ANALYSIS GROUP ECONOMIC, FINANCIAL and STRATEGY CONSULTANTS

FORUM

2015 Year in Review

A look at the insights and outcomes that shaped our year

From the CEO

In the past year, Analysis Group helped our clients in business and litigation matters in virtually every sector of the economy. Our clients consistently come to us for the range and depth of our expertise.

In this issue, we highlight examples of our work both in and out of the courtroom. Statistical modeling was our assignment in the high-profile NFL "Deflategate" matter. The Greek sovereign debt crisis required analyzing effects on bond markets. Intellectual property work continued to expand, both in the context of the tools applied – such as the growing reliance on market research – and with respect to evaluating significant changes in the patent enforcement system.

Our firm continues to grow, and we are committed to maintaining a distinctive, collaborative culture that allows us to draw on the best ideas to help our clients succeed.

> "Saying 'You can't manage what you don't measure' ignores how much you end up changing people's behavior when you measure it too closely. When the problems are interesting and the work is meaningful, that can be so much more rewarding."
>
> **MARTHA S. SAMUELSON,**
> PRESIDENT AND CEO

FROM "ANALYSIS GROUP'S CEO ON MANAGING WITH SOFT METRICS," *HARVARD BUSINESS REVIEW*, NOV. 2015;
READ MORE AT ANALYSISGROUP.COM/HBR

Features

Statistics and Sports: “Deflategate”

On September 3, 2015, U.S. District Court Judge Richard M. Berman granted the motion of Analysis Group’s client, the NFL Players Association (NFLPA), to vacate the four-game suspension of New England Patriots’ quarterback Tom Brady in the so-called “Deflategate” case.

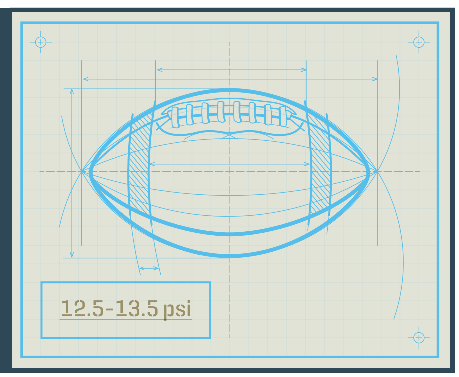
The widely watched court case focused on the arbitration process that culminated in Mr. Brady's suspension following the use of allegedly under-inflated footballs during the 2015 AFC Championship Game between the Patriots and the Indianapolis Colts. In his decision, which was largely premised on legal deficiencies in the NFL's case, Judge Berman referenced the findings of Analysis Group academic affiliate **Edward A. Snyder**, Dean of the Yale School of Management.

Dean Snyder had analyzed the statistical evidence put forward by experts for the NFL and had presented his findings at an earlier appeal hearing before NFL Commissioner Roger Goodell. Supporting Dean Snyder in that analysis were Senior Lecturer **Michael J. Moore** of Northwestern University and an Analysis Group team led by Vice President **Jimmy Royer**, as well as Managing Principals **Pierre Cremieux** and **Paul Greenberg**.

At the appeal hearing, Dean Snyder referred to the “impromptu protocols” used at halftime of the AFC Championship Game to measure the pressure of the footballs. He emphasized that the pressure measurements (in PSI) were taken sequentially, first for the relatively cold and wet Patriots’ footballs and then for the Colts’ footballs. Although this time difference was not accounted for in the NFL experts’ statistical models, it greatly affected the findings upon which the NFL’s conclusions were based. PSI increases the longer footballs remain in a warm and dry locker room, where the PSI measurements were taken, relative to cold and wet game-day field conditions outdoors.

Dean Snyder concluded that after properly accounting for timing, there was no statistical difference in the relative pressure drop of Patriots’ and Colts’ footballs, thereby negating the statistical underpinnings of the NFL’s case against Tom Brady. ■

> “It’s not statistically significant … it’s like you don’t score a touchdown unless you break the plane. You can’t say it’s close.”
>
> **DEAN EDWARD SNYDER,** JUNE 23, 2015, TESTIMONY



Forecasting Corporate Failure: A Look at Statistical and Theoretical Approaches

Bankruptcy prediction models are often employed by debtors', creditors', or trustees' experts in litigation to prove or disprove whether a company was, at a particular point in time, in default or expected to default. Understanding the two main types of prediction models – statistical and theoretical – is critical in a bankruptcy setting.

ANDREW WONG IS A MANAGING PRINCIPAL IN THE CHICAGO OFFICE

KONSTANTIN DANILOV IS AN ASSOCIATE IN THE BOSTON OFFICE

ADAPTED FROM "FORECASTING CORPORATE FAILURE: UNDERSTANDING STATISTICAL AND THEORETICAL APPROACHES TO BANKRUPTCY PREDICTION," PUBLISHED IN *AIRA JOURNAL*, VOL. 29, NO. 1, 2015

While many kinds of prediction models exist, the vast majority can be classified in two categories: statistical and theoretical. Appreciating the strengths and weaknesses of each can be helpful on a wide range of issues, including evaluating unreasonably small capital tests in fraudulent conveyance claims, assessing the appropriateness of liquidation valuation approaches, and determining retrospective creditworthiness.

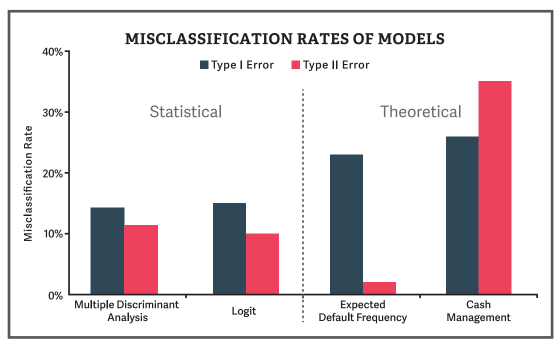
Statistical vs. theoretical models

Although most prediction approaches use some form of statistical analysis, purely statistical models are based on the notion that an impending bankruptcy will be visible in deteriorating financial performance. Therefore, evaluating the historical differences in the financial metrics between failed and surviving firms should be informative; these differences represent the symptoms of impending bankruptcy.

Unlike statistical models, theoretical models attempt to predict bankruptcy by focusing on the causes of failure. One well-known example, the contingent claims approach, has gained prominence due to its commercial use by firms like Moody's, Morningstar, and J.P. Morgan to provide credit-risk analysis. This approach is based on the view that past information may have less predictive power than the information derived from market-based, forward-looking factors, such as stock price and firm valuation.

Predictive performance

How well do the models actually fare in practice? It is easy to focus only on the ability of a particular model to accurately predict firms that eventually went bankrupt – that is, its predictive accuracy. However, it is also useful to consider the number and type of erroneous predictions that arise as a result of misclassifications. These erroneous predictions can occur in one of two ways: a firm that is predicted to survive actually goes bankrupt (known as a "Type I" or "false positive" error), or a firm that is predicted to go bankrupt actually survives (a "Type II" or "false negative" error).



M. Adnan Aziz & Humayon A. Dar, "Predicting Corporate Bankruptcy: Where We Stand," 6 (1) *CORPORATE GOVERNANCE: THE INTERNATIONAL JOURNAL OF BUSINESS IN SOCIETY* 23–26 (2006).

Despite their differences, all prediction models attempt to answer the same question: at a certain point in time, how likely is a particular company to go bankrupt? Because of differences in rationale, effectiveness, and applicability, each model is suited to answer this question. The applicability of any approach will depend on the context and the details of the particular case. ■

The Myth of Divided Antitrust Economics

Much is made of economists' inability to agree on anything. Yet, global antitrust regulation shows that convergence in antitrust economics is recent, remarkable, and widespread. In the courtroom, however, there is still room for genuine professional disagreement among economic experts.

PIERRE CREMIEUX IS A MANAGING PRINCIPAL IN THE BOSTON OFFICE

AARON YEATER IS A VICE PRESIDENT IN THE BOSTON OFFICE

For counsel, judges, and jurors interested in understanding how experts with often similar views can reach divergent conclusions, it is important to focus on the root causes of these disagreements.

What do economists believe?

Economists tasked with evaluating allegedly collusive or monopolistic conduct may provide expert insights into how a market would have evolved "but for" particular behaviors, based on shared economic beliefs that can often seem as natural as the laws of physics, including:

- *Incentives matter*
- *Firms generally maximize their profits, while consumers maximize their utility*
- *Immediacy is important (i.e., something today is better than something tomorrow)*
- *Opportunity costs drive economic behavior; because every choice results in the loss of an alternative choice, individuals and firms make decisions at the margin*
- *Trade, when entered into freely, makes both sides better off*

What methods do economists use?

To identify anticompetitive behavior, economists typically rely on economic theory (the mathematical or graphical expression of underlying beliefs) and statistical analysis (data analysis and the construction of alternative, "but-for" scenarios). In antitrust litigation, economists often apply these tools to evaluate a coherent set of issues:

- *Market dynamics and organizational behavior*
- *The role of collusive or unilateral conduct on pricing and production decisions*
- *The nature of "but-for" worlds absent the behavior at issue*

Where are the differences?

Despite consensus around behavioral assumptions and methodologies, attorneys, judges, and juries are often confronted with dueling economic opinions that can result in polar-opposite conclusions. This is only rarely related to the application of "unprofessional" economic arguments. More often, it is the result of subtle differences in the application of shared economic theories and statistical tools, the choice of data, or the consideration of external factors. These minor discrepancies in economists' understanding of the basic building blocks of the economic world can have significant consequences in the courtroom.

Case Example: TFT-LCD (Flat Panel) Antitrust Litigation

Consider the litigation surrounding Best Buy in the matter of alleged cartel activity among manufacturers of thin-film-transistor liquid-crystal display (TFT-LCD) panels used in televisions, laptop computers, and monitors.

The Myth of Divided Antitrust Economics (continued from page 6)

This lawsuit stemmed from a long-running U.S. investigation of an alleged conspiracy to set artificially high prices for, and restrict the supply of, various sizes of TFT-LCD panels. The plaintiffs claimed that since at least 1998 the defendants had engaged in price-fixing behaviors, resulting in overcharges to direct purchasers of TFT-LCD panels and finished products containing those panels, and to indirect purchasers of finished products.

In this litigation, two well-respected economic experts measured the alleged overcharges and proposed a statistical analysis to assess the effect of the conspiracy. Both agreed on the importance of various measures of costs and demand in determining prices, regardless of a conspiracy. In fact, the experts seemed to disagree primarily on whether the Producer Price Index (PPI) – a measure of price trends in wholesale markets – for microprocessors was an appropriate proxy for costs. This difference of opinion resulted in damages estimates for direct purchases that varied by more than $200 million. The plaintiff's expert included the PPI for microprocessors in his analysis and found an overcharge resulting in damages of more than $230 million for direct purchases; the defendants' expert used PPIs for other LCD panel inputs to show that the overcharge was close to zero.

Given the complexity of the analytics on both sides, what was counsel – or a jury – to do? In this matter, the statistical analysis was rigorous and differed only in subtle ways between the two parties. Ultimately, deciding on the right answer was a matter of belief on one key question: Was the PPI for CPUs a good proxy for the cost of building TFT-LCD panels? In other words, was the CPU essential to an analysis of TFT-LCD panel prices?

Ultimately, the California federal jury said "No" and awarded only $7.4 million in direct damages, based on figures calculated and presented by the defendant's testifying experts. The Best Buy plaintiffs had asked for $770 million in total damages based on the plaintiffs' economic experts' analysis, and $230 million for direct purchases alone. The jury also found the defendant, Toshiba Corporation, not liable for conspiracy to fix the prices of TFT-LCD panels.

Meet the LCD Team
In re: TFT-LCD (Flat Panel) Antitrust Litigation

- *Analysis Group and several affiliated experts were retained in connection with a long-running U.S. investigation of an alleged global conspiracy to set artificially high prices for various sizes of thin-film-transistor liquid-crystal display (TFT-LCD) panels.*
- *The plaintiffs claimed that since 1998 the defendants had engaged in price-fixing behaviors, resulting in overcharges to direct purchasers of TFT-LCD panels and finished products (such as televisions and computer monitors) containing those panels and to indirect purchasers of finished products.*
- *Read more at analysisgroup.com/lcd.*

In this case, and others like it, top economic experts took similar roads and reached vastly different endpoints. Analyzing differences in statistical specification may seem challenging for both counsel and the jury, but understanding economists' beliefs about human behavior, organizational activities, firm characteristics, market dynamics, and, in this case, determinants of costs is likely to be more intuitive and, ultimately, more helpful in assisting the trier of fact to evaluate the relative merits of two opposing claims. ■

A Closer Look at the Use of Consumer Surveys in Litigation

Consumer surveys have long been relied on in trademark infringement cases. Recently, courts have noted that surveys have become “de rigueur in patent cases” as a tool to evaluate and quantify damages relating to alleged infringement. Surveys have also been increasingly used in class certification matters and antitrust cases.

REBECCA KIRK FAIR IS A MANAGING PRINCIPAL IN THE BOSTON OFFICE

LAURA O’LAUGHLIN IS A SENIOR ECONOMIST IN THE MONTREAL OFFICE

Despite this trend, some remain skeptical of the “probative significance” of survey evidence in litigation. To counter these concerns and to capitalize on the evidence that primary research can yield, attorneys can turn to reputable survey experts for the application of academically rigorous and unbiased methodologies. There are best practices in survey design and implementation used for the development of confirmatory evidence of survey results.

More specifically, in their litigation work, these experts should consider three questions.

Are the methodologies academically rigorous and unbiased?

Experts must demonstrate that the appropriate questions are asked clearly, that respondents understand the survey questions as intended, and that respondents can complete the survey without fatigue.

An appropriate and admissible survey should be grounded in academically rigorous and unbiased methodologies. Once the key questions are identified, the survey expert should consider the most appropriate approach. For example, to assess the impact of particular product logos or claims in advertising in a trademark or consumer confusion matter, a test and control experimental design is often the best choice, as it can isolate whether there is a causal link between the logos or claims and consumer behavior. Such a method can be used to isolate a causal influence on consumer perceptions and preferences of an element of a product, advertisement, or other marketing material.

If the task is to evaluate the relative importance or value of various attributes to consumer choice in, for example, a patent infringement case, a *conjoint study* – a market research technique used to determine how people value the features that make up a product or service – or other choice-based method may be helpful.

Is the implementation appropriate and unbiased?

A survey will have greater probative value if the expert can document and support the choice of sample, question, and method, while minimizing the possibility or appearance of biases.

Survey evidence, like most expert-presented evidence, is generally sponsored by a party in litigation. To avoid biases, the right people must be asked the right survey questions in the right way. This encompasses multiple design choices and requires the expert to demonstrate that the survey does not drive results in a particular direction.

A Closer Look at the Use of Consumer Surveys in Litigation (continued from page 8)

Critically, the expert must define, target, and sample from the segment of the population whose beliefs are relevant to the issues in the case. Even if every other step was taken appropriately, if the wrong people are surveyed, the results are likely to be irrelevant and the data may be excluded by the court.

Recent court opinions also indicate that transparency regarding the design process can be critical to admissibility. To demonstrate the relevance of particular design decisions, for example, the survey may be pretested before a full launch to increase the likelihood that questions are clear and to minimize the possibility of unintended implications, such as a respondent's ability to guess the sponsor or purpose of a study. Further, it may be helpful to demonstrate that potential biases have been minimized by conducting surveys and experiments in a manner that is "double-blind," thus eliminating the chance that the interviewer could influence the results. The survey expert's decision to use open-ended or closed-ended questions can also have implications in terms of relevance, analysis, and perceived bias.

Are the survey results cross-validated?

If survey results are confirmed with other data, the convergent results may help to strengthen the survey's evidentiary weight and support distinctions between the survey and the marketplace.

To demonstrate that the results of a survey are consistent with other data or economic theory, survey experts and their teams can also provide complementary evidence. For example, surveys and market research conducted in the normal course of business by the parties in suit or by third parties may support (or refute) the findings of a survey conducted in a litigation context. Similarly, data analyses may provide results consistent with those found in a survey. For example, if a conjoint design is used to evaluate several product features, and the market price for one or more of the tested features can be determined from transaction data, comparisons can be drawn to confirm or scale survey results to match with historic pricing.

Fact witnesses, deposition testimony, and the evidentiary record – as well as economic theory – can also corroborate survey results. For example, communication between customers and manufacturers, or third-party product reviews, may indicate that particular features are of importance in a purchase decision. But if these features appear irrelevant in the survey, one might conclude that the survey design was flawed.

Surveys have been shown in some circumstances to be a useful method for the gathering of evidence, and can be particularly valuable when other sources of data are not available. Nonetheless, courts have been and may remain skeptical of surveys – and methodological flaws can hurt both admissibility and weight of impact. Recent decisions relating to "gatekeeping" and survey evidence, along with other high-profile litigation outcomes, highlight the necessity for adherence to best practices at every step. ■

Survey of Consumer Preferences in AT&T's Acquisition of DIRECTV

Analysis Group and affiliate **Ravi Dhar** of the Yale School of Management assisted AT&T in its acquisition of DIRECTV. Professor Dhar, supported by a team led by Managing Principals **T. Christopher Borek** and **Rebecca Kirk Fair** and Vice President **Kristina Shampanier**, developed, conducted, and analyzed a survey study examining consumer attitudes toward bundled Internet and television services. AT&T and DIRECTV cited the outcome of the study in their applications to the Federal Communications Commission (FCC), pointing to the benefit to consumers from bundled services. The FCC and U.S. Department of Justice approved the acquisition.

ADAPTED FROM "3 QUESTIONS TO ASK WHEN USING SURVEYS IN LITIGATION," PUBLISHED IN *LAW360*, MAY 15, 2015

The Reality of U.S. Pharmaceutical Spending

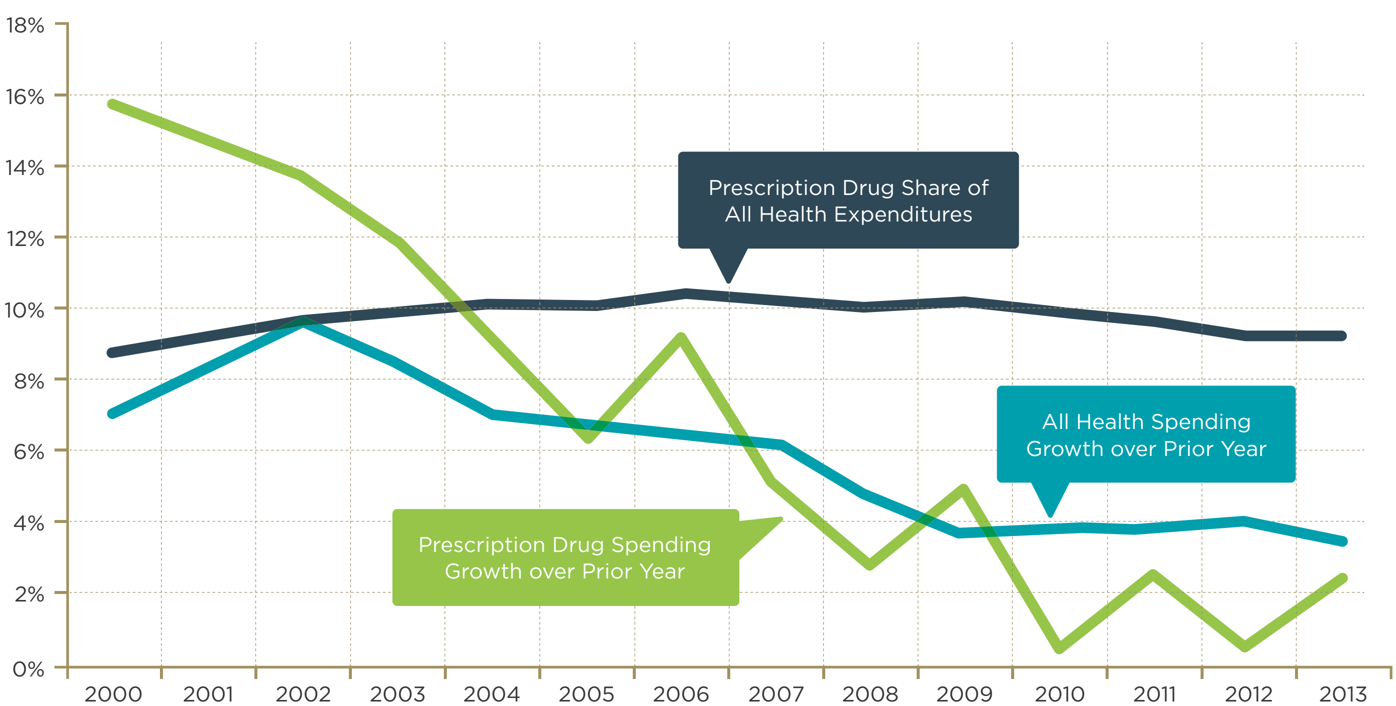
By all accounts, pharmaceutical spending in the United States is skyrocketing. The "rising cost of prescription drugs" is a major concern for Americans. Public opinion polls consistently indicate that a majority of people believe that drug costs are "unreasonable" and largely attributable to pharmaceutical companies' quest for profits. However, a look at the underlying data reveals that there is a gap between perception and reality.

Annual growth in spending on prescription pharmaceuticals has slowed considerably, from a high of approximately 16% in 2000 to 3% in 2013

Annual growth in health spending overall (4%) exceeds that of prescription drugs (3%)

The percentage of health expenditures represented by prescription pharmaceuticals has hovered at 10%

Recent Trends in U.S. Pharmaceutical Spending



RESEARCH CONDUCTED BY MANAGING PRINCIPAL **PAUL GREENBERG** AND VICE PRESIDENT **TAMAR SISITSKY**
SOURCE: DEPARTMENT OF HEALTH AND HUMAN SERVICES, CENTERS FOR MEDICARE & MEDICAID SERVICES

Assessing the EPA's Clean Power Plan

On August 3, 2015, the U.S. Environmental Protection Agency (EPA) released the final version of its Clean Power Plan rule, which sets national standards to limit carbon pollution from power plants by reducing CO2 emissions by 32 percent from 2005 levels by 2030.

A team from Analysis Group – including Senior Advisor **Susan Tierney**, Vice Presidents **Paul Hibbard** and **Andrea Okie**, Managers **Craig Aubuchon** and **Pavel Darling**, and Associate **Katie Franklin** – has conducted extensive research on the EPA rule and the implications for states arising from implementation strategies and market design considerations. As part of this work, the team issued a series of reports on the Clean Power Plan and its economic and reliability impacts on states, independent system operators (ISOs), and other key stakeholders.

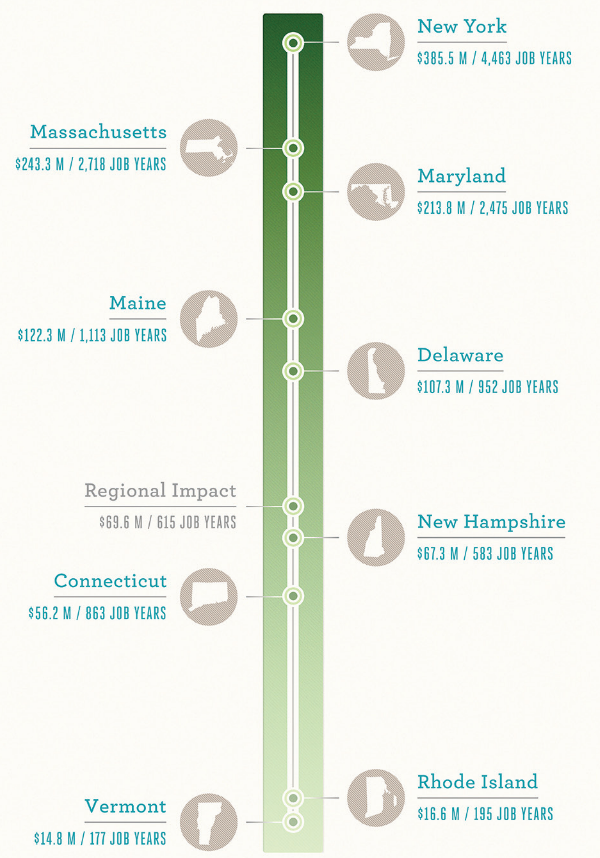
Ultimately, the team found that the design and implementation of the Clean Power Plan will not jeopardize or compromise the electric system's reliability, and that several states and ISOs – including the mid-Atlantic PJM Interconnection region and the Midwestern MISO region – are already taking reasonable and appropriate steps to comply.

One organization of states that is regulating carbon emissions from power plants through market-based mechanisms is the Regional Greenhouse Gas Initiative (RGGI). According to research conducted by Analysis Group, the nine states in the northeastern United States participating in RGGI have found that carbon emission regulations can generate economic benefits. Specifically, implementing RGGI from 2012 to 2014 added $1.3 billion in economic value to the region; led to the creation of more than 14,000 new jobs; and cut electricity and heating bills, saving consumers $460 million.

Findings from the report – the second in a series of RGGI research dating back to 2009 – provide valuable lessons for states across the country now evaluating their options under the Clean Power Plan. ■

Added Impact for RGGI States (2012 to 2014)

Value Added ($2015 millions) / Employment (cumulative job years)



Summary of direct, indirect, and induced impacts discounting dollars using a social discount rate. Value Added reflects the actual economic value added to the state and regional economies and therefore does not include the costs of goods purchased from or manufactured outside of the state or region. Employment represents cumulative job years over the 2012–2025 period as output from IMPLAN. Regional Impact reflects the indirect and induced impacts within the RGGI region as a result of state dollar impacts.

Wolf Pack Activism: A Quick Look

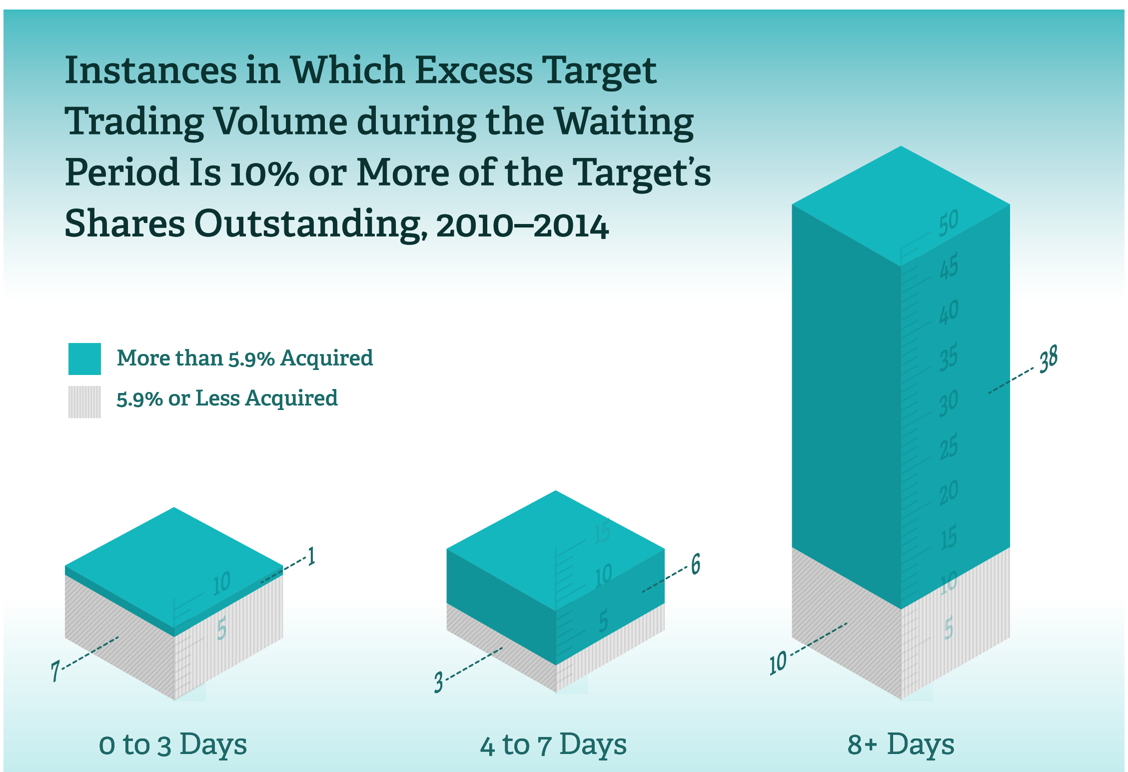
In recent years, the influence of activist investors has been on the rise, and as successful proxy fights launched by activist hedge funds have become increasingly commonplace, activists have begun to set their sights on larger companies.

GAURAV JETLEY IS A MANAGING PRINCIPAL IN THE NEW YORK OFFICE

XINYU JI IS A VICE PRESIDENT IN THE BOSTON OFFICE

In each of the past five years, there were more than 100 instances of activist hedge funds acquiring more than a 5 percent shareholding interest in a target company. A review of the U.S. Securities and Exchange Commission (SEC) filings related to these acquisitions sheds some light on the types of strategies employed by these activist investors.

When an investor, including a hedge fund, acquires more than a 5 percent shareholding interest in any class of securities of a publicly traded company, a countdown begins: within 10 days, the investor must file Form 13D with the SEC, according to Section 13(d) of the Securities Exchange Act of 1934. Except for a small dip in 2012, the duration of the waiting period used by activist investors to file the 13D after crossing the 5 percent threshold has remained relatively stable at around 10 days. From 2010 to 2014, the median stake disclosed by activist investors in a 13D filing was 5.9 percent. Although some hedge funds use the waiting period to make additional acquisitions, others do not but still wait eight days or more prior to the 13D filing.



Instances in Which Excess Target Trading Volume during the Waiting Period Is 10% or More of the Target's Shares Outstanding, 2010–2014

Wolf Pack Activism: A Quick Look (continued from page 12)

Recently, the media and other observers have questioned this "waiting period" for disclosure, pointing to the general increase in hedge fund activism and to "groups" of activist funds under Section 13(d) of the Exchange Act. At times, activists or other hedge funds, which are not part of a group under Section 13(d), also focus on a common target; these activists have come to be termed "wolf packs." Does this "waiting period" encourage "wolf pack" behavior or merely allow the activist to accumulate a larger holding before disclosure?

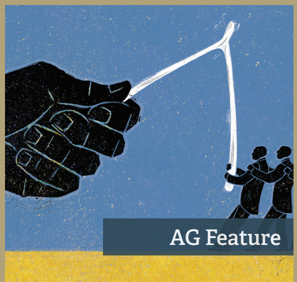
On average, the trading volume of stocks targeted by activists during the waiting period for disclosure is about one-and-a-half times higher than average. This jump in trading volume may signal the presence of wolf packs or may merely be driven by purchases made by an activist that ultimately makes the 13D disclosure, rather than by a wolf pack.

To better understand these trading behaviors and activist strategies, it is possible to parse how investors leverage the waiting period to acquire an activist position at times of abnormally high trading volume. A review of filings involving instances of high trading volume during the waiting period (10 percent or more of outstanding shares of a targeted firm) shows that investors who had crossed the 5 percent threshold were much more likely to delay filing until after 8 or more days. In these instances of abnormally high trading volume during the waiting period, just one activist reported a holding of more than 5.9 percent (the median stake acquired) in the first 3 days, compared with 38 activists that acquired more than 5.9 percent after at least 8 days. This is consistent with the notion that activists who accumulate larger positions delay their filing. Just as importantly, however, some activist investors who acquired less than 5.9 percent of the target's shares during these high-volume trading instances of the waiting period also chose to wait 8 days or longer to file a 13D. This pattern seems consistent with the notion that certain activists delay filing a 13D in order to enable members of a wolf pack to accumulate large positions. ■

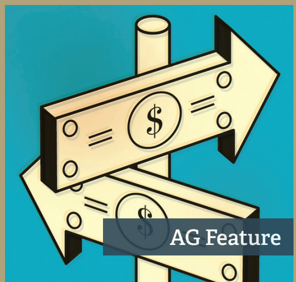
READ THE FULL FEATURE AT ANALYSISGROUP.COM/WOLFPACK

On the Web: Insights on Investor Activism

Analysis Group affiliates answer questions about recent research and trends related to activism. Read more at analysisgroup.com.



University of Texas at Austin Professor **Laura Starks** discusses recent academic perspectives on investor activism. She explores several topics, including the evolution of investor activism, the impact of activism on shareholder value, the increased role of proxy advisory services, and the influence of public opinion on investor voting behavior.



Leveraged transaction expert **Robert Grien** discusses how a common component of change-of-control provisions – so-called "proxy puts," in which material changes to a borrower's board of directors trigger an acceleration of the loan repayment before it is due – has been subject to a significant amount of attention.

Assessing Commercial Success at the U.S. Patent Trial and Appeal Board

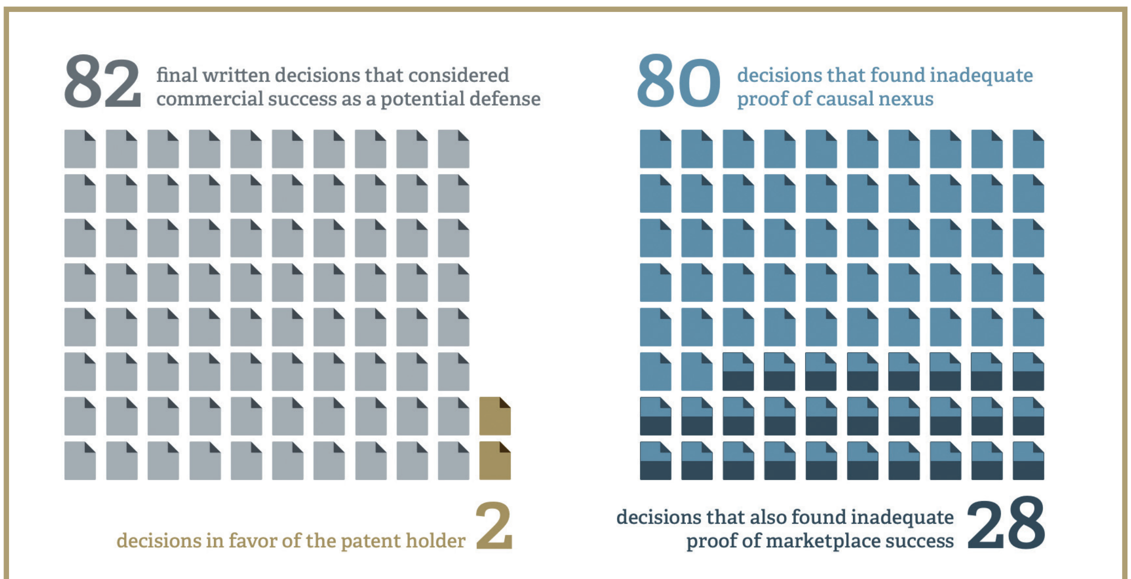
In recent years, the U.S. patent enforcement system has undergone significant change. In September 2012, the Leahy-Smith America Invents Act (AIA) created the U.S. Patent Trial and Appeal Board (PTAB) to facilitate new processes for post-grant and *inter partes* patent reviews.

JOHN JAROSZ IS A MANAGING PRINCIPAL IN THE WASHINGTON, D.C., OFFICE

ROBERT VIGIL IS A PRINCIPAL IN THE WASHINGTON, D.C., OFFICE

Since then, U.S. patents have been challenged increasingly, and effectively, on validity grounds at the PTAB. From September 16, 2012, through June 30, 2015, there were more than 3,000 *inter partes* review (IPR) petitions filed by petitioners. Filings per month have increased from an average of 28 petitions in 2012 to 58 in 2013 to 125 in 2014 to 144 so far in 2015. Many patent owners have raised a "commercial success" defense in response to such validity challenges. They have argued that the success of products embodying the challenged patent proves that the patented invention must not have been obvious. Had the invention been obvious, the argument goes, the products embodying the patented invention would not have enjoyed the marketplace success that they, in fact, did. If the invention were obvious, someone else would have introduced a product incorporating the patented features earlier.

Yet, patent owners rarely have been successful at the PTAB in invoking this defense. In 82 final written decisions in IPR proceedings (through June 2015) that considered commercial success as a potential defense to patentability, the patent owner prevailed only twice. The reasons behind patent owners' lack of success and the types of economic evidence that appear to be required for a showing of commercial success may be seen in the PTAB decisions themselves, as well as in decades of litigation in U.S. federal district courts.



Assessing Commercial Success at the U.S. Patent Trial and Appeal Board (continued from page 14)

An assessment of commercial success entails a two-part analysis. First, there must be proof that the products that embody the invention have been successful in the marketplace. That is, there must be proof of marketplace success. Although neither the law nor economics provides a clear and clean definition of "success," the PTAB and district courts appear to require that the success of the practicing products be evaluated in both absolute and relative terms. Often, the latter is accomplished by assessing the "market share" captured by the patented products and evaluating the significance of that "share" based on factors such as the number of competing products and the timing of entry into the business. The definition of competing products is usually critical in such an inquiry.

The second step in evaluating commercial success is to assess whether there is a causal nexus between the marketplace success of the products embodying the patent and the advantages of the claimed invention. As in the case of "success," here too, neither the law nor economics provides a clear and clean definition of "causal nexus." A causal nexus inquiry typically requires an identification of the specific features/advantages enabled by the invention, as well as an assessment of the relative importance to the marketplace of the patent's features/advantages. Perhaps setting the bar higher than it has been set in federal court, the PTAB often has found it necessary for the patent owner to show that the product's success is not largely owing to other features and capabilities of the product, as well as non-product characteristics of the manufacturer.

Patent owners' failure in more than 95 percent of the written decisions that consider commercial success has been due sometimes to inadequate proof of marketplace success (which was explicit in 28 of the decisions) and often to inadequate proof of causal nexus (explicitly cited in 80 of the decisions). In short, products that practice the patent must be shown to be marketplace successes in both absolute and relative terms. And the success must be shown to be caused, in large part, by the tangible features/advantages taught by the patent. Presumptions of success or causality will not rule the day. Economic evidence must be considered carefully and presented thoughtfully. ■

ADAPTED FROM "ASSESSING COMMERCIAL SUCCESS AT THE U.S. PATENT TRIAL AND APPEAL BOARD," PUBLISHED IN *INTERNATIONAL IN-HOUSE COUNSEL JOURNAL*, VOL. 8, NO. 32, 2015

ImmunoGen Patent Upheld in Victory at the PTAB

The Patent Trial and Appeal Board (PTAB) recently ruled in favor of ImmunoGen, Inc., denying Phigenix, Inc.'s petition that the claims of an ImmunoGen patent covering its breast cancer treatment, Kadcyla, were unpatentable. An Analysis Group team, led by Managing Principal **John Jarosz** and Vice President **Daria Killebrew**, was retained by counsel on behalf of ImmunoGen to conduct an assessment of the commercial success of Kadcyla. Kadcyla is an anti-cancer therapy composed of an antibody and toxin that Phigenix contended would have been obvious over prior art references. Since the creation of the PTAB in 2012, which established new processes for post-grant and *inter partes* patent reviews, many U.S. patents have been invalidated. Patent owners have had particular difficulty demonstrating commercial success, which requires an assessment of the marketplace success of the patent-practicing product and a showing of a sufficient causal nexus between marketplace success of the patented product and the claimed advantages of the patent. In its decision, the PTAB cited Mr. Jarosz's expert testimony and analysis, which drew on revenue and prescription data, as well as marketing and promotional efforts, to provide evidence of the commercial success of Kadcyla.

Recent Litigation

In 2015, Analysis Group worked with top law firms, Fortune 500 companies, global health care corporations, and government agencies in complex matters across industries.

DISH Network Wins Multiple Victories in High-Profile Copyright Infringement Matter

After more than two years of legal battles, a California federal judge found that Analysis Group client DISH Network's innovative Hopper set-top box and DVR does not infringe the copyrights of Fox Broadcasting Company's television programming. In her ruling on motions for summary judgment made by both parties, District Court Judge Dolly M. Gee cited the findings of Analysis Group affiliate **John Hauser** of MIT Sloan School of Management to conclude that the use of the Hopper's "PrimeTime Anytime" (PTAT) and "AutoHop" features were "fair use" under U.S. copyright law. With the PrimeTime Anytime feature, users have the ability to easily record the primetime shows on up to each of the four broadcast networks (ABC, CBS, NBC, and Fox) and save them for up to eight days. The AutoHop feature can be enabled by users to play back certain PrimeTime Anytime recordings commercial-free.

An Analysis Group team led by Managing Principal **Rebecca Kirk Fair** and Vice Presidents **Rene Befurt**, **Stephen Fink**, **Greg Rafert**, and **Aaron Yeater** supported Professor Hauser and counsel for DISH, analyzing viewer behavior from various perspectives and using a wide variety of industry and survey data. Professor Hauser also rebutted opinions and surveys offered by Fox's experts. Although Judge Gee ruled for Fox on certain contract claims, the scope of liability and damages was significantly reduced by the judge's rulings.

Morgan Stanley Cleared in Insider Trading Dispute

A New York federal jury found Analysis Group client Morgan Stanley not liable for insider trading in the stock of an auto parts maker during the 2008 financial crisis, rejecting claims filed by plaintiff Veleron Holding BV. In this dispute, Veleron – a Dutch company created to invest in auto parts maker Magna International Inc. – accused Morgan Stanley of short-selling shares of Magna during the financial crisis based on inside information obtained from Veleron's lender, BNP Paribas SA. At issue was Veleron's $1.5 billion investment in Magna. The investment was financed largely by BNP, which entered into a credit-default swap arrangement with Morgan Stanley at the time to hedge its exposure to the loan. In September 2008, Morgan Stanley began short-selling Magna shares after learning from BNP that Veleron was unlikely to meet a margin call on the loan and could be forced to liquidate its Magna stock.

An Analysis Group team – including Managing Principal **Andrew Wong** and Vice Presidents **Michael Cliff**, **Ted Davis**, and **Samuel Weglein** – was retained by Weil, Gotshal & Manges LLP, counsel for Morgan Stanley, to support affiliate **Charles Jones** of Columbia Business School in this matter. Professor Jones testified at trial about risk management and hedging practices, and also reviewed and refuted the plaintiff's expert's report, finding that there was no evidence shown to conclude that Morgan Stanley's alleged actions had impacted Magna stock prices. The jury found that Morgan Stanley had traded Magna shares legally and without fraudulent intent.

Partners HealthCare System's Proposed Acquisition Settlement Rejected by Massachusetts Superior Court

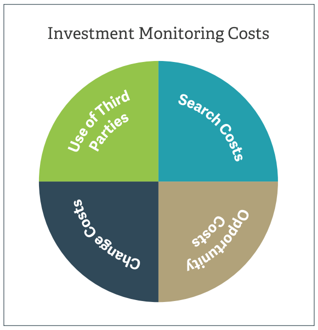
A Suffolk County Superior Court judge rejected a proposed settlement that would have allowed Partners HealthCare System to acquire three community hospitals north and south of Boston, Massachusetts. The proposed deal – which had been negotiated between Partners and the Massachusetts Attorney General's Office as a result of its investigation into the acquisitions – would have allowed Partners to acquire South Shore Hospital, Harbor Medical Associates, and Hallmark Health Corporation in return for agreeing to a handful of conduct stipulations for a period of time, including a prohibition on joint contracting, price caps, and temporary limits on future expansion. Superior Court Judge Janet L. Sanders – who described the written comments from the Massachusetts Health Policy Commission (HPC) as "invaluable" in reaching her opinion – found that the settlement did not sufficiently address the competitive concerns associated with the acquisitions.

Managing Principal **Tasneem Chipty** serves as an expert advisor to the HPC. The HPC was established in 2012 to develop health policy to reduce the overall increase in costs and improve the quality of care, while monitoring the health care delivery and payment systems in Massachusetts. Dr. Chipty and an Analysis Group team that included Vice President **Greg Rafert**, Manager **Daniel Andersen**, and Associate **Ben Landsberg** participated in the HPC's cost and market impact reviews (CMIRs) of Partners's proposed acquisitions and assessed their anticipated competitive effects. Based on this analysis, Dr. Chipty concluded that Partners's proposed acquisitions would likely eliminate the head-to-head competition that currently exists between Partners and each of the three community hospitals, and that there is no support for Partners's claimed efficiencies from redirection of care to local area hospitals.

Jury Finds That Google Did Not Infringe Digital Rights Management Patents

A federal jury in the U.S. District Court for the Eastern District of Texas found in favor of Analysis Group client Google Inc. and codefendant Samsung Electronics Co. Ltd. in a patent infringement suit brought by privacy technology company ContentGuard Holdings Inc. In this case, ContentGuard alleged that Google Play Books, Google Play Music, and Google Play Movies infringed its patents and sought more than $500 million in damages for the alleged infringement. After a two-week trial, the jury found that Google and Samsung did not infringe the patents in question.

An Analysis Group team – including Managing Principal **T. Christopher Borek**; Principal **Robert Vigil**; Vice Presidents **John Browning**, **Lisa Pinheiro**, and **Jimmy Royer**; and Manager **Anjali Oza** – was retained by counsel for Google to support Professor **David Reibstein** of the Wharton School at the University of Pennsylvania. Professor Reibstein, an Analysis Group academic affiliate, testified at trial, reviewing and assessing the conjoint and usage surveys provided by ContentGuard's opposing expert.



On the Web: Fiduciary Monitoring Post-"Tibble"

The 2015 Supreme Court decision in *Tibble v. Edison International,* which states that plan fiduciaries have a responsibility to monitor investments and remove imprudent ones, highlights the importance of appropriate plan fiduciary monitoring. In their article, "Expert Analysis: Using Simulation to Assist Courts in Assessing the Prudence of Retirement Plan Investment Decisions" (Bloomberg BNA's *Pension & Benefits Daily*), Managing Principal **D. Lee Heavner** and affiliate **Susan Mangiero** describe approaches that experts use to evaluate issues related to the procedural and substantive prudence of the selection of a retirement plan investment. Read more at analysisgroup.com/tibble.

International Experience

Analysis Group has worked on behalf of government and private organizations in diverse matters involving regulatory authorities, government agencies, and international arbitration entities on every continent. A few recent matters include:

Investment Claims against Greek Government Dismissed

In an arbitration at the International Centre for Settlement of Investment Disputes (ICSID) by the Slovak bank Postova Banka and its former Cypriot shareholder, Istrokapital, Greece secured the dismissal of all claims. The claimants sought payment of more than €500 million based on their interests in Greek bonds (the "GGBs") that were restructured in Greece's 2012 sovereign debt exchange following multinational negotiations to reconcile Greece's sovereign debt crisis. An ICSID tribunal found that it did not have jurisdiction, because the GGBs were not protected investments under the bilateral treaty between Slovakia and Greece.

Managing Principal **Gaurav Jetley**, Principal **Elizabeth Eccher**, and Vice President **Lindsay Greenbaum** supported two academic affiliates who testified on behalf of the Hellenic Republic: Professor **R. Glenn Hubbard** of Columbia Business School testified on issues related to the primary and secondary markets for GGBs, the evolution of GGB risk characteristics, and regulatory arbitrage; Professor **Ray Ball** of the University of Chicago Booth School of Business testified on Postova Banka's accounting treatment of the GGBs.

Canadian Telecom Regulator Mandates Wholesale Fibre Broadband Access

Following a public hearing and regulatory review, the Canadian Radio-television and Telecommunications Commission (CRTC) issued a decision to continue to mandate wholesale high-speed access services to encourage competition in the Canadian broadband Internet market. Incumbent telecom and cable providers will be required to share their network with competitors that provide Internet, television, and telephone services in the retail market.

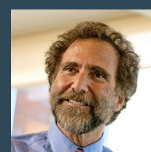
The Canadian Network Operators Consortium (CNOC), an association of independent telecommunications service providers and an intervenor in the proceeding, retained Analysis Group to assess the Canadian wholesale telecommunications services market. Analysis Group Vice President **Marissa Ginn** and Senior Economist **Markus von Wartburg** filed a report and testified at the CRTC hearing that a strengthened regulatory wholesale regime with mandated access to next-generation fibre-to-the-premises (FTTP) networks could encourage competition in the broadband market, offering consumers more choice and competitive broadband prices.

Spotlight on Featured Affiliated Experts

Ray Ball *p. 18*
The University of Chicago Booth School of Business

Charles Jones p. 16
Columbia Business School

Ravi Dhar *p. 9*
Yale School of Management; Yale University



David J. Reibstein *p. 17*
The Wharton School, University of Pennsylvania

Robert Grien *p. 13*
TM Capital

Edward A. Snyder *p. 4*
Yale School of Management

John R. Hauser *p. 16*
MIT Sloan School of Management

Laura T. Starks *p. 13*
McCombs School of Business, University of Texas at Austin

R. Glenn Hubbard *p. 18*
Columbia Business School

For a list of our academic affiliates and experts, visit our website.

The opinions expressed by Analysis Group affiliates do not necessarily reflect the views of the firm.

Antitrust Experts File Amici Curiae Briefs

In August 2015, a group of prominent economists that included senior staff members **Bruce Stangle**, **Paul Greenberg**, **Pierre Cremieux**, and **George Kosicki** and academic economists **James Hughes**, **Keith Hylton**, **Edward Snyder**, and **Michael Wohlgenant** filed an amicus curiae brief regarding issues in the antitrust treatment of pharmaceutical patent infringement settlements.

In January 2015, senior firm members **Bruce Stangle** and **Paul Greenberg** and academic economists **Henry Grabowski**, **James Hughes**, **John Rizzo**, **Edward Snyder**, and **Michael Wohlgenant** filed an amicus curiae brief regarding a pharmaceutical manufacturer's freedom to withdraw a branded product from the market prior to generic entry. ■

ANALYSIS GROUP
111 Huntington Avenue
Boston, MA 02199

PRSRT STD
U.S. Postage
PAID
Natick, MA
Permit No. 19

Analysis Group

FORUM

2015 Year in Review

Litigation Featured in This Issue

ABOUT ANALYSIS GROUP

Since 1981, Analysis Group has provided expertise in economics, finance, health care analytics, and strategy to top law firms, Fortune 500 companies, global health care corporations, and government agencies. Our work is grounded in a collaborative approach that allows us to integrate the best ideas of leading academic and industry experts and our more than 600 professionals. As a result, our clients receive thoughtful, pragmatic solutions to their most challenging business and litigation problems. Through our work in thousands of cases across multiple industries we have become one of the largest economic consulting firms in North America, with 11 offices in the United States, Canada, and China.

617 425 8000 · www.analysisgroup.com

Analysis Group
ECONOMIC, FINANCIAL and STRATEGY CONSULTANTS