have you know, they have all the stock market data. They have all the closing prices on a daily basis for all the stocks in their universe. They don't have a sample of dates. They got every date, and they have got, you know, all the	2 3 4 5 6 7	Q. So I asked you whether you tested weekly I asked about weekly. Did I ask about monthly clusters? Did you conduct that analysis? A. You know, I don't recall whether we did or not. It's not something I remember. We might have done that as a sensitivity check back when. It's not something I have done recently. Might have done that before the first
2 3 4 5 6 7 8	allow for clustering. Or when people analyze go back to the original work of Fama and McBeth. They have you know, they have all the stock market data. They have all the closing prices on a daily basis for all the stocks in their universe. They don't have a sample of dates. They got every date, and they have got, you know, all the stocks in their universe. They didn't draw they didn't	2 3 4 5 6 7 8	Q. So I asked you whether you tested weekly I asked about weekly. Did I ask about monthly clusters? Did you conduct that analysis? A. You know, I don't recall whether we did or not. It's not something I remember. We might have done that as a sensitivity check back when. It's not something I have done recently. Might have done that before the first report, but I don't recall one way or the other.
2 3 4 5 6 7 8 9	allow for clustering. Or when people analyze go back to the original work of Fama and McBeth. They have you know, they have all the stock market data. They have all the closing prices on a daily basis for all the stocks in their universe. They don't have a sample of dates. They got every date, and they have got, you know, all the stocks in their universe. They didn't draw they didn't draw a random sample. They had that. And Fama and	2 3 4 5 6 7 8 9	Q. So I asked you whether you tested weekly I asked about weekly. Did I ask about monthly clusters? Did you conduct that analysis? A. You know, I don't recall whether we did or not. It's not something I remember. We might have done that as a sensitivity check back when. It's not something I have done recently. Might have done that before the first report, but I don't recall one way or the other. Q. But if you
2 3 4 5 6 7 8 9 10	allow for clustering. Or when people analyze go back to the original work of Fama and McBeth. They have you know, they have all the stock market data. They have all the closing prices on a daily basis for all the stocks in their universe. They don't have a sample of dates. They got every date, and they have got, you know, all the stocks in their universe. They didn't draw they didn't draw a random sample. They had that. And Fama and McBeth, they essentially did original work actually kind	2 3 4 5 6 7 8 9 10	Q. So I asked you whether you tested weekly I asked about weekly. Did I ask about monthly clusters? Did you conduct that analysis? A. You know, I don't recall whether we did or not. It's not something I remember. We might have done that as a sensitivity check back when. It's not something I have done recently. Might have done that before the first report, but I don't recall one way or the other. Q. But if you A. It's not relying on it for sure.
2 3 4 5 6 7 8 9 10 11	allow for clustering. Or when people analyze go back to the original work of Fama and McBeth. They have you know, they have all the stock market data. They have all the closing prices on a daily basis for all the stocks in their universe. They don't have a sample of dates. They got every date, and they have got, you know, all the stocks in their universe. They didn't draw they didn't draw a random sample. They had that. And Fama and McBeth, they essentially did original work actually kind of related to clustering. They used a different	2 3 4 5 6 7 8 9 10 11	Q. So I asked you whether you tested weekly I asked about weekly. Did I ask about monthly clusters? Did you conduct that analysis? A. You know, I don't recall whether we did or not. It's not something I remember. We might have done that as a sensitivity check back when. It's not something I have done recently. Might have done that before the first report, but I don't recall one way or the other. Q. But if you A. It's not relying on it for sure. Q. If you did do that, it's not reflected in the
2 3 4 5 6 7 8 9 10 11 12	allow for clustering. Or when people analyze go back to the original work of Fama and McBeth. They have you know, they have all the stock market data. They have all the closing prices on a daily basis for all the stocks in their universe. They don't have a sample of dates. They got every date, and they have got, you know, all the stocks in their universe. They didn't draw they didn't draw a random sample. They had that. And Fama and McBeth, they essentially did original work actually kind of related to clustering. They used a different methodology, but they were concerned with exactly that	2 3 4 5 6 7 8 9 10 11 12	Q. So I asked you whether you tested weekly I asked about weekly. Did I ask about monthly clusters? Did you conduct that analysis? A. You know, I don't recall whether we did or not. It's not something I remember. We might have done that as a sensitivity check back when. It's not something I have done recently. Might have done that before the first report, but I don't recall one way or the other. Q. But if you A. It's not relying on it for sure. Q. If you did do that, it's not reflected in the report or its exhibits or attachments; correct?
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	Page 277		Page 278
1	that if you wanted to. You could do lots of different	1	wanted to say is, it's the right way to proceed is to
2	things. But the whole point is his analysis is not valid.	2	allow for the correlation if you think it's going to be
3	He assumes that they are independent regardless of which	3	there. You wouldn't want to allow for correlation if you
4	one you did.	4	had no reason to believe it were there. That doesn't make
5	BY MS. SWEENEY:	5	a whole lot of sense, but when economics tells you there
6	Q. If you have a situation where there are no	6	is going to be correlation, when the facts of the case
7	clusters and you do this kind of clustering analysis, is	7	tells you there is going to be correlation, you should
8	that harmless error in your view?	8	allow for that correlation.
9	A. You know, I'm going to say, I think it's, I	9	Now, is it harmless? I should say it's the
10	think it's if you suspect there is correlation, which	10	opposite of harmless. It's necessary; it's needed. And
11	we have strong reason to do in this case, economics tells	11	there is no reason to believe there isn't correlation in
12	us there will be correlation, the data tells us there is	12	this case. You would expect that there would be
13	correlation, the documents in this case tells us there is	13	correlation.
14	going to be correlation, there is just so overwhelming	14	BY MS. SWEENEY:
15	prior that there will be correlation, then I think it's	15	Q. Okay. Well, listen to my question. If you
16	proper to allow for that correlation. I think that is the	16	have a case where there is no reason to believe there is
17	only prudent approach. To just bury your head in the sand	17	correlation and you conduct this kind of clustering, is
18	and ignore the fact that they are correlated as Professor	18	that harmless error in your view?
19	Noll does doesn't make any sense.	19	MR. KIERNAN: Objection; asked and answered.
20	Q. I'm going to move to strike as nonresponsive,	20	THE WITNESS: I would say it will not if we
21	and I'm going to ask the court reporter to read my	20	do it I don't want to apply it to an abstract world
22	question back.	22	other than this one. In the context like this given the
23	MR. KIERNAN: I oppose the motion.	23	number of clusters that we have, which is upwards of 300
24	(Record read.)	24	in one case and upwards of 400 in the other case, and
25	THE WITNESS: I don't want to here is what I	25	given the nature of the data that we have here, I would
		20	•
	Page 279		Demo 000
1	-	1	Page 280
1	say there is very little downside to allowing for that	1	A. Correct. And it runs down to
2	say there is very little downside to allowing for that clustering, and the reason is it doesn't create a bias.	2	A. Correct. And it runs down to log_recharge_hours.
23	say there is very little downside to allowing for that clustering, and the reason is it doesn't create a bias. It doesn't bias your standard errors upward. If anything,	2 3	<pre>A. Correct. And it runs down to log_recharge_hours. Q. What is HP_OEM?</pre>
2 3 4	say there is very little downside to allowing for that clustering, and the reason is it doesn't create a bias. It doesn't bias your standard errors upward. If anything, it's going to tend to make your standard errors a little	2 3 4	 A. Correct. And it runs down to log_recharge_hours. Q. What is HP_OEM? A. That was the specific iPods that were I believe
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2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	<pre>say there is very little downside to allowing for that clustering, and the reason is it doesn't create a bias. It doesn't bias your standard errors upward. If anything, it's going to tend to make your standard errors a little bit smaller is what the literature suggests. It's not generally going to lead to an upward bias in your standard errors. BY MS. SWEENEY: Q. Now, you added a number of characteristics to Professor Noll's regression; correct? A. Yes, this that's not new to this report. We had done that in the previous report as well. Q. And are the where in your report are those characteristics listed? A. Well, they are listed in the regression tables themselves. Q. Okay. Point to me a particular table that A. Like just go to well, might as well just start at the beginning. Go to Table 1. They are listed at the bottom of the table. Well, not the very bottom, but the bottom of the coefficient portion. See where there is like a white space in the first three columns and then there is numbers in the last two columns? Those would be the additional characteristics.</pre>	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	 A. Correct. And it runs down to log_recharge_hours. Q. What is HP_OEM? A. That was the specific iPods that were I believe HP-branded at one point in time, so they were a little bit different. So that allows for it was an OEM iPod as opposed to an Apple iPod. That sort of refers to some specific models. Q. What about what is USB? A. USB is whether the Ap whether the iPod is USB-compatible. Some of the early generation iPods were not USB-compatible. They were FireWire based. Q. And so the next one, FireWire, is that sort of the opposite then of USB? Either it has USB or it has FireWire? A. No. There was some that I think had both, which is why there both effects can be there. The majority either had one or the other as I recall, and I don't remember the fraction that had both. There were some particular models as I recall that had both. That's why they are both in there. Q. So do you know whether all iPods sold to class members during the class period had USB capability? A. I'd have to go back and check. I don't recall.
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	Page 345		Page 346
1	(Concluded at 12:07 p.m.)	1	DECLARATION UNDER PENALTY OF PERJURY
2			Case Name: The Apple iPod iTunes Anti-Trust Litigation
3		3	Date of Deposition: 1/8/2014
4		4	Job No: 10009199
5		5	
6		6	I, KEVIN M. MURPHY, Ph.D., the witness herein,
7		7	
8		8	foregoing in its entirety; and that the testimony
9		9	contained therein, as corrected by me, is a true and
10		10	accurate transcription of my testimony elicited at said
11		11	time and place.
12		12	Executed this day of,
13		13	2014, at
14		14	
15		15	
16			KEVIN M. MURPHY, Ph.D. Date
17		16	
18		17	
		18	
19		19	
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	Page 231		Page 348
1	Page 231 DEPOSITION ERRATA SHEET	1	Page 348 STATE OF ARIZONA)
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2	DEPOSITION ERRATA SHEET Page No Line No		STATE OF ARIZONA)) ss.
2 3	DEPOSITION ERRATA SHEET Page No Line No Change:	2	STATE OF ARIZONA)) ss. COUNTY OF MARICOPA) BE IT KNOWN that the foregoing deposition was
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2 3 4 5 6	DEPOSITION ERRATA SHEET Page No Line No Change: Reason for change: Page No Line No Change:	2 3 4 5 6 7	<pre>STATE OF ARIZONA)</pre>
2 3 4 5 6 7	DEPOSITION ERRATA SHEET Page No Line No Change: Reason for change: Page No Line No Change: Reason for change:	2 3 4 5 6 7	STATE OF ARIZONA) ss. COUNTY OF MARICOPA) BE IT KNOWN that the foregoing deposition was taken before me, Cathy A. Miccolis, RPR, a Certified Reporter, Certificate #50068, for the State of Arizona, and by virtue thereof authorized to administer an oath; that the witness before testifying was duly sworn by me to testify to the whole truth; that the questions propounded
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2 3 4 5 6 7 8 9 10 11 12 13 14 15	DEPOSITION ERRATA SHEET Page No Line No Reason for change: Page No Line No Change: Page No Line No Change: Page No Line No Reason for change: Page No Line No Change: Reason for change: Page No Line No Change: Reason for change: Page No Line No Change: Reason for change: Page No Line No	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	STATE OF ARIZONA) ss. COUNTY OF MARICOPA) BE IT KNOWN that the foregoing deposition was taken before me, Cathy A. Miccolis, RPR, a Certified Reporter, Certificate #50068, for the State of Arizona, and by virtue thereof authorized to administer an oath; that the witness before testifying was duly sworn by me to testify to the whole truth; that the questions propounded to the witness and the answers of the witness thereto were taken down by me in shorthand and thereafter reduced to print by computer-aided transcription under my direction; that pursuant to request, notification was provided that the deposition is available for review and signature; that the transcript consisting of pages 233 through 348 is a full, true and accurate transcript of all proceedings and testimony had and adduced upon the taking of said
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2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	DEPOSITION ERRATA SHEET Page No Line No Reason for change: Page No Line No Change: Reason for change: Page No Line No Page No Line No Page No Line No Reason for change: Page No Line No	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	STATE OF ARIZONA) ss. COUNTY OF MARICOPA) BE IT KNOWN that the foregoing deposition was taken before me, Cathy A. Miccolis, RPR, a Certified Reporter, Certificate #50068, for the State of Arizona, and by virtue thereof authorized to administer an oath; that the witness before testifying was duly sworn by me to testify to the whole truth; that the questions propounded to the witness and the answers of the witness thereto were taken down by me in shorthand and thereafter reduced to print by computer-aided transcription under my direction; that pursuant to request, notification was provided that the deposition is available for review and signature; that the transcript consisting of pages 233 through 348 is a full, true and accurate transcript of all proceedings and testimony had and adduced upon the taking of said deposition, all done to the best of my skill and ability. I FURTHER CERTIFY that I am in no way related to
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2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	DEPOSITION ERRATA SHEET Page No Line No Reason for change: Page No Line No Change: Page No Line No Change: Page No Line No Change: Page No Line No Change: Reason for change: Page No Line No Change: Page No Line No Change: Page No Line No Change: Reason for change: Page No Line No Change: Reason for change: Page No Line No Change: Reason for change: Page No Line No	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	STATE OF ARIZONA) ss. COUNTY OF MARICOPA) BE IT KNOWN that the foregoing deposition was taken before me, Cathy A. Miccolis, RPR, a Certified Reporter, Certificate #50068, for the State of Arizona, and by virtue thereof authorized to administer an oath; that the witness before testifying was duly sworn by me to testify to the whole truth; that the questions propounded to the witness and the answers of the witness thereto were taken down by me in shorthand and thereafter reduced to print by computer-aided transcription under my direction; that pursuant to request, notification was provided that the deposition is available for review and signature; that the transcript consisting of pages 233 through 348 is a full, true and accurate transcript of all proceedings and testimony had and adduced upon the taking of said deposition, all done to the best of my skill and ability. I FURTHER CERTIFY that I am in no way related to nor employed by any of the parties hereto nor am I in any way interested in the outcome hereof. DATED at Phoenix, Arizona, January 9, 2014.
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	DEPOSITION ERRATA SHEET Page No Line No Reason for change: Page No Line No Change: Reason for change: Page No Line No Change: Reason for change: Page No Line No Change:	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	STATE OF ARIZONA) ss. COUNTY OF MARICOPA) BE IT KNOWN that the foregoing deposition was taken before me, Cathy A. Miccolis, RPR, a Certified Reporter, Certificate #50068, for the State of Arizona, and by virtue thereof authorized to administer an oath; that the witness before testifying was duly sworn by me to testify to the whole truth; that the questions propounded to the witness and the answers of the witness thereto were taken down by me in shorthand and thereafter reduced to print by computer-aided transcription under my direction; that pursuant to request, notification was provided that the deposition is available for review and signature; that the transcript consisting of pages 233 through 348 is a full, true and accurate transcript of all proceedings and testimony had and adduced upon the taking of said deposition, all done to the best of my skill and ability. I FURTHER CERTIFY that I am in no way related to nor employed by any of the parties hereto nor am I in any way interested in the outcome hereof. DATED at Phoenix, Arizona, January 9, 2014.
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