

EXHIBIT A

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In re Graphics Processing Units Antitrust Litigation
N.D.Cal.,2008.

Only the Westlaw citation is currently available.

United States District Court,N.D. California.

In re GRAPHICS PROCESSING UNITS ANTI-
TRUST LITIGATION.

This Order Relates To: All Actions.

No. C 06-07417 WHA.

MDL No. 1826.

July 18, 2008.

**ORDER CERTIFYING LIMITED DIRECT-
PURCHASER CLASS AND DENYING INDIR-
ECT PURCHASER**

WILLIAM ALSUP, District Judge.

INTRODUCTION

*1 In this antitrust multi-district litigation, direct-purchaser plaintiffs and indirect-purchaser plaintiffs separately move for class certification. Rather than the massive classes proposed, a more limited direct-purchaser class will be certified. Indirect-purchasers' motion for class certification is **DENIED**.

STATEMENT

Defendants Nvidia Corp. and ATI Technologies, Inc., make graphics processing units, or GPUs. Defendant Advanced Micro Devices, Inc., acquired ATI in September 2006. GPUs are dedicated graphics-rendering devices used in computers, servers, workstations, game consoles, and mobile devices such as cellular phones and personal digital assistants. Defendants' products can be broken down into two groups: graphics *chips* and graphics *cards*. A graphics *chip* is a stand-alone semiconductor device typically the size of a postage stamp that processes graphics information. The chip can then be mounted on a computer board to form a graphics board.

A graphics *card* is typically the size of a postage envelope and incorporates a graphics chip/board and various other components, including memory, video and audio outputs, and cooling devices. Graphics chips and cards are designed based on the specific application for which they will be used. During the relevant limitations period, defendants designed and made graphics products for primarily five markets or applications: (i) desktop chips and cards; (ii) notebook chips; (iii) workstation chips and cards; (iv) handheld chips; and (v) console chips. Within these markets, defendants sold chips and cards of varying performance levels.

The products at issue were sold to a variety of customers through a number of distribution channels. *First*, *cards and chips* were sold to original equipment manufacturers (OEMs), such as Dell or Hewlett-Packard. The OEMs then installed the cards or chips in their own computers for later resale to individual consumers. *Second*, *chips* were sold to add-in-board manufacturers (AIBs) who in turn incorporated them into their own cards. These cards could then be sold as standalone products for a retail price or to other computer manufacturers (e.g., OEMs) for incorporation into whole computers. *Third*, distributors could purchase *chips or cards*, which they in turn sold to other entities along the chain of distribution (i.e., AIBs, OEMs, or other distributors). *Fourth*, retailers, such as Best Buy, could purchase graphics *cards* for later sale to individual consumers. *Fifth*, original design manufacturers (ODMs) purchased graphics *cards or chips* that would be incorporated into parts that would later be branded by another firm along the chain of distribution for sale. *Sixth*, ATI sold graphics *cards* online through its website ATI.com directly to individual consumers. Nvidia made no such online sales or any sales directly to individual consumers. FN1 Graphics chips were not sold directly to individual consumers. Instead, individual consumers could only purchase graphics cards as standalone products.

FN1. It is not entirely clear from the record but it appears as though Nvidia has recently made available through its website a small number of desktop and workstation cards (under 10). One such product was sold in a limited quantity to individual consumers. Besides this product, no other graphics products were sold directly to individual consumers.

*2 Over 99.5% of defendants' business came from the first five groups discussed in the preceding paragraph-*i.e.*, the wholesale purchasers. During the relevant limitations period, there were roughly 130 such wholesale purchasers. The average *wholesale* purchaser made purchases of \$19.2 million over the limitations period. Defendants' total revenue during the limitations period was \$2.5 billion. Notably, \$1.16 billion of the total revenue came from six wholesale purchasers-Microsoft, Apple, Dell, Hewlett-Packard, Best Buy, and Motorola.

Many hundreds of different types of graphics cards or chips were sold to the wholesale purchasers during the limitations period. Many were customized to the specific design specifications of the particular purchaser's needs. For instance, the only game console chip sale by either defendant was sold by Nvidia to Microsoft for \$542 million (over half of Nvidia's total revenue). As part of the transaction, Nvidia designed specific custom graphics chips that were tailored to Microsoft's game console system. These graphics chips were not sold to any other wholesale purchaser. Similar customized transactions were made with a variety of wholesale purchasers.

Although defendants did keep price lists for some of their standard products, the overwhelming majority of wholesale-purchaser transactions were made after individualized negotiations between defendants and the particular wholesale purchaser. Several factors influenced these negotiations, including the volume of the purchase, the particular market power of the wholesale purchaser, the extent of customization of the product, the specific

market for which the chip or card was designed for (*i.e.*, desktop, notebook, workstation, etc.), the degree of customer support, the performance level of the chip or card, and the varying representations and warranties that were included in the sales contract. No doubt other purchaser-specific factors played a role in the negotiations.

* * *

Our three direct-purchaser plaintiffs are all individual consumers who purchased a graphics card online through ATI's website. They are Karol Juskiewicz, Michael Bensignor, and Jordan Walker.

Plaintiff Karol Juskiewicz is a resident of California. Juskiewicz purchased a graphics card from ATI for \$199. One week after his purchase, Juskiewicz filed his complaint in this suit. He has known his counsel, Joseph Patane, for nine years during which time he has received \$20,000 for construction projects by Patane and served as the named plaintiff in at least six class-action suits filed by Patane.

Plaintiff Michael Bensignor is a resident of Pennsylvania where he runs his own computer store, Mike's Computer Services. Bensignor purchased a graphics card online in a bundled package with third-party software for \$149 on January 12, 2007. Bensignor's brother-in-law, Phil Steinberg, is the lawyer who referred him to his current counsel regarding this litigation. Bensignor has performed computer-related services for Attorney Steinberg over the past two years.

*3 Plaintiff Jordan Walker resides in Buhl, Idaho. He purchased his graphics card online at ATI.com for \$239.40 on September 12, 2006. Because Walker was employed at Dell at the time of his purchase, he received a forty-percent employee discount on his graphics card.

The complaint alleges that defendants engaged in an illegal conspiracy to fix the prices of GPUs starting in late 2003 by releasing their products at the same time and at the same price instead of individu-

ally rushing to the market to undercut one another. The direct-purchaser plaintiffs purport to bring this lawsuit on behalf of all individuals and entities who purchased any GPU chip, board, or card from defendants. This putative class includes all individual consumers who purchased graphics cards through ATI's website *as well as* Microsoft and the other wholesale purchasers discussed above.

According to defendants' records, 31,667 individual consumers purchased either desktop or workstation graphics cards during the limitations period. Nearly all sales were made on ATI's website. ATI's revenue from such sales was \$7.83 million—roughly 0.3% of defendants' combined total revenue of \$2.5 billion. The prices individual consumers paid for their graphics cards were non-negotiable. (Except as possibly identified in footnote 1, Nvidia made no sales directly to individual consumers and neither defendant sold any graphics chip directly to individual consumers.)

* * *

Indirect-purchaser plaintiffs include individuals from nineteen states who purchased any of defendants' products indirectly from any intermediary. These intermediaries, as discussed above, include companies that manufacture graphics cards using defendants' graphics chips, companies that manufacture computers using defendants' graphics chips and graphics cards, and the brick-and-mortar and online retailers that in turn sell those graphics cards and computers to end users. A simple example of one branch of the distribution chain would be that Nvidia sold a graphics chip to an AIB, which in turn sold to an OEM, which sold to an end-user. Given that there are about 130 direct wholesale purchasers in this action, there would likely be thousands of intermediaries and millions of indirect purchasers.

* * *

On November 30, 2006, AMD and Nvidia both an-

nounced that they had received subpoenas from the San Francisco Office of the Antitrust Division of the United States Department of Justice in connection with an investigation regarding graphics products. The first of these civil antitrust actions was filed shortly thereafter on December 4, 2006. Many others quickly followed. A majority of the complaints were filed by indirect purchasers of GPUs or computers containing GPUs; the remainder were filed by direct purchasers. By order of the Judicial Panel on Multidistrict Litigation, a number of these actions were consolidated for pre-trial purposes on April 18, 2007, pursuant to 28 U.S.C. 1407. Other tag-along actions have been transferred and consolidated into this multi-district litigation proceeding since then. Ultimately, the DOJ dropped its investigation without filing any indictments.

*4 Consolidated complaints for both the direct and indirect purchasers were filed on June 14, 2008. All out-of-district plaintiffs submitted to the jurisdiction of this district for all purposes. The direct purchasers alleged a violation of Section 1 of the Sherman Act, 15 U.S.C. 1. They requested treble damages, the costs of suit, and an injunction under the Clayton Act. The indirect purchasers pled the following claims: (i) violation of Section 1 of the Sherman Act seeking an injunction; (ii) violation of California's Cartwright Act; (iii) violation of California Business and Professions Code § 17200; (iv) violations of the antitrust laws of various other states; (v) violations of the consumer protection and unfair competition laws of various other states; and (vi) unjust enrichment and disgorgement of profits.

Defendants moved to dismiss both complaints. At the time, the Supreme Court had recently addressed the pleading standards for antitrust conspiracy claims brought under Section 1 of the Sherman Act, 15 U.S.C. 1, in *Bell Atlantic Corp. v. Twombly*, --- U.S. ---, 127 S.Ct. 1955, 167 L.Ed.2d 929 (May 21, 2007). There, the Supreme Court acknowledged that “a plaintiff's obligation to provide the ‘grounds’ of his ‘entitle[ment] to relief’ requires more than la-

bels and conclusions, and a formulaic recitation of the elements of a cause of action will not do.”*Id.* at 1964-65. As for the pleading standard on a motion to dismiss, the Supreme Court held that:

In applying these general standards to a § 1 claim, we hold that stating such a claim requires a complaint with enough factual matter (taken as true) to suggest that an agreement was made. Asking for plausible grounds to infer an agreement does not impose a probability requirement at the pleading stage; it simply calls for enough fact to raise a reasonable expectation that discovery will reveal evidence of illegal agreement It makes sense to say, therefore, that an allegation of parallel conduct and a bare assertion of conspiracy will not suffice. Without more, parallel conduct does not suggest conspiracy, and a conclusory allegation of agreement at some unidentified point does not supply facts adequate to show illegality. Hence, when allegations of parallel conduct are set out in order to make a § 1 claim, they must be placed in a context that raises a suggestion of a preceding agreement, not merely parallel conduct that could just as well be independent action.

Id. at 1965-66.

Relying in major part on *Twombly*, an order dated September 27, 2007, granted in part and denied in part defendants' motion to dismiss. The order found that direct-purchaser plaintiffs had stated no cognizable claim. Specifically, direct-purchaser plaintiffs had failed to sufficiently allege facts speaking to defendants' pricing practices *before* the alleged conspiracy took place. Only facts pertaining to defendants' behavior *after* the conspiracy were alleged in the complaint. With respect to indirect-purchaser plaintiffs, their claim for unjust enrichment and certain state consumer-protection claims survived. Both direct- and indirect-purchaser plaintiffs were given an opportunity to file a motion for leave to amend or, in the alternative, to ask for limited discovery to replead their claims.

*5 Those motions, along with proposed third amended complaints for the direct and indirect purchasers, were filed on October 11, 2007. This time, plaintiffs' antitrust claim survived *Twombly*. An order dated November 7 found that the direct purchasers had properly alleged facts occurring both before and after the alleged conspiracy that, if taken as true, would show an antitrust conspiracy was plausible. Other than a few general conclusory statements, however, the third amended complaint only contained allegations relating to defendants' pricing practices as related to retail prices for *desktop graphics cards*. No specific allegations were made concerning pricing of *graphics chips* or pricing in defendants' *other product markets* (i.e., console, notebook, and handheld applications). The indirect purchasers added the same allegations so they were allowed leave to amend insofar as their claims relied on an antitrust conspiracy. On the same date, a case management order issued setting the non-expert discovery cut-off date for August 29, 2008. Indirect purchasers were also given leave to add new named plaintiffs for states where they previously had no class representative. Direct purchasers and indirect purchasers now separately move for class certification.

ANALYSIS

1. LEGAL STANDARD FOR CLASS CERTIFICATION.

In determining whether class certification is appropriate, “the question is not whether the plaintiff or plaintiffs have stated a cause of action or will prevail on the merits, but rather, whether the requirements of Rule 23 are met.” *Eisen v. Carlisle & Jacquelin*, 417 U.S. 156, 177-78, 94 S.Ct. 2140, 40 L.Ed.2d 732 (1974). Although a district judge may not investigate the likelihood of prevailing on the merits, he or she is at liberty to consider evidence relating to the merits if such evidence also goes to the requirements of Rule 23. The party seeking class certification bears the burden of showing that

each of the four requirements of Rule 23(a) and at least one of the requirements of Rule 23(b) are met. See *Hanon v. Data Prods. Corp.*, 976 F.2d 497, 508-09 (9th Cir.1992).^{FN2}

FN2. Unless otherwise stated, all internal citations are omitted from quoted authorities in this order.

In order to certify, the district court must find: (i) numerosity of the class; (ii) common questions of law or fact predominate; (iii) the named plaintiff's claims and defenses are typical; and (iv) the named plaintiff can adequately protect the interests of the class. In addition, in the instant case, plaintiffs seek to certify both classes under Rule 23(b)(3). Rule 23(b)(3) requires that a district court find "that questions of law or fact common to the members of the class predominate over any questions affecting only individual members, and that a class action is superior to other available methods for the fair and efficient adjudication of the controversy."

2. DIRECT PURCHASERS.

Direct-purchaser plaintiffs seek to certify a class of all persons or entities who purchased a GPU product from defendants from December 4, 2002, to the present. The current named direct-purchaser plaintiffs' claims, however, are not typical of the massive class proposed. While Karol Juskiewicz, for example, has an incentive to prove the non-negotiable price he paid via the website was inflated and thereby to prove the same for all those similarly situated, *i.e.*, retail website consumers, he has no incentive to go further and to delve into the complicated negotiations between Microsoft (and other large wholesalers) on the one hand, and ATI and Nvidia on the other and, further, how any conspiracy actually impacted those negotiations. In addition, direct-purchaser plaintiffs have not established that a viable methodology can be used to show common impact across the proposed class. A more limited class, however, is deserving of certification. This order will first address those factors

that preclude certification of the massive class. After analyzing these factors, this order will turn to the more limited class that does meet the requirements for certification. Lastly, a method by which Microsoft and other wholesalers can intervene in this action will be outlined.

A. The Shortfalls Of The Proposed Massive Direct-Purchaser Class.

*6 The complex structure of defendants' chain of distribution and the particularized sales transactions associated with each sale of a GPU product present a significant barrier to certification. Antitrust decisions have been mixed in determining whether certification is warranted where complex chains of distribution with highly varying purchasers and products are involved. The Ninth Circuit has yet to speak. Most decisions though have focused on issues of commonality and typicality.

* * *

There is significant authority disfavoring certification. In *Alabama v. Blue Bird Body Co.*, 573 F.2d 309 (5th Cir.1978), the Fifth Circuit reversed the district court's decision certifying a nationwide class and remanded with instructions that the district court allow plaintiffs discovery to determine whether they could show the existence of a nationwide conspiracy. There, the plaintiffs alleged that the defendants, manufacturers of school buses, had conspired to fix the prices for all school buses sold to governmental entities across the nation. The court stated:

This point limits somewhat the breadth of the [district court's] statement that "antitrust price-fixing cases are particularly suitable for class action treatment." While this statement is generally true, this particular litigation might not fit into the category of a "classic" antitrust price-fixing conspiracy where all legal and factual issues relating to the conspiracy are uniformly related to all those allegedly harmed. Rather, in this case

neither the products involved nor the purchasers appear to be standardized. The plaintiffs' class includes different sizes of governmental buyers, operating under different conditions throughout the United States, and the products involved, while commonly known as school bus bodies, apparently differ in many respects and have been marketed under various arrangements at different times.

Id. at 322. The decision went on to reject the plaintiffs' argument that any individualized issues of fact were subsumed by the common allegation that the defendants conspired to fix all prices because such reasoning "ignore[d] the proper determinations which must be made" for certification under Rule 23. *Id.* at 323 n. 25. With respect to the issue of common injury, the decision held:

Thus in cases where the fact of injury and damage breaks down in what may be characterized as "virtually a mechanical task," "capable of mathematical or formula calculation," the existence of individualized claims for damages seems to offer no barrier to class certification on grounds of manageability. On the other hand, where the issue of damages and impact does not lend itself to such a mechanical calculation, but requires separate "mini-trial(s)" of an overwhelming large number of individual claims, courts have found that the "staggering problems of logistics" thus created "make the damage aspect of (the) case predominate," and render the case unmanageable as a class action.... But, given the diverse nature of the school bus market, we have difficulty envisioning how the plaintiffs can prove in a manageable manner that the conspiracy was indeed implemented in a particular geographical area, and that it did in fact cause damage. More specifically, we do not understand how the plaintiffs can make this proof without examining the relevant school bus market where each individual plaintiff is located. If such particularized proof is necessary, then it would seem to us that each individual plaintiff's claim would receive more thorough consideration in individually litigated actions.

Also, and equally important, is the fact that if the effect of class certification is to bring in thousands of possible claimants whose presence will in actuality require a multitude of mini-trials (a procedure which will be tremendously time consuming and costly), then the justification for class certification is absent.

*7 *Id.* at 326-28.

In *Blades v. Monsanto Co.*, 400 F.3d 562 (8th Cir.2005), the plaintiffs alleged that the defendants had conspired to fix the prices of genetically modified soybean and corn seeds. The district court denied certification of two direct-purchaser classes under Rule 23(b) finding that neither the existence of a conspiracy to fix prices, nor the existence of some resultant harm constituted questions common to the class. The Eighth Circuit disagreed with the district court's finding that proof of a conspiracy to fix prices was not common to the class but agreed that plaintiffs could not show class-wide impact on a common basis. In so doing, the decision found:

The undisputed presence of negligible and zero list premiums indicates that if appellees performed their agreement, their performance was not across the board, but extended to some list prices and not to others. Consequently, to show injury from price inflation, each plaintiff would need to present evidence that the list prices of the seeds he purchased, not just some or even most of the hundreds of list prices on appellees' price lists, were inflated.... Given appellants' lack of any other type of common evidence, the district court did not abuse its discretion in concluding that some proposed class members would be forced to fall back on a comparison of actual list prices to hypothetical competitive prices. The court did not abuse its discretion in concluding that, because of the variety of hybrids and the varying factors affecting list prices, the construction of hypothetical competitive prices would require evidence that varied among hybrids and perhaps across geographical pricing regions. The evidence showed the presence of individualized

market conditions, which would require individualized, not common, hypothetical markets-thus individualized, not common, evidence.

Id. at 573-74. The decision further concluded that the plaintiffs' expert had failed to show, as he needed to, that the putative class members "could use common evidence to show inflation through the whole range of list prices." *Id.* at 575.

In *In re Milk Products Antitrust Litigation*, 195 F.3d 430 (8th Cir.1999), the Eighth Circuit affirmed the district court's decision to deny certification due to lack of typicality and adequacy. There, wholesale purchasers of milk brought a price-fixing class action against milk processors. The decision emphasized the varying markets where milk was sold and the differences in purchase prices to volume versus small wholesale purchases. As the decision stated:

Plaintiffs' antitrust theory is that defendants conspired to fix their list prices of fluid milk. Defendants introduced uncontroverted evidence that many sales to class members were made at cost-plus formula prices unrelated to defendants' list prices. The class might of course be able to prove that defendants' formula prices were inflated by a conspiracy to fix seemingly unrelated list prices. But the relevant question is whether [the named plaintiff] as sole class representative has a sufficient incentive to represent class members who must prove this additional unlawful effect. Again, that is a legitimate reason to question [the named plaintiff's] adequacy and typicality.

*8 These differences were, in part, enough to preclude class certification.

In *Deiter v. Microsoft Corp.*, 436 F.3d 461 (4th Cir.2006), three individuals who had purchased single-user operating system software brought a class action alleging overcharges on Microsoft's products on behalf all direct purchasers of Microsoft's software products. The district court denied certifying the entire class on the ground that

the representative plaintiffs had failed to show their claims were typical of the putative class. The Fourth Circuit affirmed, noting that the putative class consisted of individuals who had purchased a single software unit via telephone and large "Enterprise" customers who purchased at least 250 licenses to several different products over three-year periods. *Id.* at 468. The decision went on to find:

Moreover, to prove that Microsoft overcharged the Enterprise customers would require new and different proof because the Enterprise customers were able to negotiate their deals in a different competitive context from that involving the plaintiffs. Thus, with respect to the Enterprise deals, the plaintiffs would have to define and prove a relevant market and then injury to competition in that market. The plaintiffs themselves seem to recognize a difference in this proof for they have alleged different markets for the sale of operating system software and applications software. But the differences may be even greater because evidence would be required to demonstrate how Microsoft's monopoly powers caused Enterprise customers to be overcharged in negotiated deals involving bundles of products otherwise sold in two different markets.

Ibid. Because of these substantial dissimilarities between the putative class members and the injury to the class, the Fourth Circuit concluded that the district court had not erred in determining that there would be a gap in common proof among the class.

In *Burkhalter Travel Agency v. Macfarms International Inc.*, 141 F.R.D. 144 (N.D.Cal.1991), Judge Jensen of this district denied certifying a class consisting of Hawaiian macadamia nut purchasers for failure to show common impact under Rule 23(b)(3). Judge Jensen noted:

In this case, while the proposed class has a common issue-the alleged price fixing by defendants-there are many cross-cutting factual circumstances among the class members that would

make the class incoherent. As defendants have argued, there are significant differences between the markets for macadamia nuts on Hawaii and on the mainland, between large and small purchasers, and between bulk and retail purchasers. In these different markets, defendants price nuts in different ways and purchasers have varying degrees of leverage over defendants. As this action is about price-fixing activities conducted by defendants, grouping purchasers in all of these submarkets together ignores the crucial differences in how defendants set prices for different purchasers. Given the diversity of markets, it can hardly be said that common issues predominate.

*9 *Id.* at 354.

* * *

On the other hand, there is significant authority favoring certification. In *In re Bulk Graphite Products Antitrust Litigation*, 2006 WL 891362 (D.N.J.2006), direct purchasers of bulk extruded graphite alleged a price fixing conspiracy by graphite manufacturers. The direct purchasers fell into one of three groups: (i) end-users; (ii) OEMs; and (iii) machine shops. The graphite manufacturers had earlier been under investigation by the DOJ for antitrust violations. Several of the defendants had pled guilty to the charges in connection with the investigation. In opposing certification, the defendants argued that the typicality requirement had not been met because each of the putative class members were necessarily in different purchasing positions. In rejecting this argument, the court explained:

That the proposed class representatives had different purchasing positions from end user and OEM class members does not mean that the class representatives' claims are atypical, considering that all members of the proposed plaintiffs' class have alleged that they purchased bulk extruded graphite from the defendants at a price that was inflated as a result of the horizontal price-fixing

conspiracy.

Id. at *6. With respect to common impact, the defendants argued that the high number of products sold at varying products would negate any commonality in injury. The court once again rejected the defendants' position, finding that the plaintiffs had met their minimal burden at the certification stage to show that a common methodology existed to show impact. The court emphasized that graphite products were considered "undifferentiated commodities with a high degree of product interchangeability." *Id.* at *12. The court further noted that the record indicated that a common pricing structure applied to all products sold.

In *In re Carbon Black Antitrust Litigation*, 2005 WL 102966 (D.Mass.2005), the plaintiffs sought to certify a class of all direct purchasers of carbon black (a product used in the manufacture of tires, rubber hoes, inks, and paints). Some carbon black products were included on price lists but others had no list price at all. The defendants argued "that the class members are diverse in size and that they paid for diverse products pursuant to a variety of different agreements." *Id.* at *12. In first finding that the typicality requirement had been satisfied, the court found that regardless of the product purchased, the putative class members' claims all arose from the same general conspiracy. The decision then continued to the issue of common impact, noting that the need for individualized assessments of how much each member was impacted did not *per se* preclude certification. In terms of the products with price lists, the decision held that the plaintiffs had satisfied their burden to show that a common method could be used to show product-wide inflation. As to the products with no list prices, the decision noted "the plaintiffs would arguably have to prove individually how each product was bought and any impact of possible collusion." *Id.* at *17. The court did ultimately find, however, that the plaintiffs had for certification purposes shown that there could be a correlation between listed and non-listed products. The decision noted the plaintiffs' contention that the

products at issue were commodities (*e.g.*, homogeneous). As the court stated, “[t]o the extent class members purchased products comparable to those on a price list, but not actually on one, the fact of impact would still be amenable to common proof, even if each class member’s damages are not.”*Id.* at *19.

*10 In *In re Flat Glass Antitrust Litigation*, 191 F.R.D. 472 (W.D.Pa.1999) (Ziegler, J.), the court certified two subclasses of direct purchasers. One subclass included all direct purchasers of flat-glass products except automotive products and the other subclass consisted of all direct purchasers of automotive flat-glass products. The defendants’ contentions that typicality had not been satisfied because the named plaintiffs represented only a small segment of the market to which the defendants sold were rejected. The court further found that the plaintiffs had presented a viable methodology to show common impact despite the wide array of products sold:

[W]e fail to see how the existence of these factors would prevent plaintiffs from establishing an overarching conspiracy based on a common body of evidence.... [A]ny difference in the manner in which the conspiracy was manifested throughout the marketing and distribution of the various products does not change the common question, namely, whether defendants acted in concert to decrease competition among themselves.... More importantly, the proof plaintiffs must adduce to establish a conspiracy to fix prices, and that defendants base price was higher than it would have been absent the conspiracy, would be common to all class members. Therefore, even though some plaintiffs negotiated prices, if plaintiffs can establish that the base price from which these negotiations occurred was inflated, this would establish at least the fact of damage, even if the extent of the damage by each plaintiff varied.

Id. at 484-86. The decision also quoted the plaintiffs’ argument that the list prices for the products in question were typically used at the

wholesale level.

In *In Re Citric Acid*, 1996 WL 655791 (N.D.Cal.1996) (Smith, F.), direct purchasers of citric acid brought a price-fixing claim against manufacturers of citric acid. The plaintiffs generally alleged that all prices for citric-acid products had been inflated relative to the list prices for the same products. The defendants did not contest whether typicality had been satisfied but did argue that the representative plaintiffs were inadequate because they had only purchased a specific kind of citric acid. In rejecting this argument, Judge Smith found that the plaintiffs were alleging that prices had been inflated for all relevant products. *Id.* at *6. On the subject of commonality, the “defendants argue[d] that because citric acid comes in many forms and is used for many purposes, the pricing varies between products, making common proof of impact impossible.”*Ibid.* Judge Smith disagreed, noting that diversity of products and pricing does not necessarily mean that a plaintiff cannot show class-wide impact. The decision went on to explain that “those cases in which courts have denied class certification for inability to prove common impact have involved additional complications; for example, different market conditions.”*Id.* at *7. The court then held that the plaintiffs had satisfied their burden by producing a “seemingly realistic methodolo[gy]” that could be used to show class-wide common impact.

*11 In *In Re Rubber Chemicals Antitrust Litigation*, 232 F.R.D. 346 (N.D.Cal.2005), Judge Jenkins of this district certified a class of direct purchasers of rubber chemicals. There, the plaintiffs alleged that the defendants had collusively inflated prices on national price lists used for rubber-chemical sales. The only issue extensively discussed by Judge Jenkins was commonality under Rule 23(b). Judge Jenkins stated:

That some members of the proposed class may have received discounts on the chemicals they purchased such that they did not pay the prices set does not counsel against class certification.

Id. at 353. After noting that the great weight of authority suggested that the predominating issue in such cases was the existence or absence of a price-fixing conspiracy, the court found that the plaintiffs had come forward with a “seemingly realistic methodology” for showing class-wide impact.

In *In re Dynamic Random Access Memory Antitrust Litigation*, 2006 WL 1530166 (N.D.Cal.2006) (Hamilton, J.), the plaintiffs alleged that the defendants had conspired to fix prices for DRAM storage devices. The defendants sold DRAM products to a variety of customers, including both large-scale companies and individual customers who could place orders on the telephone or online. At the time the certification order was issued, three of the defendants had already pled guilty to criminal antitrust conspiracy charges brought by the DOJ. The named plaintiffs were all individual consumers who had placed their orders on the phone or online. In rejecting the defendants' argument that the representative plaintiffs' claims were not typical of the class, Judge Hamilton stated (emphasis in original):

[I]n conspiracy cases, plaintiffs' claims are typical of the class because proof of their section 1 claim will not depend on proof of violation by *defendants*, and not on the individual positioning of the plaintiff.

Id. at *5. It is unclear from the decision exactly how strong of a disparity there was between the named plaintiffs and the non-consumer putative class members. With respect to commonality, the defendants argued the complexity of the DRAM market and the diversity of products and prices precluded common proof of injury to the class. Judge Hamilton rejected this argument, noting that the plaintiffs needed only to show a “plausible methodology” for demonstrating common impact. The plaintiffs' expert had argued that DRAM was a commodity product and that prices across all products were highly correlated. Judge Hamilton found that the experts' analysis sufficed at the certification stage.

* * *

Another decision has taken a middle ground. In *In re Industrial Diamonds Antitrust Litigation*, 167 F.R.D. 374 (S.D.N.Y.1996), the court certified a class of direct purchasers of industrial diamonds whose purchases were based on list prices but declined to certify a class of purchasers who purchased non-listed products. The court first noted that it was undisputed “that [the] defendants market thousands of industrial diamond products and that individually negotiated prices are common.” *Id.* at 383. In addressing the adequacy requirement, the court stated:

*12 The crucial inquiry is not how many of defendants' products each plaintiff purchased, but rather whether each plaintiff has sufficient incentive to present evidence that will establish the existence of the alleged conspiracy and its effect on the prices of the products purchased by the putative class members.

Id. at 381. The court went on to hold that the representative plaintiffs did have the proper incentive to prove the case for all list-price products because their claims were necessarily contingent on proving that the defendants exchanged price lists to artificially inflate prices. This proof would likely establish a conspiracy for all list products. On the issue of the non-list products, however, the court expressed concerns that the representative plaintiffs would not have the proper incentive to show a conspiracy. But the decision did not make any express findings with respect to the non-list products on the issue of adequacy. Instead, it found the issue of predominance dispositive for the non-list products. As explained by Judge Conner, “[w]hether or not [impact] can be proven on a common basis therefore depends upon the circumstances of each case.” *Id.* at 382. For the list-price products, the court held that the plaintiffs had properly shown a common impact across the class despite the fact that many list-price transactions were subject to “discounts, credits and rebates.” *Id.* at 383. Common impact, however, was not shown for

the non-list products. As the court put it:

Many of these products were developed specifically for particular customers. [The defendants] set prices for these products based on the cost of production and on negotiations with each purchaser. In order to determine whether purchasers of these products suffered some injury, we would be required to scrutinize each transaction to ascertain whether the purchaser paid a supracompetitive price. We do not have any information about the number of purchases of non-list price products that occurred between November 1, 1987, and May 23, 1994. The scope of the task of determining impact with respect to each purchaser of non-list price products is therefore only dimly discernible. Given the large number of products involved, however, it is readily apparent that it would be an enormous undertaking. It is also apparent that individual issues of impact would predominate over common questions concerning the existence and scope of the alleged conspiracy.

Id. at 384.

* * *

In sum, no uniform approach has emerged. The decisions indicate that evaluating the requirements for class certification in this context involves a particularized analysis of the specific industry and chain of distribution. At times, the complexity of the defendants' distribution chain along with the varying products and purchasers involved have prevented broad certifications. Factors favoring certification have been price lists and commodity products as opposed to individually negotiated deals and customized products. No formula, however, will explain all of the caselaw.

* * *

*13 Turning to the present action, obstacles to certification loom large. Direct-purchaser plaintiffs have failed to supply a class-wide method for proving "impact" on a class-wide basis. This failure is

chiefly the result of trying to define a class so broadly that no method in all probability could succeed. The record shows (and this order so finds) that individual questions of impact would clearly predominate over the common ones. In addition, this order finds that the three single-purchaser website plaintiffs lack an adequate incentive to prove any claims on behalf of wholesale purchasers.

(1) Rule 23(a)(3): Typicality.

The typicality requirement of Rule 23(a)(3) is satisfied when "the claims or defenses of the representative parties are typical of the claims or defenses of the class." A plaintiff's 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. As the Supreme Court has explained, "a class representative must be part of the class and possess the same interest and suffer the same injury as the class members." *Falcon*, 457 U.S. at 156. A district court must "ensure that the named plaintiffs have incentives that align with those of absent class members so as to assure that the absentees' interests will be fairly represented." *Prado-Steiman ex rel. Prado v. Bush*, 221 F.3d 1266, 1279 (11th Cir.2000).

Here, the representative plaintiffs' claims are not typical of the putative class. Significantly, the named plaintiffs each purchased a single graphics card through ATI's website at retail prices ranging from \$149 to \$239. The terms of their purchases were non-negotiable. None purchased any graphics chip. Besides desktop and workstation graphics cards, neither defendant sold any graphics product directly to individual consumers. In fact, Nvidia made no sales directly to any individual consumer. By contrast, the putative class includes wholesale purchasers who collectively comprised over 99.5% of defendants' business. These wholesale customers purchased a vast array of products on individually negotiated terms. Unlike the representative plaintiffs who had no negotiating power at all, some wholesale conglomerates, such as Dell, Microsoft,

Hewlett-Packard, Apple, Motorola, and Best Buy, likely had more bargaining power than defendants themselves. The average wholesale customer purchased \$19.2 million in products over the limitations period. Even when every single individual consumer transaction for graphics cards online is aggregated, the total only comes to \$7.83 million. The wholesale purchasers therefore came to the negotiating table in a fundamentally different position than the representative plaintiffs.

These overwhelming disparities defeat typicality. The representative plaintiffs simply do not have the appropriate incentive to establish antitrust violations with respect to all of the absent class members. To prove their claims, the named plaintiffs will have to show that the *list prices* that they paid for their graphics cards were artificially inflated by defendants. Proof that defendants conspired to fix those prices would hardly prove that defendants also conspired to fix the *non-list prices* for the transactions entered into with absent wholesale purchasers. Indeed, the representative plaintiffs' inability to adequately marshal the absent wholesale purchasers' claims has already been exemplified in this suit. In order to survive a Rule 12 motion and *Twombly*, direct-purchaser plaintiffs were forced to amend their complaint. Other than a few general statements, that complaint contains only allegations pertaining to list prices for *desktop graphics cards*. No specific allegations are made relating to defendants' *other graphics products and markets*. This fact is merely illustrative of the underlying problem. The atypicality and detachment of the named plaintiffs' claims from those of the remaining class obstruct their ability to adequately pursue and prove the claims of the absent class members.

*14 It does not suffice that *counsel* have an incentive to prove the wholesalers' claims. While counsel in this case are excellent, the test is whether the clients themselves, who ultimately control and drive the litigation, have the requisite typicality under Rule 23. See *Falcon*, 457 U.S. at 156 (emphasis ad-

ded) ("We have repeatedly held that a *class representative* must be part of the class and possess the same interest and suffer the same injury as the class members").

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

The above problem of typicality is dispositive but this order also finds that certification is precluded because Rule 23(b)(3) has not been satisfied. Class certification under Rule 23(b)(3) is proper when common questions present a significant portion of the case and can be resolved for all members of the class in a single adjudication. *Hanlon*, 150 F.3d at 1019-22. To succeed in this action, plaintiffs must establish that: (i) there was a conspiracy to fix prices in violation of the antitrust laws; (ii) the alleged violations caused plaintiffs injury—"impact"; and (iii) the injury can be identified. See *Atlantic Richfield Co. v. USA Petroleum Co.*, 495 U.S. 328, 339-41, 110 S.Ct. 1884, 109 L.Ed.2d 333 (1990).

With respect to the second element, defendants argue that certification should be denied because the direct-purchaser plaintiffs have failed to present a viable method of demonstrating class-wide injury based on common proof. Evidence of class-wide impact can be shown on a common basis where common proof can adequately establish injury across the class: "On a motion for class certification, the issue confronting [a district] court is whether the proof necessary to demonstrate impact as to each class member is particular to that class member, in which case individual questions concerning impact would overwhelm the common questions concerning the existence and scope of the alleged conspiracy, or whether the necessary proof of impact would be common to all class members and sufficiently generalized that class treatment of their claims would be feasible." *In re Industrial Diamonds Antitrust Litig.*, 167 F.R.D. at 382.

Plaintiffs have failed to demonstrate that common proof can be used to show class-wide impact. Significantly, over 99.5% of defendants' revenue during

the limitations period came from sales with large wholesale purchasers like Microsoft. While the record does show that defendants kept a limited number of price lists for some products, the vast majority of sales were primarily executed after customized negotiations between wholesalers and either defendant. These sales were made without any regard to a price list. As such, defendants' sales contracts varied significantly depending on the wholesale purchaser. Some likely contained specific warranties exclusive to the purchaser. Others did not. Some were likely negotiated with specific deadlines in mind. For others, time constraints may not have been important. In addition to Microsoft, the majors were Dell, Hewlett-Packard, Apple, Motorola, and Best Buy. Others were lesser name, specialized manufacturers like Falcon Northwest. There is no doubt that a myriad of factors played a role in each large transaction. These factors each influenced the final sales price of each transaction.

*15 By contrast, plaintiffs Bensignor, Juskiewicz, and Walker each purchased a single standard graphics card. They did so online. There were no negotiations. All prices were pre-determined. The only real question they had to answer was whether they wanted standard or priority shipping.

In addition, the market for GPU products is highly heterogenous. Hundreds if not thousands of GPU products were sold during the limitations period. As stated, each graphics product not only varied as to performance level but also as to its ultimate application. Many of the graphics products sold were particularly customized to the needs of a specific purchaser, meaning they could not be interchanged with any other GPU product sold by defendants. For products that were not particularly customized, interchangeability could not be assessed without first answering a multitude of questions. Did ATI or Nvidia make the sale? Was the product a card or chip? Was the product designed for a desktop, notebook, workstation, console, or handheld application? What performance level was the chip or card? In short, these products were *not* fungible commod-

ities.

To try to shoe-horn the many variations into a common model of proof, counsel primarily rely on the expert report of Dr. David Teece. In his report, Dr. Teece performs a series of regression and correlation analyses and concludes that a common methodology can be used to show common injury across all purchasers for all products.

* * *

Before addressing Dr. Teece's report, however, a few words are in order about the role econometric models have come to play in antitrust class actions. In industries involving varying products and complex pricing structures, antitrust plaintiffs have in recent years trended toward presenting an econometric formula or other statistical analysis to show class-wide impact. The idea is to account for differences from transaction to transaction by assigning variables to certain conditions relating to the transaction (*e.g.*, product features or type of purchaser) or by establishing some type of correlation between product lines or purchasers. Several courts have accepted proffered econometric analysis at the certification stage. *See, e.g. In re Dynamic Random Access Memory Antitrust Litig.*, 2006 WL at *9 (“[T]he analysis and methodologies highlighted therein—the correlation analysis used to compare pricing data across products and customers, and the three damage methodologies identified by [plaintiff's expert]—have been upheld by numerous courts”); *In re Linerboard Antitrust Litig.*, 203 F.R.D. 197, 218 (“Plaintiffs in this case have advanced econometric models to be used to establish impact. Plaintiffs' expert, Dr. Beyer, has presented two possible means of assessing impact on a class wide basis—multiple regression analysis, and the benchmark or yardstick approach, which are methods of showing ‘antitrust impact by generalized proof’”).

This order agrees that such methods, where plausibly reliable, should be allowed as a means of com-

mon proof. To rule otherwise would allow antitrust violators a free pass in many industries.

*16 But that does not mean that certification is automatic every time counsel dazzle the courtroom with graphs and tables. *See, e.g., Piggly Wiggly Clarksville, Inc. v. Interstate Brands Corp.*, 100 Fed. Appx. 296 299-301 (5th Cir.2004) (affirming the district court's finding that the plaintiffs had failed to show common-wide impact because the plaintiffs' expert had failed to show that the model would actually work); *Freeland v. AT & T Corp.*, 238 F.R.D. 130, 135-36 (S.D.N.Y.2006) (denying certification where the plaintiffs' regression analysis was incomplete and defective). Otherwise, nearly all antitrust plaintiffs could survive certification without fully complying with Rule 23.

Two commentators have observed:

There are cases where some of the factors that determine the price paid by the consumer are not observable. Characteristics that are unobservable may include the previously mentioned considerations, such as price protections, credit terms, free products or services, trade in allowances, technical assistance, or off-invoice discounts. A consumer who receives more favorable credit terms is in essence obtaining a discount off the nominal transaction price. Such considerations will not be reflected in the reported sales price or in records of individual transactions. Furthermore, these kinds of specialized deductions will vary across consumers and may even vary for the same consumer over different purchases. Because these factors are not reported as part of the sales record, it is impossible to control for them in the regression. Additionally, these recorded prices do not capture the true net purchase prices and therefore would produce erroneous estimates of the but-for prices.

Roger Blair and Christine Durrance, *Economic Pitfalls in Antitrust Class Certification*, ANTITRUST, Summer 2007, at 72.

At the class certification stage, "the question is not whether the plaintiff or plaintiffs have stated a cause of action or will prevail on the merits, but rather, whether the requirements of Rule 23 are met." *Eisen v. Carlisle & Jacquelin*, 417 U.S. 156, 177-78, 94 S.Ct. 2140, 40 L.Ed.2d 732 (1974). The Supreme Court has further noted that for any class action to be certified, "the trial court [must be] satisfied, after a rigorous analysis, that the prerequisites of Rule 23(a) have been satisfied." *Gen. Tel. Co. of Southwest v. Falcon*, 457 U.S. 147, 161, 102 S.Ct. 2364, 72 L.Ed.2d 740 (1982). In *Dukes v. Wal-Mart*, 509 F.3d 1168 (9th Cir.2007), the Ninth Circuit recently discussed the level of scrutiny with which district courts should examine expert testimony submitted in support of a motion for class certification. "At the class certification stage," the court held, "it is enough that [plaintiffs' expert] presented properly-analyzed, scientifically reliable evidence tending to show that a common question of fact ... exists with respect to all members of the class." *Id.* at 1179. The Ninth Circuit also stated, however, that "courts are not only 'at liberty to' but *must* consider evidence which goes to the requirements of Rule 23 at the class certification stage even if the evidence may also relate to the underlying merits of the case." *Id.* at 1178 n. 2.^{FN3}

FN3. Other circuit courts, including the First, Second, Fourth, Fifth, Seventh, Eighth, and Eleventh, "have ruled clearly in favor of a ... rigorous analysis of class certification, even if this analysis intersects with merits issues." *Simmons et al., supra*, at 64. Among these, the Third and Eighth Circuits "sometimes require an inquiry into and preliminary resolution of disputes, but ... do not require findings and do not hold that such inquiry will always be necessary." *In Re New Motor Vehicles Canadian Exp. Antitrust Litig.*, 522 F.3d 6, 25 (1st Cir.2008). The Second, Fourth, Fifth, and Seventh Circuits "coalesce around the more rigorous end of this spectrum, forbidding district courts from relying on

plaintiffs' allegations of sufficiently common proof and requiring the courts to make specific findings that each Rule 23 criterion is met." *Id.* at 24. The First Circuit, for its part, recently held that "when a Rule 23 requirement relies on a novel or complex theory as to injury ... the district court must engage in a searching inquiry into the viability of that theory and the existence of the facts necessary for the theory to succeed." *Id.* at 26.

***17** In the antitrust context:

In recent years, many courts have exhibited greater willingness to test the viability of methodologies that experts propose to show class wide impact and injury using common proof, and are increasingly skeptical of plaintiffs' experts who offer only generalized and theoretical opinions that a particular methodology may serve this purpose without also submitting a functioning model that is tailored to market facts in the case at hand.

Ian Simmons, Alexander Okuliar, and Nilam Sanghvi, *Without Presumptions: Rigorous Analysis in Class Certification Proceedings*, ANTITRUST, Summer 2007, at 65. Therefore, although this order does recognize that it need not evaluate the merits of plaintiffs' claims, it is essential that plaintiffs establish that the requirements of Rule 23 have been met. This inquiry necessarily touches on evidence relating to the merits of the case, namely, the proposed methodology of Dr. Teece.

* * *

Plaintiffs' Expert David Teece is a cofounder and the vice chairman of Law and Economics Consulting Group, Inc. He is also a professor at the Haas School of Business at the University of California, Berkeley. Since the late 1970's, Dr. Teece has testified in over 130 different actions. In attempting to establish common impact across the class, Dr. Teece presents a series of correlation and regres-

sion analyses. As one commentator has explained:

Relationship tests have two broad applications. They can be used to test whether a causal relationship exists. The analytical techniques used to test relationships fall into two families of tests: regression analysis and correlation analysis. Regression analysis identifies the way in which two or more variables are related to one another. Correlation analysis, on the other hand, is concerned with providing a mathematical measurement of the *strength* of any relationship between variables.

DAVID MCNABB, RESEARCH METHODS FOR POLITICAL SCIENCE: QUANTITATIVE AND QUALITATIVE METHODS 285 (M.E. Sharp 2004).

Dr. Teece's report heavily relies on correlation analysis. In Dr. Teece's words (Teece Report ¶¶ 32-33) (emphasis added):

Correlations are a statistical measure of whether two variables move together.... The closer the correlation coefficient is to zero, the less closely the two variables move together. The closer the correlation coefficients are to 1 or -1, the more closely the two variables move together.... [T]he correlations in the Defendants' transactional sales data show that significant relationships in prices exist across product types and customer types and, *for this reason*, the impact from the Defendants' alleged anticompetitive behavior can be analyzed on a common, class-wide basis.

He goes on to present correlation analyses purportedly establishing significant correlations across defendants' graphics products and across all purchasers.

Dr. Teece offers three correlation analyses. *First*, he calculates the correlation between the average prices paid by individual consumers for graphics cards purchased online and the average prices paid by all other direct purchasers for graphics products

sold by ATI (Teece Report ¶ 36). He determines the correlation coefficient to be 0.907. *Second*, he correlates the average purchase prices made by different customer groups (*i.e.*, OEM vs. retail) for Nvidia for different product categories. *Third*, a similar correlation as done in the second analysis is conducted for customers of ATI. Correlations for the last two analyses range from 0.236-0.767. Based on all three analyses, Dr. Teece concludes that prices across defendants' business are highly correlated "indicating that customer classes were likely commonly impacted by factors in the marketplace, including from any alleged anticompetitive actions" (*id.* at ¶ 41).

*18 Significantly, for all his correlations, Dr. Teece mysteriously chose to *average* certain products and purchases with one another and then correlate instead of correlating disaggregated data for individual products and particular customers (*e.g.*, Microsoft, Dell, individual consumers, etc.). Dr. Teece's correlation is not based on data examining the relationship between prices of specific products as paid by particular direct purchasers. For example, no correlation is established between prices paid by individual consumers for a particular graphics card and prices paid for the same graphics card by Best Buy. In essence, Dr. Teece has evaded the very burden that he was supposed to shoulder—*i.e.*, that there is a common methodology to measure impact across individual products and specific direct purchasers. His report says little about how specific product pricing was correlated across buyers or whether prices paid for multiple products by particular direct purchasers were correlated. If data points are lumped together and averaged before the analysis, the averaging compromises the ability to tease meaningful relationships out of the data.

The averaging problem is easily illustrated. Assume two separate AIBs and two separate OEMs purchase the same graphics chip. In January, all four pay \$10 for the product. In February, however, each pays a different price with the first OEM paying a higher price and the second OEM paying a lower

price and with the first AIB paying a higher price and the second AIB paying a lower price. This scenario shows no correlation between the prices paid by AIBs and the prices paid by OEMs. But by resorting to averaging, however, it can be made to appear that the average purchase price for the AIBs and the average purchase price for the OEMs both went up by the same amount. Averaging masks the differences and by definition glides over what may be important differences.

As the American Bar Association has explained:

Sometimes the prices used by economists are averages of a number of different prices charged to different customers or for somewhat different products. Using such averages can lead to serious analytical problems. For example, averages can hide substantial variation across individual cases, which may be key to determining whether there is common impact. In addition, average prices may combine the prices of different package sizes of the same product or of somewhat different products. When this happens, the average price paid by a customer can change when the mix of products that the customer buys changes—even if the price of no single product changed.

ABA SECTION OF ANTITRUST LAW, ECONOMETRICS: LEGAL, PRACTICAL, AND TECHNICAL ISSUES 220 (ABA Publishing 2005).

Despite having all of the necessary data set to correlate individual products and particular purchasers, Dr. Teece abstained and presented nothing of the sort.

Instead, he claims that such analysis is unnecessary because it may yield correlations driven by factors that are not of interest. In his words, "[b]y averaging across OEM and across Channel, one can reduce the individual differences in some of the dimensions that affect price" (Teece Reply Report ¶ 42). But it was Dr. Teece's burden to show that individual differences between products and purchasers *could* be accounted for, *not* that individual

differences could be ignored. Dr. Teece himself acknowledges that “one potential limitation of averaging data in the correlation analyses is that the variation in prices within categories can be lost” (*id.* at ¶ 43). He then goes on to claim that he was able to mitigate this potential limitation by averaging prices for more “homogeneous groupings,” such as “GPU families” purchased by both OEM and Channel purchasers (*ibid.*).^{FN4} Dr. Teece accepts that it may be necessary to analyze more homogeneous data sets to get more reliable correlation results but his own analysis is filled with broad categories that each includes highly varying products and purchasers. In addition, he fails to explain why the breadth of the categories he analyzed—*i.e.*, GPU families—would yield accurate correlation results over an even more particular category or, further, than categories of individual products and particular purchasers. It simply cannot be ignored that the products at issue are highly diverse and were sold to a number of distinct purchasers.

FN4. As per Nvidia’s terminology, which was adopted by Dr. Teece, Channel includes who “buy to build a product that will be used in an end product of another customer,” like ODMs.

*19 While averaging may be tolerable in some situations, the record here shows that it has in fact masked important differences between products and purchasers. Defense expert, Dr. Michelle Burtis, presented her own analysis correlating disaggregated data for specific products and particular direct purchasers (*e.g.*, Microsoft, Dell, individual consumers, etc.). When this analysis is evaluated, any supposed correlation evaporates. Due to the strong diversity of products and purchasers, the analysis yields hundreds of thousands of correlation coefficients. For instance, the correlation between the price Dell paid for a particular GPU chip and the price Hewlett-Packard paid for the same GPU chip is determined. Another correlation between the price Dell paid for a GPU chip and the price Best Buy paid for a GPU card is then determined. The

data set used for the analysis was the same as that used by Dr. Teece. The results are telling. For ATI’s products and purchasers, 67% of the total correlations were negative or statistically not different from zero. For Nvidia’s products and purchasers, 58% of the total correlations were negative or statistically not different than zero.

Direct-purchaser plaintiffs have not contested the accuracy of this analysis. Dr. Teece only contends these results are not significant because when correlating at a granular level there are “systematic factors” that can affect prices and any underlying correlations therein (*id.* at ¶ 72). Once again though, he does not explain why the level of generality he used in his correlation analyses is an effective tool over others or why his correlations are better suited to account for such “systematic factors.”

There is an additional problem with Dr. Teece’s correlation analysis—he “stacks” the *averaged* data to create artificial correlations. “Stacking, short for stacked generalization, is a term of art in the field of statistics referring to combining results of different models” (Teece Reply Report ¶ 50). Here, Dr. Teece concludes that there is a 0.794 correlation coefficient between ATI’s OEM purchasers and “Channel” purchasers (*e.g.*, ODMs) for both graphics boards and chips *combined*. This means that the data set used by Dr. Teece to evaluate the correlation lumped together both card and chip products, treating them as a single product. He did not run the numbers for chips and cards separately, nor has he explained why he stacked the two separate products.

To illustrate, imagine two automotive manufacturers, A and B, each purchase whole cars and individual tires from the same supplier. Taken in isolation, there may be no correlation at all between the prices of tires purchased by A and B. Similarly, there may be no correlation at all between the prices of whole cars purchased by A and B. When tires and cars are combined (*i.e.*, “stacked”) together to form one data set, however, a correlation may be found. This result is clearly at odds with the cor-

relations underlying the individual products and is merely driven by the fact that a car sells for a much higher price than tires. By combining tires and cars to form one single product, it appears that when A is paying a higher price for that combined product (*i.e.*, when A is buying a car), B is also paying a higher price for the combined product (*i.e.*, when B is also buying a car). Likewise, when A pays a lower price for the combined product (*i.e.*, when A is buying a tire), B also pays a lower price for the combined product (*i.e.*, when B is also buying a tire). But, running a correlation analysis in this way ignores the fact that cars are inherently different products than tires.

*20 Using the same data set, defendants' Expert Burtis found that ATI's chip prices only had a correlation of 0.218 and board prices only had a correlation of 0.596. With respect to Nvidia, the correlation for chip prices was -0.331 and the correlation for board prices was 0.390. By combining board and chip prices into one group, therefore, Dr. Teece was able to artificially inflate correlation coefficients. Apart from broad and vague statements in his reply report, Dr. Teece has failed to directly challenge this point.

This order now turns to Dr. Teece's regression analysis. Again, while correlation analysis is meant to provide a mathematical measurement of the *strength* of the relationship between variables, Dr. Teece explains regression analysis in the following way (Teece Report ¶ 34) (emphasis added):

Regression analysis is a statistical method to identify correlations and relationships in the data while recognizing that *a number of factors may influence those correlations*, and controlling for the effects of certain of these factors in the data. This allows one to identify the effect on price from specific factors, and control for any *systematic price variation* that is caused by those factors.

The regression analysis performed by Dr. Teece therefore assumes that there is a common set of

factors that impacted each transaction between defendants and each particular direct purchaser. As with his correlation analyses, Dr. Teece's regression models use average prices paid by direct purchasers. In running his sample analysis for wholesale purchasers, Dr. Teece controls for nine factors: (1) OEM customers; (2) board products; (3) desktop products; (4) workstation products; (5) notebook products; (6) console products; (7) volume of the sale; (8) the purchaser's total previous purchases; and (9) how long the product has been on the market. The first factor accounts for the fact that OEMs tend to pay less for products. Factors 2 to 9 are included to account for the different markets that the products are designed for. Significantly, this model does not include any analysis for individual consumers who purchased graphics cards online even though all representative plaintiffs are within this smaller group.

Direct-purchaser plaintiffs have failed to show how this generic model can be used to show common impact across the class. Conclusory statements are not enough. Notably absent from Dr. Teece's analysis are other factors that would likely have an impact on prices, including GPU performance, product features, supply and demand factors, the customization of the product, and product deadlines associated with the sale. Without incorporating such variables, it is impossible to account for the diversity in products and purchasers here. As stated by the ABA:

Plaintiffs using regressions for class certification purposes will generally try to control for various customer attributes. But these attributes are not always accurately captured in regressions because of data limitations or problems with the specification of the regression. For example, if individual customers qualify for volume discounts at some times but not others, the regression would need to take this into account. Similarly, if delivery charges are added to prices at some times and not others or the types of products offered and purchased change over time,

it would be improper to use time-series data or models that do not reflect these variations over time. When there is substantial variation in fundamental aspects of the price data of this type, individual inquiries are necessary to understand the factors that shaped the price that specific customers paid.

***21 ABA SECTION OF ANTITRUST LAW, ECONOMETRICS: LEGAL, PRACTICAL, AND TECHNICAL ISSUES 224 (ABA Publishing 2005).**

Direct-purchaser plaintiffs have fundamentally failed to show that the many factors influencing pricing of GPU products were systematic and are now controllable. Even if such factors did have a systematic impact with respect to the class, Dr. Teece's general model hardly shows how he has accounted for them. This order does appreciate that not every single factor can be accounted for in conducting a regression analysis but direct-purchaser plaintiffs' regression falls exceptionally short of establishing proof of common impact.

As stated, Dr. Teece's regression analysis for wholesale purchasers ignores individual consumers who purchased graphics cards online at ATI.com. For these individual consumers, Dr. Teece used a completely different regression. He explains (Teece Reply Report at ¶ 74):

The fact that at this time I have a separate regression for the retail customers is immaterial to the point of whether there is a linkage between prices paid by the various class members. From an economic perspective, it is understood that changes in wholesale prices will likely have an effect on retail prices.

Dr. Teece may not meet his burden by simply stating that "economic theory" dictates that prices for retail and wholesale purchases generally go up together. Direct-purchaser plaintiffs must demonstrate through "properly-analyzed, reliable evidence" that a common method of proof exists to

prove impact on a class-wide basis. *Dukes*, 509 F.3d at 1179. No such evidence has been presented here. Dr. Teece's failure to include individual consumers in the same model as the wholesale purchasers indicates that proof is not common to the class, at least without having to create a separate model or category for each particular kind of purchaser, which itself would suggest that individual issues predominate over those common to the class.

Dr. Teece admits that his regression analysis fails to "include other variables" that would have a significant impact on demonstrating common impact across the class (*id.* at ¶ 69). But he states that at the time he filed his original report that he had "limited information" to account for all the variables (*ibid.*). In fact, at several points throughout his reply report, Dr. Teece contends that a more acceptable model will be developed as this case further progresses. For instance, in his reply when discussing whether or not common impact was demonstrated he states, "[i]n this vein, the vast bulk of discovery on such subjects as the defendants' pricing policies and pricing implementations has not yet occurred" (*id.* at ¶ 3). His reply report was signed on June 2, 2008. Dr. Teece's belief that the "vast bulk of discovery" has yet to occur is wrong. In this case, formal discovery will close in a little over a month. Direct-purchaser plaintiffs have had since early November 2007 to conduct whatever discovery they required to meet their burden on this motion. The undersigned judge has expressly made himself available to resolve any discovery problems on shortened time, but no request for assistance ever arrived.^{FN5}

FN5. Only one discovery dispute has been presented, and it has no relationship to the data available to Dr. Teece.

***22** In sum, this order finds that plaintiffs have failed to meet their burden under Rule 23 to provide a viable method for demonstrating class-wide injury based on common proof. Direct-purchaser plaintiffs' proffered econometric models are grossly lacking and do not suffice.

B. The More Limited Direct-Purchaser Class.

Although certification of a massive class of all direct purchasers is unwarranted, the representative plaintiffs claims' are sufficiently typical and common to a more limited class. That class consists of all individuals and entities who purchased graphics cards directly from defendants online up until the date the third amended complaint was filed—November 7, 2007.

(1) Rule 23(a)(1): Numerosity.

The numerosity requirement of Rule 23(a)(1) is satisfied when joinder of individual plaintiffs would be impracticable. While plaintiffs need not allege the exact number or identity of class members, mere speculation of the number of class members involved does not satisfy the requirement of Rule 23(a)(1). See *Ellis v. Costco Wholesale Corp.*, 240 F.R.D. 627, 637 (N.D.Cal.2007). According to defendants' figures, 31,677 individual consumers purchased desktop and workstation graphics cards online during the relevant limitations period. Defendants seem to concede that the direct purchasers meet the numerosity requirement. This order finds that the direct purchaser plaintiffs have satisfied their burden required by Rule 23(a)(1).

(2) Rule 23(a)(2): Commonality and 23(b)(3): Predominance.

The above-mentioned problems of commonality and predominance evaporate when the more limited class of individual consumers who directly purchased graphics cards from defendants is examined. The complex chain of distribution, the diversity of products, and any purchaser-specific considerations could be ignored. With respect to this more limited class, direct-purchaser plaintiffs have met their burden under Rules 23(a)(2) and (b)(3).

(3) Rule 23(a)(3): Typicality.

Similarly, the problems of typicality wash away. The representative plaintiffs here each purchased a graphics card online at ATI.com. The remaining members of the putative class also made such purchases. Typicality has been shown.

(4) Rule 23(a)(4): Adequacy.

The last hurdle of Rule 23(a) is that “the representative parties will fairly and adequately protect the interests of the class.” Determining whether the representative parties adequately represent a class involves two inquiries: (1) does the named plaintiff and his or her counsel have any conflicts of interest with other class members and (2) will the named plaintiff and his or her counsel act vigorously on behalf of the class? See *Lerwill v. Inflight Motion Pictures, Inc.*, 582 F.2d 507, 512 (9th Cir.1978). The adequacy inquiry under Rule 23(a)(4) serves to uncover conflicts of interest between named parties and the class they seek to represent. “[A] class representative must be part of the class and possess the same interest and suffer the same injury as the class members.” *East Tex. Motor Freight System, Inc. v. Rodriguez*, 431 U.S. 395, 403, 97 S.Ct. 1891, 52 L.Ed.2d 453 (1977).

*23 Defendants challenge each of the three representative plaintiffs. Only one challenge is compelling. That challenge is to Karol Juskiewicz. Defendants contend Juskiewicz should be disqualified for three distinct reasons. *First* is his nine-year history with his counsel and his apparent propensity to thrust himself into class action suits. *Second* is the timing of his graphics card purchase—*i.e.*, one week before the filing of his complaint. *Third* is Juskiewicz's current role as a class representative in a separate litigation involving Intel, one of AMD's competitors, where he purportedly has taken an inconsistent position with this suit. These concerns are real. It appears as if Juskiewicz along with his counsel have attempted to contrive litigation. Such behavior amounts to an abuse of the class action process. Juskiewicz is hereby disqualified as a representative plaintiff.

Defendants next argue that representative Michael Bensignor should be disqualified on the grounds that his counsel, Phil Steinberg, is his brother-in-law and he purchased his graphics card in a bundle package with third-party software. Defendants argue that Bensignor's relationship would likely impact his assessment of claims and potential settlements. Plaintiffs reply that Attorney Steinberg is not Bensignor's counsel but that he merely referred Bensignor to his current counsel-the Specter Roseman firm (Bensignor Dep. 239:1-242:10). This order sides with plaintiffs. Steinberg is not class counsel. Any potential for collusive settlement is particularly slight given Steinberg's attenuated role in this suit and the fact that any such settlement must ultimately be approved by the Court. Bensignor's purchase of third-party software along with his graphics card is also not enough to disqualify him. The value of the bundled software may easily be accounted for in any damage calculation.

Defendants lastly contend that named plaintiff Jordan Walker should also be disqualified because he purchased his ATI graphics card at a forty percent employee discount and he did not understand how defendants' actions harmed him. This order disagrees. The mere fact that Walker purchased his card at an employee-discount price does not mean he is unsuitable as a class representative. If plaintiffs prove their case, Walker would have overpaid for his graphics card regardless of whether he purchased it originally at an employee discount or not, for it is the price that is discounted that defendants allegedly fixed. Walker's damages may be less than others, but he has still suffered damage. Disqualification is also unwarranted merely because Walker gave somewhat curious answers to ambiguous questions at his deposition (Walker Dep. 85:12-86:13). A representative plaintiff should not be expected to understand all of the refinements of his legal claim. Walker is adequate.

Therefore, this order certifies a class to be defined as "all individuals and entities who purchased graphics processing card products online from de-

fendants' websites in the United States during the period from December 4, 2002, to November 7, 2007."

C. Intervention By Non-Class Members.

*24 Notably, at this time no wholesale purchaser has joined this action. It is possible that some non-certified direct purchasers might wish to become a party to this action. Accordingly, counsel should jointly give written notice of this order to all non-certified direct purchasers. Such entities will then have thirty days from the notice to move to intervene in this action. Counsel shall meet and confer and submit an appropriate form of notice.

3. INDIRECT PURCHASERS.

Indirect-purchaser plaintiffs seek certification of the following class of end-users of graphics chips and graphics cards for injunctive relief under federal law:^{FN6}

FN6. As plaintiffs point out, they defined the class somewhat differently in their Third Amended Complaint, as "a class seeking injunctive relief under the Sherman and Clayton Acts." Defendants have not asserted any opposition to this change.

All persons and entities residing in the United States who, from December 4, 2002, to the present, purchased indirectly from the defendants Graphics Processing Units and/or the discrete graphics cards in which they are used or pre-assembled computers that contain such discrete graphics cards for their own use and not for resale. Specifically excluded from this Class are the defendants; the officers, directors or employees of any defendant; any entity in which any defendant has a controlling interest; and any affiliate, legal representative, heir or assign of any defendant. Also excluded are any federal, state, or local government entities, any judicial officer presiding over this action and the members of his/her

immediate family and judicial staff, and any juror assigned to this action.

Indirect-purchaser plaintiffs also move for certification of nineteen subclasses seeking damages under state law. Those subclasses represent residents of California, Florida, Iowa, Maine, Massachusetts, Michigan, Minnesota, Nebraska, Nevada, New Hampshire, New Mexico, New York, North Dakota, South Dakota, Tennessee, Vermont, West Virginia, Wisconsin, and Wyoming.

Indirect-purchaser plaintiffs, like direct-purchaser plaintiffs, must demonstrate that they paid a higher price for graphics chips and graphics cards than they would otherwise have paid absent a conspiracy. However, "the problem of proof in an indirect purchaser case is intrinsically more complex, because the damage model must account for the actions of innocent intermediaries who allegedly passed on the overcharge." William H. Page, *The Limits of State Indirect Purchaser Suits: Class Certification in the Shadow of Illinois Brick*, 67 ANTI-TRUST L.J. 4, 12 (1999-2000).

Here, indirect-purchaser plaintiffs must demonstrate that defendants overcharged their direct purchasers for graphics products and that those direct purchasers passed on the overcharges to plaintiffs. In so doing, they must find a way to account for the decision-making of a variety of resellers and manufacturers. Their methodology for proving impact must also account for two additional facts: (i) that a graphics chip is one component of a graphics card, and (ii) that graphics cards were sold to some indirect purchasers on a stand-alone basis but to others bundled in a computer. The distribution chain is thus intricate. Furthermore, indirect-purchaser plaintiffs' methodology must be assessed independently of that of direct purchasers, for the latter may settle out and leave the former to fend for themselves.

*25 In *Illinois Brick Co. v. Illinois*, 431 U.S. 720, 97 S.Ct. 2061, 52 L.Ed.2d 707 (1977), the Supreme Court recognized the difficulties of proof present in

indirect-purchaser class actions like this one. For that reason, the Supreme Court barred indirect-purchaser antitrust claims under federal law. The Sherman Act, the Court held, "will be more effectively enforced by concentrating the full recovery for the overcharge in the direct purchasers rather than by allowing every plaintiff potentially affected by the overcharge to sue only for the amount it could show was absorbed by it." *Id.* at 734. A number of states, including California, have since enacted statutes repealing the *Illinois Brick* rule for private actions under state antitrust laws. In *California v. ARC America Corp.*, 490 U.S. 93, 109 S.Ct. 1661, 104 L.Ed.2d 86 (1989), the Supreme Court held that *Illinois Brick* did not prevent indirect-purchaser plaintiffs from recovering under these state "repealer" statutes.

As of 1999, however, the majority of courts faced with indirect-purchaser actions brought under state repealer statutes—which at that time were mostly state courts—had declined to certify an indirect-purchaser class, concluding that "the issues common to the class did not predominate over individual issues, as required by Rule 23(b)(3)." William H. Page, *Class Certification in the Microsoft Indirect Purchaser Litigation*, 1 J. COMPETITION L. & ECON. 303 (2005). Then came the government's monopolization case against Microsoft Corporation. In *United States v. Microsoft*, 253 F.3d 34 (D.C.Cir.2001), the D.C. Circuit Court of Appeals affirmed the district court's holding that Microsoft had illegally maintained a monopoly on the market for Intel-compatible PC operating systems.

Since then, a number of indirect-purchaser class actions have been filed against Microsoft in state courts. The vast majority of those courts—indeed, courts in all but two states as of 2005—have gone the other way and certified the indirect-purchaser classes. While collateral estoppel effect was not given to the government's case against Microsoft in the vast majority of those actions, the government litigation undoubtedly influenced the certifications. Though the *Microsoft* cases dealt with a market not

unlike the one at issue in this action, the fact that there had been a prior government adjudication against Microsoft—which served as extrinsic evidence of harm—makes the *Microsoft* line of cases *sui generis*. The *Microsoft* cases also involved a single seller and were all decided in state courts.

As for the indirect-purchaser class actions that have been heard in federal courts, which have increased in number since the passage of the Class Action Fairness Act in 2005, 28 U.S.C. 1332(d), those decisions have parted company over their willingness to certify indirect-purchaser classes as well as over the level of scrutiny to be imposed on Rule 23 showings. That divide reveals many of the same themes discussed above with respect to the direct-purchaser class certification decisions. Generally speaking, some courts have certified indirect-purchaser classes; others have not; the issue is impact and, more specifically, whether a plausible methodology exists to account for all the variations in the chain of distribution in trying to prove impact.

*26 Recognizing that divide, this order proceeds with its analysis of class certification of indirect-purchaser plaintiffs in this action, focusing on the particular products at issue (graphics cards and the graphics chips contained within them), the market and distribution chains for those products, and the testimony of the expert witnesses plaintiffs have presented. Ultimately, this order finds that certification of the indirect-purchaser class is not warranted because plaintiffs have failed to meet their burden of demonstrating a common method of proving impact on a class-wide basis.

A. Legal Standard.

The applicable legal standard for class certification under Rule 23 has been laid out above. To summarize, indirect-purchaser plaintiffs have the burden of proving that class certification is appropriate. In order to do so, plaintiffs must demonstrate that they have satisfied all of the requirements of Rule 23(a) and at least one of the alternative requirements of

Rule 23(b).

With respect to the Rule 23(b) requirements, indirect-purchaser plaintiffs move for certification of the nineteen state subclasses pursuant to Rule 23(b)(3), which requires them to prove 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.” They also move for certification of both the state subclasses and the nationwide class under Rule 23(b)(2). Analysis of that claim will be addressed in a separate section below.

Because plaintiffs have not met their burden of satisfying either alternative requirement of Rule 23(b), neither the nationwide class nor the nineteen state subclasses will be certified. Given that the Rule 23(b) analysis is dispositive, there is no need to address the Rule 23(a) factors.

B. Dr. Netz's Rebuttal Declaration.

Plaintiffs have put forward the work of two experts, Dr. Anna Meyendorff and Dr. Janet Netz, to demonstrate a method of proving common impact to all indirect purchasers of defendants' products. Both Dr. Netz and Dr. Meyendorff filed rebuttal declarations in response to the opposition declaration of defendants' expert, Dr. Michelle Burtis. Defendants claim that Dr. Netz's rebuttal declaration is inadmissible or, in the alternative, that it should be struck on the grounds that it is prohibited by this Court's clear guidelines on the use of expert reports and reply declarations.^{FN7} Before delving into the substance of the Rule 23(b) analysis, this order must thus resolve the propriety of Dr. Netz's rebuttal declaration.

FN7. See Supplemental Order to Order Setting Initial Case Management Conference in Civil Cases Before Judge William Alsup ¶ 9 (“Reply declarations are disfavored. Opening declarations should set forth all

facts on points foreseeably relevant to the relief sought. Reply papers should not raise new points that could have been addressed in the opening"); Pretrial Order No. 7 (Doc. 247) ¶ 5 ("Reply reports must be limited to true rebuttal and should be very brief. They should not add new material that should have been placed in the opening report").

Defendants' motion is granted in part and denied in part. Much of Dr. Netz's rebuttal declaration, while repetitive at points and unnecessarily lengthy, is proper. The five new regressions that Dr. Netz includes in the report, however, are all procedurally improper and are hereby stricken. Plaintiffs claim that "[t]o the extent Dr. Netz conducted additional regression studies, she did so based on information made newly available by defendants or information that she had located since her initial report was filed" (Reply Br. 5). First, with respect to any information Dr. Netz *located* after filing her initial report, there is no evidence that Dr. Netz could not have located that information earlier and included it in her opening declaration.

*27 With respect to the information plaintiffs claim was "made newly available" to them, defendants have convincingly demonstrated via the declarations they submitted in opposition to Dr. Netz's rebuttal report that all of the data Dr. Netz used in her five additional regressions was either publicly available on the internet or made available by defendants to plaintiffs before Dr. Netz filed her original declaration. Plaintiffs' counsel at oral argument provided the dates when Dr. Netz received the data—some of which were indeed after the filing of her initial report—but he did not specify when *his firm* received the data. Evidently, plaintiffs' counsel took some time to deliver the data to Dr. Netz. If plaintiffs were having difficulty obtaining or sorting through necessary data, however, they should have raised that issue with the Court. They did not do so. The discovery and class certification schedule has been well-known for many months and was

given to the parties with the express admonition that it would be faithfully followed. Slipping these new arguments into a rebuttal report was a clear-cut form of sandbagging and was simply unfair.

This order thus hereby strikes Section IX. B ("Empirical Studies of Pass-Through Rates from the Top to the Bottom of the Distribution Channel") and Section XI ("Additional Pass-through Studies") of the June 3, 2008 Corrected Rebuttal Declaration of Dr. Janet Netz. The remainder of Dr. Netz's rebuttal declaration has been considered in this order.

C. Certification of the State Subclasses Under Rule 23(b) (3).

To prevail under Rule 23(b)(3), plaintiffs must demonstrate that "the necessary proof of impact would be common to all class members and sufficiently generalized that class treatment of their claims would be feasible." *In re Industrial Diamonds*, 167 F.R.D. at 382. In order for common questions of law or fact to predominate over individualized questions, "the issues in the class action that are subject to generalized proof, and thus applicable to the class as a whole, must predominate over those issues that are subject only to individualized proof." *Kerr v. City of West Palm Beach*, 875 F.2d 1546, 1558 (11th Cir.1989). The predominance inquiry "trains on the legal or factual questions that qualify each class member's case as a genuine controversy, questions that preexist any settlement, and tests whether proposed classes are sufficiently cohesive to warrant adjudication by representation." *Amchem Prods., Inc. v. Windsor*, 521 U.S. 591, 623-24, 117 S.Ct. 2231, 138 L.Ed.2d 689 (1997).

As discussed above with respect to the direct-purchaser class, the Ninth Circuit's decision in *Dukes* requires that plaintiffs' experts' methodology be properly analyzed and scientifically reliable and that it demonstrate a question of fact common to the class. 509 F.3d 1168. At the same time, *Dukes* requires the district court to "consider evidence

which goes to the requirements of Rule 23 at the class certification stage even if the evidence may also relate to the underlying merits of the case.”*Id.* at 1178 n. 2. This order, as it did with respect to direct-purchaser plaintiffs, will try to follow both instructions faithfully.

(1) Impact on Direct Purchasers.

*28 By definition, indirect purchasers must prove that an overcharge was levied on *direct* purchasers of defendants' products, who then passed all or some of that overcharge through to the indirect purchasers. There are therefore two steps to the case indirect-purchaser plaintiffs must make. As to the first step-proving impact on direct purchasers-counsel have offered the declarations of Dr. Anna Meyendorff and Dr. Janet Netz, two economists who work at ApplEcon, LLC. Dr. Meyendorff's declaration begins by examining whether impact on direct purchasers can be established through common proof. It then discusses how damages might be proven on a class-wide basis. Dr. Netz's declaration starts from two *presumptions*: that defendants' liability has already been proven and that common impact to direct purchasers has already been proven. Her declaration then evaluates “whether the pass-through of such an overcharge would result in common impact on class members and whether the impact can be measured on a common, formulaic basis” (Netz Decl. ¶ 7).

Dr. Netz's proposed methodologies therefore hinge on the accuracy of Dr. Meyendorff's conclusions that defendants' actions led to an overcharge on their direct purchasers and that that impact can be demonstrated by common proof. Because this order finds Dr. Meyendorff's analysis inadequate, however, it necessarily finds Dr. Netz's dependent analysis unsuccessful as well.

In her declaration, Dr. Meyendorff examines the characteristics of what she refers to as the “graphics industry,” comprised of graphics chips and graphics cards, and concludes that the characteristics of that

market are such that “a cartel in this industry would have a high likelihood of success” (Meyendorff ¶¶ 41-51). Even if Dr. Meyendorff's description of the industry is accurate, it does not suffice on its own as a method of demonstrating impact to the specific direct purchasers at issue here through common proof. Plaintiffs must show not that “market conditions are favorable for impact” (Opp.8) but that there is a common, formulaic method of proving that if defendants conspired to raise prices, the direct purchasers plaintiffs bought from paid an overcharge.

Instead, Dr. Meyendorff essentially asks this Court to presume impact to direct purchasers based on the characteristics of the market. Some courts, particularly in the *Microsoft* line of cases, have found such evidence sufficient as a methodology for proving common impact—that is to say, evidence demonstrating that the structure of market is such that economic principles dictate that monopoly overcharges would be passed on from direct purchasers to indirect purchasers in that market.^{FN8} Those have by and large been cases in which the plaintiffs alleged and provided evidence of a list-price conspiracy.

FN8. See, e.g., *Microsoft I-IV Cases*, 2000-2 Trade Cas. ¶ 73,013, 88,562 (Cal.Super.Ct.2000); *Gordon v. Microsoft Corp.*, 2001 WL 366432, at *10 (Minn.Dist.Ct.2001); *Florida Microsoft*, 2002 WL 31423620, at *8 (Fla.Cir.Ct.2002); *In re Hydrogen Peroxide Antitrust Litig.*, 240 F.R.D. 163, 171-74 (E.D.Pa.2007).

As mentioned above, it is unclear as to what degree if any defendants kept list prices for their products. Dr. Meyendorff states in her declaration that “[i]t may be the case that different direct purchasers paid different prices for the products at issue. Reasons for such price differences include the volume of total sales to each customer, geographic location or the type of contract” (Meyendorff Decl. ¶ 88). Whether or not a list-price conspiracy is at issue here, however, the use of market data and economic

theory to prove impact must also be reconciled with the general principle that “impact is a question unique to each particular plaintiff and one that must be proved with certainty.” *Blue Bird*, 573 F.2d at 327. Dr. Meyendorff has not convinced this Court that her methodology will prove impact with any certainty.

*29 The instant matter is akin to *American Seed Co., Inc. v. Monsanto Co.*, 238 F.R.D. 394 (D.Del.2006), *aff'd*, 2008 WL 857532 (3d Cir.2008), in which the indirect purchasers were represented by one team of attorneys and the direct purchasers by another and each class of plaintiffs presented its own expert. The district court found that the indirect purchasers' failure to present a common method of proving impact on direct purchasers was enough to defeat class certification: “Even assuming overcharges were in fact passed through *in toto* in all cases, negating any need for individualized inquiry, the premise of plaintiffs' theory ... rests upon the presumption of impact on the direct purchasers. Plaintiffs' arguments ... thus falter.” *Id.* at 402. So too here. Our plaintiffs cannot proceed on a mere presumption that impact on direct purchasers is proven by market data or that it will be proven by direct-purchaser plaintiffs at trial. Even if this order had certified an entire, massive class of direct purchasers, indirect purchasers would still carry a burden all their own for the former might settle out and leave the latter holding a bag of presumptions.

Plaintiffs argue that other courts have not required *indirect-purchaser* plaintiffs to demonstrate that impact on *direct-purchaser* plaintiffs is susceptible to common proof. They cited a number of indirect-purchaser certification decisions in their brief and at oral argument. But there the issue of impact on direct purchasers simply was *not* addressed. *No decision has been cited in which the requirement was raised and rejected by the court—that is to say, a decision in which a court explicitly held that indirect-purchaser plaintiffs need not demonstrate a common, formulaic method of proving impact on direct purchasers.*

It is certainly true, as plaintiffs point out, that courts have allowed indirect-purchaser plaintiffs to proceed as a class where they are unable to establish injury as to a few class members but can show “widespread injury to the class.” *In re Cardizem CD Antitrust Litig.*, 200 F.R.D. 297, 321 (E.D.Mich.2001). In order to even begin to demonstrate widespread injury to the indirect-purchaser class, however, plaintiffs must first demonstrate that there is a way to prove injury to direct purchasers on a common, formulaic basis. They have not done so.

In her opening declaration, Dr. Netz confirms her reliance on Dr. Meyendorff's report (Netz Decl. ¶¶ 12-13) (emphasis added):

In light of my investigation and analyses of the data, I conclude that the pass-through rate of the overcharge to indirect purchasers is positive and can be measured on a common, formulaic basis.... This conclusion, *in conjunction with Dr. Meyendorff's conclusion that the overcharge to defendants' direct purchasers can be demonstrated on a common, formulaic basis*, means that the alleged violations had a common impact upon all members of the class during the class period, and that computation fo the damages is susceptible to common proof on a formulaic basis.

*30 Given that Dr. Meyendorff's analysis is insufficient, Dr. Netz's reliance on that analysis is fatal.

(2) *Impact on Indirect Purchasers.*

Even assuming arguendo that Dr. Meyendorff's declaration had established a common, formulaic method of proving impact on direct purchasers, however, plaintiffs' motion for class certification would still fail because Dr. Netz's method for proving impact to indirect purchasers is also insufficient. Dr. Netz's assignment, in her own words, was to determine whether class-wide impact could be measured on a “common, formulaic basis” (*id.* at ¶ 7). Dr. Netz's declarations present two possible ap-

proaches to measuring pass-through of an overcharge on a class-wide basis. The first approach is what Dr. Netz calls the “top-to-bottom” approach in which she estimates “the relationship between retail prices paid by end-users and wholesale prices charged by Defendants” (Netz Rebuttal ¶ 47). The second has been referred to as a “step-by-step” approach which estimates the pass-through rate for different levels of the distribution channel (*ibid.*).

Dr. Netz's methodology begins by providing evidence of the competitive nature of the graphics industry in the form of market data and economic theory. This evidence informs her “expectation that pass-through will be close to 100%”(id. at ¶ 13). She then uses regression analysis to estimate pass-through rates “using real data for certain firms in certain stages of the distribution chain”(id.). Of course, for the reasons laid out above, the market data and economic theory do not, on their own, constitute a common, formulaic method of proving *impact* across the varying circumstances of the individual members of the proposed class.

Turning to Dr. Netz's regression analysis, there are at least two additional deficiencies in that analysis that suffice together to defeat class certification.

First, Dr. Netz has demonstrated no class-wide formulae that would be reliable in assessing impact on each consumer. Because of the large number of manufacturers, resellers, and products at issue here, Dr. Netz was forced to use different variables in each of her reseller-specific regressions. Defendants demonstrated at oral argument that there were only two variables common to all eight of the regressions Dr. Netz conducted in her two declarations: GPU cost and GPU manufacturer. What Dr. Netz's declaration indicates, therefore, is that she would need to construct separate equations using different variables for each reseller in each part of the distribution chain in order to determine with any precision who passed on overcharges and at what rate.

Dr. Netz responds to this criticism as follows:

Dr. Burtis and Defendants' counsel argue that I am employing a different method for each of the studies because I include different control variables to account for product differences. Including different control variables does not indicate a different method, but rather is a variation of the same method to account for the unique characteristics of each dataset; using different regressors is common in studying various economic issues, including empirically estimating pass-through.

*31 (*id.* at ¶ 79). This order agrees with Dr. Netz that the use of different control variables does not necessarily turn one method into two methods. Her failure to offer a regression that uses one specific set of variables is not in and of itself enough to defeat class certification. Her methodology does, however, raise significant concerns about the manageability of this potential class action and its nineteen subclasses. If this class were certified, Dr. Netz's regressions would either be overly reliant on averages and would thus sweep in an unacceptable number of uninjured plaintiffs, or they would be unmanageably individualized.

Setting aside Dr. Burtis' criticisms regarding the accuracy of Dr. Netz's regressions, Dr. Netz does not adequately explain how her regressions would be applied on a class-wide basis. In a vague statement, she notes that her “methods are applicable to all purchases made by class members, from all types of resellers, and are not individualistic in any respect,”(*id.* at ¶ 70), but she does not go further than that.

This concern about the individualized nature of Dr. Netz's methodology is heightened by the fact that the indirects purchased graphics cards and computers from potentially thousands of different retailers and manufacturers, some of whom negotiated special prices for the graphics products that they in turn purchased from defendants. Dr. Burtis, defendants' expert, has noted that computer manufacturers individually negotiate prices for graphics products after sending out requests for proposals to suppliers like Nvidia and ATI and that they sometimes also

receive rebates on those products (Burtis Decl. ¶¶ 80-83). Plaintiffs do not dispute that such individualized negotiations took place between defendants and their direct purchasers—they simply argue that pass-through occurred nonetheless. However, individualized negotiations between defendants and direct purchasers often require courts to “scrutinize each transaction to ascertain whether the purchaser paid a supra competitive price.” *In re Diamonds*, 167 F.R.D. at 384. If the direct purchaser did not pay a supra competitive price, of course, there is no impact on the indirect purchaser.

At oral argument, in support of their claim that impact can be measured on a class-wide basis, counsel for plaintiffs presented an internal Nvidia document that charted pricing for the Nvidia Quadro line of graphics chip, which is one of the four categories of Nvidia chips that plaintiffs allege to be at issue here. The flowchart depicted two lines of distribution: one running from OEMs to distributors to end-users, and another from channel partners to distributors to end-users. It does indicate that channel partner pricing was set ten to fifteen percent above OEM pricing and that mark-ups were passed through to end-users *for this particular product*. According to plaintiffs' counsel, the chart is demonstrative of the fact that pass-through for the channel partners is measurable with cross-reference to pass-through for the OEM channel (Tr. 112:12-13). Assuming that is true and putting aside the ways in which the chart differs from Dr. Netz's methodology, plaintiffs cannot substitute the chart for their burden. *First*, the chart does not get plaintiffs past their problem of demonstrating impact on *direct* purchasers. *Second*, as has been reiterated several times throughout this order, plaintiffs must demonstrate a method of proving impact on a *class-wide* basis. The chart is not a method, nor does it apply to the entire class. Rather, it (arguably) depicts pass-through within a generalized version of the distribution chain for the specific Quadro line. As such, the chart does not present a pass-through formula for the rest of Nvidia's products nor for any of ATI's products.

*32 Class certification is problematic where a plaintiff's method of proving pass-through requires a reseller-by-reseller analysis. In *In re OSB Antitrust Litigation*, 2007 WL 2253425, at * 18 (E.D.Pa.2007), for example, the district court held that one category of indirect-purchaser plaintiffs—individuals who had purchased homes containing orient strand board—had not shown that they could “prove actual or potential injury, causation, or redressability on a common basis because of the disparate factual circumstances” that existed among them.^{FN9}

FN9. *See also In re Fresh Del Monte Pineapples Antitrust Litig.*, 2008 U.S. Dist. LEXIS 18388, at *32-42 (S.D.N.Y.2008) (finding that indirect-purchaser plaintiffs had failed to establish that the class would be manageable); *In re Brand Name Prescription Drugs Antitrust Litig.*, 1994 WL 663590, at *7 (N.D.Ill.1994) (“tracing the alleged overcharges from manufacturers, to wholesalers, to retailers, to consumers presents individualized issues which would dominate this litigation and preclude certification under Rule 23(b)(3)"); *A & M Supply Co. v. Microsoft Corp.*, 252 Mich.App. 580, 641, 654 N.W.2d 572 (2002) (“[Plaintiffs' expert's] methodologies, even if they were to work with respect to small, well-defined subclasses that group class members by a very few strongly unifying characteristics, will essentially require separate trials to determine the different pass-on rates affecting the class as a whole.... when a proposed class action is unmanageable, a trial court should deny class certification”).

The record shows that the only way to fully assess pass-through in this action would be to conduct a wholesaler-by-wholesaler and re-seller-by-re-seller investigation, which would essentially result in “thousands of mini-trials, rendering this case unmanageable and unsuitable for class action treat-

ment.” *McCarter v. Abbott Labs., Inc.*, 1993 WL 13011463, at *5 (Ala.Cir.Ct.1993). Plaintiffs’ broad assertions that “[c]ourts readily look past ‘surface distinctions’ in ‘marketing mechanisms’ in certifying indirect purchaser classes” do nothing to alleviate these concerns (Reply Br. 6). It is certainly common for defendants in indirect-purchaser suits to “attempt to characterize the market as too complex for common proof of injury” (*In re Cardizem CD Antitrust Litig.* (“*Cardizem II*”), 200 F.R.D. 326, 345 (E.D.Mich.2001)), but this Court has not been blindly swayed by such characterizations. Rather, what defeats certification here is plaintiffs’ failure to demonstrate a methodology for proving impact that is sufficiently common to the class.

Second, plaintiffs’ experts ask this Court to rely too heavily on their promises that they will be able to formulate the appropriate analysis and prove both impact and damages once they obtain the necessary data. The following excerpt from Dr. Netz’s deposition is representative:

Q: ... And at this point do you expect to measure the pass-through rate using common proof on the-on the top-to-bottom method or using some other method?

A: (Dr. Netz): I’ll use whatever method is feasible given the data that are available.

Q: And so you haven’t come to a decision yet about how you’re going to perform that exercise?

A: (Dr. Netz): I will perform the exercise by using the data that become available through the discovery process.

(Netz Dep. 19:20-20:6). After eight months of discovery, plaintiffs should have the data to formulate their regression analyses with more precision. If plaintiffs were having difficulty obtaining data from defendants or third parties or sorting through that data, they should have timely raised that issue.

As an example, Dr. Netz’s regression analyses fail to account sufficiently for the fact that indirect-

purchaser plaintiffs fall generally into two categories: (i) individuals who purchased graphics cards on a standalone basis, and (ii) individuals who purchased graphics cards bundled with computers. All of Dr. Netz’s regressions examine pass-through for graphics cards sold on a stand-alone basis. *Significantly*, she has not yet analyzed pass-through for graphics cards sold bundled with computers. Dr. Netz argues in her rebuttal that her methodologies will apply equally well to graphics cards sold bundled with computers but admits that she has not yet performed this analysis. “Data to calculate the pass-through rate for Graphics Cards sold bundled with computers has been subpoenaed,” she explains, “and I shall apply the approach I described when the appropriate data are available” (Netz Rebuttal ¶ 65). Such data should already be available to plaintiffs, however, given how much time they have already had for discovery.

*33 In short, plaintiffs should be able to provide more than promises at this late stage of the litigation. In *Piggly Wiggly Clarksville*, 100 Fed. Appx. at 300, the Fifth Circuit affirmed a denial of class certification in part because plaintiffs’ expert had failed to persuade the court that he would be able to obtain the data necessary to conduct certain regression analyses in order to prove predominance. Similarly, the *OSB* court was unconvinced that plaintiffs’ expert would be able to establish on a class-wide basis that an increase in the price of orient strand board caused an increase in home prices where the expert had not demonstrated that he could obtain the data necessary to complete his regression analyses. 2007 WL 2253425.

This order has considered the approach of the First Circuit in *New Motor Vehicles*. There, the district court certified a class of indirect-purchaser plaintiffs despite having “expressed multiple times its concern about the adequacy of several of plaintiffs’ showings and expressed a willingness to revisit the question once it had a better record in front of it.” 522 F.3d at 27. The district court’s certification decision came before discovery had closed.

The First Circuit's solution was to remand the action for the district court to reconsider its decision in light of a more fully developed record given that discovery had by that point ended. *Id.* at 29-30. As the First Circuit noted:

In another case, this posture of certification being decided before completion of class discovery might not raise any concerns. In this case it does because of the novelty and complexity of the theories advanced and the gaps in the evidence proffered. The district court expressed multiple times its concern about the adequacy of several of plaintiffs' showings and expressed a willingness to revisit the question once it had a better record in front of it. We share those concerns.

Id. at 27.

As stated, both sides have had since early November 2007 to conduct discovery in this matter. They have brought no motions to compel discovery on this topic. The class certification phase was set near the end of the discovery period to give plaintiffs time to gather data while leaving a short period after the decision to take follow-up merits discovery in light of the class definition. This is not the same procedural posture as in *New Motor Vehicles*. Nothing in that decision interferes with the orderly setting of clear-cut deadlines and adhering to them.

To be clear, this order is not denying certification merely because it finds that plaintiffs are "unable to establish injury as to a few class members." That alone would not be enough to defeat certification as this Court has emphasized in the past. See *Siemers v. Wells Fargo & Co.*, 243 F.R.D. 369, 374 (N.D.Cal.2007) ("The fact that a defendant may be able to defeat the showing of causation as to a few individual class members does not transform the common question into a multitude of individual ones; plaintiffs satisfy their burden of showing causation as to each by showing [generalized damage] as to all"). Rather, this order finds that plaintiffs have failed to identify any common, for-

mulaic method for proving impact to *direct* purchasers and that their method for proving impact to *indirect* purchasers is fatally flawed.

*34 Having concluded that these deficiencies defeat plaintiffs' motion for class certification, this order need not delve into Dr. Meyendorff's proposed methodologies for calculating damages, nor need it analyze whether plaintiffs meet the required standards for class certification under Rule 23(a). Without a reliable method for proving common impact on all purchasers of defendants' products throughout the chain of distribution, indirect-purchaser plaintiffs cannot proceed as a class.

(3) Certification in the Absence of Impact.

Plaintiffs urge this Court to certify the indirect-purchaser class even if it finds as it does that a method for proving common impact in the form of an economic injury has not been shown. Plaintiffs argue that even if indirect purchasers paid the same amount they would have despite defendants' alleged price-fixing, those purchasers "have suffered cognizable antitrust injury in the form of lower quality, less choice, and reduced innovation" (Br.19). Plaintiffs propose an award of nominal damages for such an injury. As discussed above, however, in order to satisfy Section 4 of the Clayton Act, plaintiffs must demonstrate that they paid a higher price for their graphics card or computer than they otherwise would have paid in the absence of a conspiracy. See, e.g., *Robinson v. Texas Auto. Dealers Ass'n*, 387 F.3d 416, 422 (5th Cir.2004); *Blades*, 400 F.3d at 573.

Furthermore, even if plaintiffs were able to prove some financial injury as a result of diminished market choice, plaintiffs have not effectively addressed defendants' argument that this Court would still need to conduct an individualized inquiry into whether or not "each class member would have made different decisions about what to purchase in the presence of more choice and innovation" (Opp.18). For the reasons laid out above, this order

finds such an individualized inquiry inappropriate under Rule 23.

4. INJUNCTION CLASS.

Direct-purchaser and indirect-purchaser plaintiffs both seek alternatively to certify their proposed classes under Rule 23(b)(2). If the requirements of Rule 23(a) are satisfied, Rule 23(b)(2) permits certification where "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." "Class certification under Rule 23(b)(2) is appropriate only where the primary relief sought is declaratory or injunctive." A class may be certified even where monetary relief is sought but only if such relief is "merely incidental" to the primary claim for the injunction. *Zinser v. Accufix Research Institute, Inc.*, 253 F.3d 1180, 1195 (9th Cir.2001).

Both groups of purchasers maintain that certification under Rule 23(b)(2) is appropriate because defendants have conspired and continue to conspire with one another to artificially inflate prices for all GPU products thereby harming all members of both putative classes. As the direct-purchaser plaintiffs put it, "[e]ven in the absence of monetary recovery, it would be reasonable for plaintiffs to sue to obtain an injunction ..." (Br.23). This is not the test. From the onset of litigation, it has been crystal clear that both groups of plaintiffs have primarily sought monetary damages. Several antitrust decisions have denied certifying under Rule 23(b) (2) where the primary relief sought was money. *See Eisen v. Carlisle and Jacquelin*, 391 F.2d 555, 564 (2nd Cir.1968); *see, e.g., In re Bristol Bay, Alaska, Salmon Fishery Antitrust Litig.*, 78 F.R.D. 622, 625 (W.D.Wash.1978); *see, e.g., Krehl v. Baskin Robbins Ice Cream Co.*, 78 F.R.D. 108, 117 (C.D.Cal.1978).

*35 In addition, any continued harm arising from defendants' purported conduct will ultimately be re-

addressed by the more limited direct-purchaser class certified as defined above. In this respect, plaintiffs have given no justification for why such massive classes are needed when a more limited class will adequately cure any alleged ongoing harm. Given this prospect, certification under Rule 23(b)(2) is unwarranted.

CONCLUSION

For all of the above-stated reasons, direct-purchaser plaintiffs' motion for class certification is **GRANTED IN PART** and **DENIED IN PART**. The following class is hereby certified:

All individuals and entities who purchased graphics processing card products online from defendants' websites in the United States during the period from December 4, 2002, to November 7, 2007.

By **JULY 29**, all counsel shall propose a form of class notice and a joint proposal for dissemination of notice. By **JULY 29**, they shall also submit a joint form of notice advising non-certified direct purchasers that they may move to intervene in their individual capacities within **THIRTY CALENDAR DAYS** of the motion. Indirect-purchaser plaintiffs' motion for class certification is **DENIED**.

IT IS SO ORDERED.

N.D.Cal.,2008.

In re Graphics Processing Units Antitrust Litigation
Slip Copy, 2008 WL 2788089 (N.D.Cal.)

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