

The economics of conflicts of interest in financial institutions[☆]

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Abstract

A conflict of interest exists when a party to a transaction can gain by taking actions that are detrimental to its counterparty. This paper examines the growing empirical literature on the economics of conflicts of interest in financial institutions. Economic analysis shows that, although conflicts of interest are omnipresent when contracting is costly and parties are imperfectly informed, there are important factors that mitigate their impact and, strikingly, it is possible for customers of financial institutions to benefit from the existence of such conflicts. The empirical literature reaches conclusions that differ across types of conflicts of interest but are overall more ambivalent and certainly more benign than the conclusions drawn by journalists and politicians from mostly anecdotal evidence.

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1. Introduction

In recent years, much attention has been focused on conflicts of interest in the financial industry. A Google search in July 2006 for “conflict of interest” produced more than one hundred and fifty million hits. After the dot-com crash, the front pages of major newspapers and lead stories in the evening news discussed conflicts of interest. Politicians held hearings and made speeches. Lawsuits were filed by the bushel. Laws and regulations were changed. Books were written. The *Financial Times* summarized public sentiment with the headline “Shoot all the analysts.”¹ No event symbolizes this attention better than the Global Settlement reached on April 28, 2003 between the Securities and Exchange Commission (SEC), the National Association of Security Dealers (NASD), the New York State Attorney General, the New York Stock Exchange (NYSE), and state regulatory agencies on the one hand, and ten of the most prominent financial institutions on the other hand.² The Global Settlement imposed penalties of more than \$1.4 billion on these institutions and required them to agree to practices presumed to limit the impact of conflicts of interest on securities research.

For economists, the recent attention paid to conflicts of interest in the financial industry raises many questions. Do the mechanisms that control conflicts of interest in market economies fail to do so in financial institutions? If these mechanisms fail, does it mean that the conflicts affect the prices at which securities trade? The efficiency of capital markets? The welfare of customers of financial institutions? Were conflicts worse at the turn of the century than at other times? If so, why? Does diversification of activities within financial institutions make conflicts of interest worse or better? Have legal and regulatory attempts to affect the impact of conflicts of interest made the customers of financial institutions better or worse off? Do these efforts have unintended consequences that make US capital markets less efficient and less competitive?

In this paper, we define a conflict of interest as a situation in which a party to a transaction can potentially gain by taking actions that adversely affect its counterparty. For example, in the context of sell-side analysts, a conflict of interest could arise if a financial institution were to obtain a direct advantage, such as additional underwriting fees, by offering biased research about a firm to customers of its analyst services.³ Some authors use a much narrower definition of conflicts of interest. In particular, some define conflicts of interest as situations in which a party with a fiduciary duty takes actions that are inconsistent with that fiduciary duty.⁴ Such a definition is not useful for economic analysis because it presumes that the existence of incentives to take actions that are inconsistent with a fiduciary duty automatically leads the fiduciary to take such actions. This is clearly not the case. Another definition assumes that conflicts of interest arise if one

¹Cited in Boni and Womack (2002).

²Two additional institutions joined the agreement in 2004.

³Sell-side analysts are analysts who typically work for brokerage firms. Buy-side analysts work for institutional investors. In this paper, we focus almost exclusively on sell-side analysts. Consequently, we do not make a distinction between the two types of analysts in the rest of the paper and use the term analyst to designate a sell-side analyst.

⁴West's *Encyclopedia of American Law* defines conflicts of interest as “A term used to describe the situation in which a public official or fiduciary who, contrary to the obligation and absolute duty to act for the benefit of the public or a designated individual, exploits the relationship for personal benefit, typically pecuniary.”

party is somehow in a position of trust.⁵ This definition again seems too limiting. If one party provides a service to another, can it be definitively established that the provider is in a position of trust?

The existence of a conflict of interest within a financial institution does not mean that, in equilibrium, the customers of that institution will be harmed. In the case of analysts, the existence of conflicts of interest could lead institutions to provide better forecasts so that customers benefit. Perhaps more important, a variety of mechanisms help control conflicts of interest and their impact. For instance, a financial institution's concerns about its reputation might lead it to control conflicts of interest so that they have no material impact on its customers. Alternatively, a financial institution's customers can rationally take into account how these conflicts affect the financial institution's actions. In general, even though a party can gain from actions that adversely affect its counterparty, it might refrain from taking such actions because of their indirect costs—or because the counterparty might anticipate and adjust for such actions. Consequently, the nature of the impact of conflicts of interest on the customers of financial institutions is an empirical issue.

Information plays a critical role in transactions involving financial institutions. In many transactions, financial institutions are better informed than their customers. Such information asymmetries are a fertile ground for conflicts of interest. Whenever two parties transact, each party wants to maximize its gain from the transaction. Each party takes into account the incentives of the other party and is aware that the other party also enters the transaction to profit from it. When both parties have full information about the attributes of the transaction, when that information is fully verifiable, and when contracting is costless, neither party has incentives to take actions that adversely affect the other party because the buyer receives exactly what it pays for. For instance, if one party buys a gold bar from another party, it is easy to verify that the buyer is receiving gold. There is a liquid market for gold that facilitates agreement between the parties on a price. Once the gold is acquired, its value does not depend on actions of the seller.

In the absence of full information, verifiability, and costless contracting, conflicts of interest are omnipresent in economic transactions because the buyer might not be able to observe or verify the quality of the good purchased, and the seller can affect the quality of the good in ways that are not observable by the buyer, who might not be able to prove that the seller did so. However, as long as the parties to a transaction form their expectations rationally, there is no reason for the buyer to be victimized by the fact that the seller's objective is to benefit as much as possible from the transaction. The buyer will only enter into the transaction at a price that is advantageous enough to cover the costs associated with conflicts of interest. The seller thus bears the costs of conflicts of interest and has incentives *ex ante* to reduce their impact on the buyer as long as it is cost-effective to do so.

In this paper, we assess the economic implications of conflicts of interests within financial institutions, review the existing literature, and explain how the papers collected in this special issue of the *Journal of Financial Economics* improve our understanding of these topics. The papers in this issue are some of the papers presented at a conference in December 2004 that was jointly organized by the Dice Center for Research in Financial Economics at The Ohio State University, the Federal Reserve Bank of New York, and the *Journal of Financial Economics*. There is a growing literature on conflicts of interest—on

⁵The on-line version of the Merriam–Webster dictionary has the following definition: “a conflict between the private interests and the official responsibilities of a person in a position of trust.”

the Social Sciences Research Network (SSRN), 397 papers had “conflicts of interest” in either the title or the abstract as of July 2006. Our review is selective and should be viewed as such. It pays a lot more attention to the analyst conflicts of interest than to other conflicts because analyst conflicts have attracted the most attention from the public, regulators, and academic researchers.⁶

The paper is organized as follows. In the next section, we provide examples of the forms conflicts take in financial institutions. We then turn in Section 3 to the issue of why these conflicts exist. In Section 4, we discuss the mechanisms that moderate and control the impact of these conflicts. Section 5 reviews the evidence on whether these conflicts adversely affect customers of financial institutions. In Section 6, we evaluate how recent changes in laws and regulations addressing these conflicts affect the welfare of customers of financial institutions and the efficiency of capital markets. We conclude in Section 7.

2. What forms do conflicts of interest take in financial institutions?

As emphasized by Bolton, Freixas, and Shapiro (this issue), financial institutions have better information about the suitability of particular financial products for their customers than the customers have. Conflicts of interest naturally follow from the customers’ difficulties in ascertaining the quality of the advice given to them. Bolton, Freixas, and Shapiro analyze the situation in which the customer cannot assess the accuracy of the advice received from a financial institution about whether a particular financial product is the most suitable. In such a situation, conflicts of interest could taint the advice. For instance, if the financial institution does not sell the appropriate product, it might recommend a product that imperfectly suits the needs of the customer rather than risk losing the business by suggesting that the customer go elsewhere.

Analyst forecasts and recommendations do not completely fit into that framework. Historically, the main consumers of analyst reports have been institutional investors, who can assess the quality of an analyst report and can even produce the information they obtain from sell-side analysts if they have to. They rely on sell-side analysts to provide different perspectives, and they do not pay for sell-side research directly. Since the 1990s, however, some analyst output has become increasingly available to retail investors. With retail investors, information asymmetries are magnified—the typical retail investor could not produce an analyst report. This problem is aggravated by the fact that media outlets typically focus on selected information from reports while ignoring the caveats. For instance, websites such as Yahoo! Finance freely make available stock recommendations from a large number of analysts. And while a report may contain important and detailed information about potential conflicts of interest, such information does not fit in a 30-second television analyst interview or a journalist’s summary.

Many observers have argued, at least before the recent reforms, that the advice of analysts was tainted when these analysts belonged to firms with investment banking operations, on the theory that by offering optimistic advice, analysts might have made it easier for investment bankers to develop and maintain profitable relationships with companies. Charles Gasparino sums up this argument in his *Blood on the Street*: “Ostensibly, the job of the analysts was to recommend what stocks investors should

⁶We focus on analysts only from the perspective of conflicts of interest. For a recent review of the analyst literature in general, see Ramnath, Rock, and Shane (2006).

purchase. But throughout the 1990s, they gave credibility to the overvalued markets to millions of new investors, who were largely unaware that the analysts had taken on a more conflicted role of recommending stocks and helping their firms win the lucrative investment banking deals from the same companies that helped pay their outsized salaries” (Gasparino, 2005, p. 8). Anecdotes that analysts issued buy recommendations on stocks that they sold from their personal trading accounts generated strong reactions in the press and from the investing public. Though sales from personal accounts can reflect legitimate portfolio rebalancing needs or liquidity adjustments, they can also be consistent with analysts disbelieving their own advice.

Another conflict of interest for analysts arises from brokerage activities. A brokerage house benefits from more trading. If investors follow the recommendations of analysts, upgrades are more likely to generate trading than downgrades (when short-sales are expensive) since the investors most likely to trade on a downgrade are those who already hold the stock. Consequently, brokerage activities could make it advantageous for brokerage firms to produce more optimistic forecasts and recommendations.

Brokers can also have conflicts of interest separate from analyst conflicts of interest if they are indirectly compensated for steering customers to particular products. In the practice known as directed brokerage, for instance, a mutual fund might direct trades to a broker in appreciation for the broker’s sale of fund shares (see Mahoney, 2004). The broker’s advice might be biased if the broker earns more by directing an investor to specific funds. Of course, the NASD has rules preventing brokers from taking into account commissions from portfolio transactions when making recommendations to investors.

Nor are conflicts of interest limited to advice given to investors. Conflicts involving investment managers and boards of mutual funds have been the subject of much attention as well. As explained by Khorana, Tufano, and Wedge (this issue), individual mutual funds are organized as separate corporate entities overseen by boards that have a fiduciary duty to the funds’ investors. The board of a mutual fund hires service providers, including most importantly the investment manager. The investment manager’s contract is renewed yearly. For instance, FMR Co., better known as Fidelity, is the investment manager for the Magellan Fund. The Magellan Fund is organized as a trust. One of its trustees is Edward Johnson, the chairman of FMR Co. Each trustee of Magellan is also a trustee of approximately 330 other funds managed by Fidelity. Khorana, Tufano, and Wedge point out that it is extremely unusual for the board of a mutual fund to fire the investment manager and install the investment manager from a different family of funds.

The relationship between the board members and the investment manager could therefore trump the board’s fiduciary duty to the fund’s investors, so that board members might be reluctant to take action against a poorly performing investment manager. Board members who work for the investment manager would seem especially conflicted. In some situations, the investment manager might even take actions that are detrimental to the funds’ shareholders but beneficial to the management company. For instance, Mahoney (2004) cites the case of Invesco funds in which the fund complex apparently agreed that some investors could enter market timing trades over the objections of individual fund portfolio managers who viewed these trades as detrimental to the performance of the funds. Another possibility is that the investment manager might vote fund shares in support of management-initiated proposals that adversely affect shareholder interests in order to curry favor with a management that purchases other profitable services from the investment manager, such as administration of 401(k) plans. The co-existence of asset

management activities and underwriting leads to a conflict of interest as well: an underwriter could use its managed funds as a dumping ground for newly issued securities that are hard to place.

Conflicts of interest also exist when commercial banks act as underwriters. A bank could benefit from helping a borrower to sell securities to repay its loans. Claims that conflicts of interest led bank underwriters to sell bonds to the public from companies that they knew to be weak led to the famous Pecora hearings and the Glass–Steagall Act of 1933. The Gramm–Leach–Bliley Act of 1999 essentially repealed the Glass–Steagall Act of 1933, so that banks can once again compete fully with investment banks for underwriting mandates and once again face underwriting conflicts of interest.

The Global Settlement attempted to restrict the practice of “spinning,” whereby institutions with investment banking activities give shares in an IPO to corporate executives whose firms were clients or might hire the underwriter later on. These shares typically gain in value on the first day and the beneficiaries of spinning can make a quick gain by selling them. More generally, large first-day gains make IPO allocations valuable and the underwriter could have incentives to use these allocations to its own benefit. The large first-day gains for IPOs raise the question of why underwriters do not increase the offering price to allow the issuing firm to receive larger proceeds from the IPO. The finance literature suggests, among other explanations, that large first-day gains can be advantageous to the issuing firm as a way to signal its quality so that it can later sell additional shares at a higher price (for a survey of the IPO literature, see [Ritter and Welch, 2002](#)). However, this issue is controversial. The traditional economic explanations for IPO underpricing seemed much more convincing before underpricing increased sharply as the NASDAQ index approached its peak. New explanations have emerged in response to these extremely large first-day returns, including behavioral explanations ([Loughran and Ritter, 2002](#)) and agency explanations (e.g., [Ljungqvist and Wilhelm, 2003](#)). Explanations that are based on market inefficiencies leave room for underwriters to have an impact on the abnormal returns of IPO firms.

Some argue that the high first-day returns of IPO stocks in the late 1990s and into 2000 were partly the result of underwriter conflicts of interest. Underwriters might have found it advantageous to generate excitement for new issues to increase subsequent equity issues and trading income, presumably at the expense of investors who bought the issues in the aftermarket (see, e.g., [Aggarwal, Purnanandam, and Wu, 2005](#)). But the question remains as to why underwriters find this advantageous or why they are only able to pursue this practice episodically. [Griffin, Harris, and Topaloglu \(this issue\)](#) examine proprietary data on first-day IPO trading over the period 1997–2002 and find that about one-fifth of the purchases but a much smaller fraction of the sales go through the lead underwriter on the day of the IPO, which they argue suggests that investors buy through the lead underwriter in exchange for or on the expectation of favorable future IPO allocations. On the other hand, one would expect that investors who do more business with the lead underwriter are more likely to buy on the day of the IPO since the lead underwriter’s organization is presumably touting the stock. The authors investigate and reject several other explanations for investors having to direct more trades towards the lead underwriter on the day of the IPO.

3. Why do financial institutions engage in activities that lead to conflicts of interest?

Conflicts of interest lead rational customers to discount the price they are willing to pay in transactions with financial institutions if they believe that they will be adversely affected

by these conflicts. Consequently, conflicts impose costs on financial institutions that fail to control them well. Financial institutions could eliminate many conflicts of interest by becoming specialized. For instance, a firm could eliminate conflicts of interest created by offering both investment banking activities and research by opting out of investment banking entirely. However, this is not the model that most financial institutions have pursued. In fact, specialized firms have typically tried to expand their scope of activities. To the extent that controlling conflicts of interest is expensive, financial institutions will rationally enter into activities that lead to such conflicts only if there are gains from doing so that cannot be captured by specialized financial institutions. In this section, we therefore consider whether there is evidence of benefits to financial institutions from undertaking activities that lead to conflicts of interest when the conflicts impose deadweight costs on financial institutions because customers rationally anticipate being taken advantage of.

If financial institutions were always run solely for the benefit of their shareholders, one would have to conclude that conflicts of interest persist in financial institutions because the benefits of conflicts outweigh their costs for shareholders. A complicating factor is that those who lead financial institutions have conflicts of interest also. They manage these institutions to make themselves better off. When corporate governance works well, executives have strong incentives to devote their efforts to increasing shareholder wealth. However, corporate governance does not always work well enough that one can rule out the possibility that managers will take actions for their own benefit at the expense of shareholders. For instance, managers might value investment banking operations despite the attendant conflicts of interest for reasons of prestige rather than to create wealth for shareholders.

To complicate matters further, financial institutions are regulated, making it harder for institutions to enter or exit various businesses—and the regulated nature of financial institutions can make size advantageous for shareholders even when it would not be advantageous for comparable unregulated institutions. For instance, large banks are arguably more likely than small banks to be rescued by the government if things go wrong, so that by increasing their size, banks acquire a valuable put option from the government.

The model of [Bolton, Freixas, and Shapiro \(this issue\)](#) predicts when conflicts of interest have less of an impact for an integrated financial institution than for a specialized financial institution. By offering many products, an integrated financial institution is more likely to offer the product that is relevant for a particular customer. Consequently, the conflict of interest resulting from the fact that the institution makes more money by recommending its own products becomes less relevant. Nevertheless, when not all products are equally profitable, the financial institution might prefer to recommend the more profitable products. Hence, integrated banking, by itself, can only resolve the conflicts of interest when profit margins are similar across products.

[Cabral and Santos \(2001\)](#) provide a different argument for why financial institutions benefit from offering multiple products. In their model, contracting between financial institutions and their customers is incomplete—the financial institution is better informed than its customers, which creates a moral hazard problem. By exploiting its superior information to take advantage of a relationship with a customer, the financial institution takes the risk of jeopardizing future transactions with that customer. If selling multiple products increases the likelihood and number of future transactions, a financial institution selling multiple products is less likely to act against the interests of its customers.

The literature on corporate diversification suggests that diversification that opens the door to conflicts of interest might not create value for shareholders. On average, diversified firms are valued less than a portfolio of comparable specialized firms, a finding called the diversification discount, although authors disagree as to what it means; [Lang and Stulz \(1994\)](#) and [Berger and Ofek \(1995\)](#) provide early evidence on the diversification discount. In general, the papers in this literature exclude financial institutions from their samples because financial ratios and valuation metrics for banks are not directly comparable to financial ratios and valuation metrics for other firms, and because banks' ability to diversify typically depends on the regulatory environment. [Laeven and Levine \(this issue\)](#) investigate whether there is a diversification discount for financial conglomerates in a 43-country sample. They pay careful attention to a number of issues that the literature has shown might bias estimates of the diversification discount or might alter its interpretation. They find that the Tobin's q of financial conglomerates falls as their preferred measure of diversity (based on the composition of assets) increases, so that there is a diversification discount for financial conglomerates. This result holds across the world as well as for their US sample. Based on their evidence, there is no reason to believe that, on average, financial institutions create value for their shareholders when they become more diversified. Event-study evidence on bank mergers in the US is consistent with this conclusion (see, for instance, [DeLong, 2001](#)).

Activities within financial institutions that create conflicts of interest could be profitable for them even though diversification does not seem to create shareholder wealth on average because diversification might have costs that offset these benefits. Financial institutions gain from activities that create conflicts of interest if they can profitably re-use information obtained through one activity in another activity. Underwriting due diligence is cheaper and also more effective for a bank that has intimate knowledge of the issuer due to a lending relationship. Several papers examine whether underwriters' market shares benefit from also making loans. [Yasuda \(2005\)](#) finds that bank relationships have a positive and significant effect on underwriter choice above and beyond the effect of the relationship on the fees paid by the issuer. [Drucker and Puri \(2005\)](#) show that concurrent lending to an equity issuer allows underwriters to build relationships and increases the probability of receiving future business; they also demonstrate that prior lending relationships are important determinants of the underwriter selection decision of equity issuers. [Bharath, Dahiya, Saunders, and Srinivasan \(this issue\)](#) find that lending relationships have an extremely significant impact on whether a borrower will obtain future loans from a financial conglomerate since the probability of a relationship lender providing a future loan is 40% versus 3% for a non-relationship lender (a lending relationship has a significantly smaller effect on the probability that a bank will be chosen as an underwriter). [Ljungqvist, Marston, and Wilhelm \(2006\)](#) also find that a prior lending relationship increases a bank's probability of being selected as an underwriter, but that prior underwriting relationships are more important in that decision.

The re-usability of the information acquired by a bank as a lender when it underwrites the securities of a borrower has led to a large literature that examines whether borrowers benefit from issuing securities through their lending banks. A number of papers show that joint production of lending and underwriting leads to a decrease in underwriting fees: [Roten and Mullineaux \(2002\)](#) conclude that bank underwriting leads to lower underwriting fees in the period 1995–1998; [Yasuda \(2005\)](#) find a small reduction for the period 1993–1997; [Narayanan, Rangan, and Rangan \(2004\)](#) show that over the period 1994–1997,

the underwriting spread for seasoned equity issues is lower when the lending bank is in the syndicate; and [Drucker and Puri \(2005\)](#) demonstrate that companies issue equity at lower cost when the underwriter is also lending to them.

Financial institutions can gain from diversification that leads to analyst conflicts of interest even if these conflicts have deadweight costs. Suppose that analysts in a financial institution are unbiased, but outsiders do not know this for sure. If these analysts belong to an organization with investment bankers, investors might be somewhat skeptical of their advice, imposing a cost on the financial institution from having both analysts and investment bankers. However, the institution also benefits from providing research as well as investment banking: both analysts and investment bankers have access to a flow of information that would not be available in a specialized firm. There is no a priori reason why the benefits of having both investment bankers and research would be smaller than the costs.

Consider an analyst who is brought over the wall to participate in underwriting activities because of an ongoing deal.⁷ The analyst brings to the table knowledge about the companies involved in the deal that can be valuable to the investment bankers. If the firm discontinued its analyst forecasts and recommendations, the investment bankers would have to find another information source. Whether the bank engaged consultants or hired analysts for internal use only (which would create other problems since secrecy is often extremely important in investment banking transactions), the investment banking production costs of the financial institution would increase and the advice that investment bankers would receive would likely be less valuable if interaction with investors sharpens analysts' understanding of companies and industries. By being brought over the wall, analysts garner information about companies they would not otherwise obtain. Though they cannot use that information to directly improve their immediate recommendations and forecasts, their better understanding will presumably improve their future performance. In light of these considerations, putting investment bankers and analysts under the same roof can be valuable to a financial institution and might enable it to hire better analysts and investment bankers.

It is thus possible that consumers of analyst services receive a better product from analysts vulnerable to an investment banking conflict of interest than from independent analysts, so that joint production of investment banking services and research can increase the demand for investment banking services. [Krigman, Shaw, and Womack \(2001\)](#) survey firms that switched lead underwriters after their IPO and find that dissatisfaction with the provision of analyst services on their firm plays a major role in the decision to switch: 88% of the CFOs of switching firms list a research issue as one of their top three reasons to switch. This does not mean that CFOs are looking for biased coverage, however. In the survey, they seem more concerned with the frequency of coverage than with the nature of recommendations. The authors “conclude that issuers place value on incremental and perceived high-quality research coverage by sell-side analysts. They allocate their resources, in the form of underwriting fees, to increase and improve this coverage” (p. 278). Recent evidence by [O'Brien, McNichols, and Lin \(2005\)](#) shows that underwriters initiate coverage faster than other firms and maintain it longer, supporting this conclusion.

The way financial economists study analyst output may limit the extent of evidence that analysts who face conflicts of interest could actually produce better information. With

⁷For an analyst's perspective on being brought over the wall, see [Reingold and Reingold \(2006\)](#).

some notable exceptions, such as [Asquith, Mikhail, and Au \(2005\)](#), who show that a measure of strength of arguments in an analyst's report is significantly related to the stock price reaction to the report, financial economists have typically focused on only a few dimensions of the output of analysts, namely earnings forecasts, growth forecasts, and recommendations. Of course, institutional investors are more likely to value harder-to-quantify elements such as an analyst's firm and industry knowledge than stock recommendations or earnings forecasts.⁸ Nevertheless, for earnings forecasts, growth forecasts, and recommendations, there is some evidence that analyst output is better along some dimensions because of their association with investment banking activities. For instance, [Clarke, Khorana, Patel, and Rau \(2004\)](#) find that analysts from large investment banks tend to be more accurate and less biased in their earnings forecasts. Using forecasts from the period 1998–2001, [Jacob, Rock, and Weber \(2003\)](#) find that investment bank analysts are on average more accurate.

With deregulation, banks with retail depositors have an opportunity to try to cross-sell other products to these depositors, such as insurance and money management products. As a result, the number of mutual funds belonging to financial conglomerates has increased sharply. [Frye \(2001\)](#) reports that 8% of all mutual funds were managed by banks in 1991. By 1999, that percentage had increased to 14% and, as expected, investors in funds managed by banks were more likely to be retail investors. Banks also might be able to manage these funds with lower transaction costs and lower research costs because of the other activities they are engaged in. Banks naturally have money management activities, so they already have the infrastructure and skills required to manage mutual funds. Further, they engage in information production that is helpful in managing portfolios. For instance, managers of a fund associated with a bank might devise better fund strategies and achieve better performance because of the input of analysts. To the extent that these gains are shared with investors, bank-managed funds might have a competitive advantage. However, [Frye \(2001\)](#) does not find evidence that bank-managed funds perform differently from other funds.

4. Factors that mitigate the adverse impact of conflicts of interests

If buyers are rational, they will pay a price for the good they purchase that insures that they will not be hurt by conflicts of interest, and will therefore discount the price to reflect any decrease in value caused by the actions of the seller. To maximize the selling price, the seller has incentives to commit to take actions to reduce the impact of conflicts of interest (see [Grossman, 1981](#)). For instance, the seller of a used car might offer a warranty (see also [Akerlof, 1970](#)). Even when these actions do not fully succeed in reducing the impact of conflicts, customers may not suffer from conflicts of interest when they rationally take into account their impact.

Consider a hypothetical case in which an analyst will always do and say anything to make an investment banking deal happen. By acting this way, he or she will lose credibility with investors, who will ignore his or her recommendations. As a result, the analyst's

⁸Table 1 in [Bagnoli, Watts, and Zhang \(2006\)](#) shows the ranking of the usefulness of analyst output dimensions from 1998 to 2003 by the voters in the *Institutional Investor* survey. Stock selection is the second attribute in 1998 and the fifth attribute in 1999. Stock selection falls in importance in that table, becoming the 11th attribute in 2003. In all years, industry knowledge is valued more than stock selection.

usefulness to the firm's investment banking clients will disappear. In a real sense, then, extreme conflicts of interest cannot have an impact on the customers of financial institutions. Of course, we have to consider the possibility that customers systematically underestimate the adverse impact of conflicts.

To be credible, an analyst has to build a reputation for providing valuable information to investors. Jackson (2005) shows that analyst reputation strengthens with greater forecast accuracy. An analyst with a good reputation will be leery of tainting his or her advice and forecasts solely to help the investment bankers. In the extreme case, if reputation is extremely valuable and also fragile, an analyst will always ignore pressures from investment bankers and provide unbiased advice. By this reasoning, conflicts of interest will typically have a small enough impact that they will leave no significant traces in an analyst's output as long as the analyst values his or her reputation sufficiently.

Of course, an analyst might sacrifice his or her reputation when confronted with the possibility of a sufficiently valuable short-term payoff. Conflicts of interest are likely to create the most problems when the benefits from sacrificing one's reputation are highest, perhaps in unusual periods that are not recognized as such. For instance, shading the truth might have a higher payoff when high valuations make underwriting more profitable and the analyst expects the high valuations to be temporary but investors do not. From this perspective, conflicts of interest would be more of a concern in periods such as the late 1990s, when valuations were extremely high. However, the dramatic increase in valuations in the 1990s was followed by a crash. It is a well-established tradition that crashes lead to intense searches for scapegoats. That is how the Pecora hearings and Glass–Steagall came about. An unexpected crash necessarily makes the analysts wrong *ex post* and hence attractive scapegoats.

Fang and Yasuda (2006a) examine the role of reputation as a disciplinary mechanism over the period 1983–2002 and find that All-Star analysts do not see a degradation of their accuracy during hot markets whereas other analysts do. All-Star analysts could simply be superior and perform better in turbulent markets, but the evidence is also consistent with the view that they are better able than other analysts to resist pressures from conflicts of interest in hot markets, or that they face fewer such pressures.

The labor market also plays a role in reducing the impact of conflicts of interest. If analysts with more accurate forecasts are better rewarded by the labor market, analysts' incentives to be more accurate will limit the impact of conflicts of interest. The literature provides some evidence that analysts who are less accurate are less likely to remain in their jobs. Mikhail, Walther, and Willis (1999) show that analyst turnover is more likely as accuracy declines relative to peer performance, regardless of the profitability of the analyst's recommendations. Hong and Kubik (2003) go a step further and show that more accurate analysts are more likely to move to more prestigious firms. Ljungqvist, Malloy, and Marston (2006) show that the importance of accuracy for career outcomes has been much more limited in recent years.

Analysts have a clear metric of success in their profession, namely their rankings in the *Institutional Investor* annual poll, with selection to the All-Star team the top accolade. (Strictly speaking, *Institutional Investor* gives the title of All-American analyst.) Reingold and Reingold (2006) show vividly the importance of this designation for analysts. Analysts do not become All-Stars by offering tainted advice but by being helpful to institutional clients. An analyst's ranking in the poll is a major determinant of compensation (see Stickel, 1992), and analysts who lag in the poll are in danger of being replaced by analysts

who excel. [Ljungqvist, Malloy, and Marston \(2006\)](#) conclude that All-Star status appears to be the most important driver of career outcomes for analysts, as further evidenced by the fact that institutions advertise the standings of their analysts in the poll. Analysts have ongoing relationships with the voters in the poll, visiting and talking with them regularly, so that institutional investors effectively monitor the analysts. If institutional investors were to discover that an analyst gave them bad information on purpose, the damage to the relationship would be immediate and long-lasting. Analysts' career concerns therefore naturally reduce the impact of conflicts of interests. It is interesting to note that [Clarke, Khorana, Patel, and Rau \(2007\)](#) find that All-Star analysts do not change their recommendation levels for firms when they change jobs, consistent with analysts caring sufficiently about their reputation that they resist pressures from investment bankers—or that these pressures often do not exist.

[Ljungqvist, Marston, Starks, Wei, and Yan \(this issue\)](#) show clearly that analysts are responsive to the demands of institutional investors. The authors investigate recommendations over the period 1994–2000 and find that recommendations relative to consensus are positively related to investment banking relationships and brokerage pressures, but negatively related to ownership by institutional shareholders. Further, they find evidence that earnings forecasts are more accurate for firms with more institutional ownership and that ratings following share price decreases are adjusted more quickly for companies with a greater institutional following.

Mutual fund investment managers are judged and compensated for their performance as investment managers. When they are successful, the funds they manage increase and their compensation increases. The incentives of portfolio managers therefore naturally limit the impact of conflicts of interest. However, restrictions on the compensation of fund managers might aggravate the impact of conflicts of interest. Regulations make it difficult to directly compensate mutual fund managers for their investment performance, so compensation ends up being sensitive mainly to the size of the fund (see [Elton, Gruber, and Blake, 2003](#)).

We have focused thus far on mechanisms that provide incentives to individuals to avoid exploiting conflicts. However, financial institutions themselves have incentives to control conflicts of interest. If an institution can establish that conflicts of interest will not affect its actions in a way that is costly to its customers, it will be able to sell its goods and services at a higher price. For instance, a financial institution can create wealth for its shareholders by developing a reputation for providing good advice. To the extent that such a reputation is valuable, the institution will want to protect it. [Ljungqvist, Marston, Starks, Wei, and Yan \(this issue\)](#) use two reputational capital proxies for investment banking activities. Their first proxy is the investment bank's share of equity underwriting, and their second proxy is the loyalty of underwriting clients. They find a negative relation between the optimism of analysts and the reputational capital of the financial institution, consistent with the prediction that institutions with greater reputational capital control conflicts of interest better.

Financial institutions also have incentives to develop a good reputation in their certification role as underwriters. [Chemmanur and Fulghieri \(1994\)](#) show how reputation enables investment banks to be credible certifiers. [Puri \(1999\)](#) develops a model in which banks and investment banks face a conflict of interest when they underwrite a security issue by a firm to which they have lent money since a successful security issue means that the loans will either be repaid or become more secure. Reputation concerns mitigate this

conflict of interest, however; a bank could make a short-run profit by underwriting a bad firm, but making a practice of doing so will not succeed in the long run.

Competition would also seem to play a role in controlling conflicts of interest, but this role is complex. For instance, an increase in competition in investment banking could lead investment bankers to put more pressure on analysts. At the same time, financial institutions compete on the value of their advice. If an institution gives bad advice on products, or its analysts make poor forecasts, other institutions have an incentive to inform customers of these facts and to take advantage of situations in which competitors have conflicts of interest. For instance, boutique merger advisory firms have succeeded in part because their advice is considered to be less conflicted since they do not have underwriting services to sell. Bolton, Freixas, and Shapiro (this issue) argue that by providing credible information, a specialist financial institution can differentiate itself and acquire market share.

The last important mechanism that controls conflicts of interest is the role of regulatory authorities and litigation. Legal and regulatory actions, such as withdrawing professional licenses, can put an end to the career of an analyst. In addition, the mere threat of litigation can keep financial institutions on the straight and narrow path. If the judicial system works well, an institution that damages its customers because of a conflict of interest will have to make those customers whole, in addition to incurring litigation costs, so that it will lose whatever benefits it might have derived by taking advantage of its customers. In practice, of course, errors are possible, so that an institution might not be held wholly accountable for damages it inflicted, or might even have to compensate customers for nonexistent damages.

5. Do conflicts of interests have an adverse impact on customers of financial institutions?

Conflicts of interest could be acute but could nonetheless have limited or no adverse impact on the provision of services by financial institutions because of the mitigating forces discussed thus far. However, even when conflicts of interest do affect the provision of services, they might not adversely affect consumers of these services who take the conflicts into account. To make this point clear, consider the output of financial analysts. If an analyst's recommendations are biased despite labor market incentives, the bias will not necessarily have an impact on security prices if the capital markets discount them to adjust for the bias. Similarly, the bias might not affect the investment decisions of investors who take it into account. Hence, researchers have investigated whether conflicts of interest have an adverse impact at two levels: first, on the actions of financial institutions, and second, on the outcomes for customers of these institutions.

In this section, we review the literature that investigates the adverse impact of conflicts of interest on analysts and their customers. This literature is extremely large, and we summarize its findings in Table 1. The “Biased advice?” column provides our assessment of whether the associated paper shows that the conflicts of interests afflicting sell-side analysts result in biased earnings forecasts or stock recommendations. The “Adverse impact on returns?” column assesses whether the conflicts have an adverse impact on the stock return performance of recommendations and/or whether the market's reaction to forecasts and recommendations adjusts for conflicts.

Analyst optimism has been documented by a number of researchers. For instance, Lloyd-Davies and Canes (1978) show that positive analyst recommendations tend to

Table 1

Papers on conflicted versus non-conflicted sell-side analysts

The papers are sorted by year. The “Biased advice?” column provides our assessment of whether the paper shows that the conflicts of interests afflicting sell-side analysts result in biased earnings forecasts or stock recommendations. The last column, “Adverse impact on returns?,” assesses whether the conflicts have an adverse impact on the stock return performance of recommendations and/or whether the market’s reaction to forecasts and recommendations adjusts for conflicts. Admittedly, such assessments involve an element of arbitrariness. The conclusions listed are those of the authors of the papers. The papers in bold are in this issue of the *Journal of Financial Economics*.

No.	Year, Authors	Sample period, data sources	Conclusions	Biased advice?	Adverse impact on returns?
1.	1995, Dugar and Nathan	1983–1988, Corporate and Industry Research Reports and Investext, Corporate Finance Bluebook	Analysts from firms’ investment banks issue more optimistic earnings forecasts and stock recommendations. An investor following the recommendations from these analysts does not have worse performance because the market discounts these recommendations.	Yes	No
2.	1998, Lin and McNichols	1989–1994, I/B/E/S, SDC	Evidence of a greater degree of optimism in affiliated sell-side analysts’ long-term growth forecasts and investment recommendations for stocks with seasoned offerings, but no such evidence for one- or two-year-ahead earnings forecasts. Hold recommendations from affiliated analysts are more informative than holds from independent analysts, showing that investors treat affiliated analysts’ holds as sells.	Yes	No
3.	1999, Michaely and Womack	1990–1991, First Call, Investment Dealer’s Digest	Affiliated analysts buy recommendations perform more poorly than those of unaffiliated analysts for a sample of 391 IPOs. Investors partially discount the recommendations by affiliated analysts and stock prices do not react as much to buy recommendations issued by underwriter analysts compared to those issued by non-underwriter analysts.	Yes	Yes
4.	2000, Dechow, Hutton, and Sloan	1981–1990, I/B/E/S, SDC	Affiliated analysts issue more optimistic long-term growth forecasts around equity offerings for a sample of 1,179 equity offerings. Post-offering underperformance is most pronounced for firms with the highest growth forecasts made by affiliated analysts.	Yes	Yes

5.	2003, Jacob, Rock, and Weber	1998–2001, I/B/E/S, Nelson's Directory of Investment Research	Forecasts of quarterly earnings, annual earnings, and long-term growth by investment bank analysts are more accurate and less optimistic than those from analysts employed by independent research firms. Higher skill levels and better resources at investment banks dominate any alleged conflicts of interest.	No	-NA-
6.	2004, Irvine	1993–1994, I/B/E/S, Toronto Stock Exchange Transaction Data	Buy recommendations generate more trading for the analyst's brokerage firm. Earnings forecast bias (forecast minus actual earnings) cannot generate more trades but forecasts that deviate more from the consensus can.	Yes	-NA-
7.	2004, Agrawal and Chen	1994–2003, I/B/E/S, x-17a-5 SEC Filings	Accuracy and bias in quarterly forecasts are unrelated to conflict magnitudes, proxied by the analysts' employers' annual revenue breakdown among investment banking, brokerage, and other businesses. Relative optimism in long-term growth forecasts is positively related to the importance of brokerage business.	No	-NA-
8.	2004, Bajari and Krainer	1998–2003, Nasdaq-100 firms, First Call, SDC	Recommendations depend most heavily on publicly observable information about the stocks and on industry norms, and not on the existence of an investment banking deal.	No	-NA-
9.	2004, Clarke, Khorana, Patel, and Rau	1993–2002, I/B/E/S, Nelson's Directory of Investment Research	Analysts at large investment banks provide less optimistic and more accurate earnings forecasts, and are more likely to provide the first forecast for a firm in any given quarter. Abnormal returns following recommendations from these large investment banks are also higher than those from other financial institutions. Analysts do not change their optimism when moving to large investment banks.	No	No
10.	2005, Jackson	1992–2002, I/B/E/S, SDC, Australia Stock Exchange Transaction Data	Analysts can generate more trades for their brokerage firms by either being more optimistic or by acquiring a higher reputation through more accurate forecasts. Reputation is hence a mitigating force for conflicts of interests.	Yes	No
11.	2005, Ljungqvist, Marston, and Wilhelm	1993–2002, I/B/E/S, SDC, LPC	Optimistic research attracts co-underwriter management appointments during the sample period. Co-management appointments, in turn, increase a bank's chances of winning more lucrative lead-management mandates in the future.	Yes	-NA-
12.	2005, O'Brien, McNichols, and Lin	1994–2001, First Call, SDC	Affiliated analysts downgrade their recommendations from a buy rating more slowly than unaffiliated analysts subsequent to equity offerings.	Yes	-NA-

Table 1 (continued)

No.	Year, Authors	Sample period, data sources	Conclusions	Biased advice?	Adverse impact on returns?
13.	2005, Agrawal and Chen	1994–2003, I/B/E/S, x-17a-5 SEC Filings	Based on revenue breakdowns as proxies for conflicts of interests, optimistic recommendation bias stemming from investment banking conflicts is especially pronounced during the late 1990s. Reactions to recommendation changes show that capital markets discount this optimistic bias. The one-year return of revised recommendations is unrelated to conflicts of interest.	Yes	No
14.	2005, Groyberg, Healy, Chapman, and Gui	1997–2004, Anonymous buy-side firm, I/B/E/S	Buy-side analysts make more optimistic and less accurate earnings forecasts than sell-side analysts. Buy-side analysts' buy and strong buy recommendations are less profitable than those of sell-side analysts.	No	No
15.	2006, Bradley, Jordan, and Ritter	1999–2000, Briefing.com, Carter-Manaster rankings	They examine IPOs in 1999 and 2000 and find no evidence of a differential reaction between affiliated and unaffiliated analyst initiations once they control for recommendation characteristics and timing even though affiliated analysts are more optimistic.	Yes	No
16.	2006, Bradshaw, Richardson, and Sloan	1975–2000, I/B/E/S, First Call, SDC	Over-optimism in analysts' earnings forecasts, stock recommendations, and target prices are systematically related to net corporate financing activities. Over-optimism is greatest for firms issuing equity and debt and least for firms repurchasing equity and debt.	Yes	-NA-
17.	2006, Chan, Karceski, and Lakonishok	1984–2004, I/B/E/S	Analysts become more pessimistic over this sample period so that more firms have positive earnings surprises. The predisposition to positive surprises is more pronounced for firms that are potential investment banking clients and for analysts from firms with investment banking business.	Yes	-NA-
18.	2007, Clarke, Khorana, Patel, and Rau	1988–1999, I/B/E/S, Institutional Investor, SDC	All-Star analysts switching investment banks do not change their optimism in earnings forecasts or recommendation when joining a new bank, even though their coverage decisions change. No evidence that issuing optimistic earnings forecasts or recommendations affects investment banking deal flow.	No	-NA-
19.	2006, Ljungqvist, Marston, and Wilhelm	1993–2002, I/B/E/S, SDC, LPC	No evidence that aggressively optimistic analyst recommendations increase their bank's probability of winning an underwriting mandate.	No	-NA-

20.	2006, James and Karceski	1996–2000, First Call, SDC	Main determinant of lead-bank choice is strength of prior underwriting and lending relationships. IPO firms with poor aftermarket performance are given higher target prices and strong buy recommendations especially from affiliated analysts. This typically lasts for less than six months and shows that affiliated analysts provide “booster shots” of stronger coverage for poorly performing firms.	Yes	-NA-
21.	2006, Cowen, Groysberg, and Healy	1996–2002, First Call and I/B/E/S, SDC, Nelson’s Directory of Investment Research	Analysts at firms that fund research through underwriting and trading activities actually make <i>less</i> optimistic forecasts and recommendations than analysts at non-underwriting brokerage houses. Optimism is particularly low for bulge underwriter firm analysts, implying that firm reputation reduces research optimism. Analyst optimism is at least partially driven by trading incentives, not investment banking concerns.	No	-NA-
22.	2006a, Fang and Yasuda	1993–2003, I/B/E/S, <i>Institutional Investor</i> , Carter–Manaster rankings	During the market downturn, analysts ranked by <i>Institutional Investor</i> from top-tier investment banks are quicker to downgrade their buy recommendations compared to their unranked colleagues. Ranked analysts have more profitable stock recommendations. Personal reputation plays a disciplinary role in the face of conflicts of interest in sell-side research.	No	No
23.	2006b, Fang and Yasuda	1994–2003, I/B/E/S, <i>Institutional Investor</i> , Carter–Manaster rankings	Investors can profit from following the buy recommendations of All-Star analysts from top-tier (reputable) banks while buys from other analyst subgroups are not profitable. Further, recommendations of All-Star analysts at top-tier banks remain valuable during market troughs. Therefore, reputation exerts a mitigating role for conflicts of interest.	No	No
24.	2006, McNichols, O’Brien, and Pamukcu	1994–2001, First Call, SDC	No evidence that affiliated analyst recommendations earn lower abnormal buy-and-hold returns than those of unaffiliated analysts after the recommendations. Unaffiliated analysts’ recommendations usually arrive too late to discriminate between good and bad IPOs.	-NA-	No
25.	2006, Boni	1999–2004, I/B/E/S	After the Global Settlement, the signatory banks reduced their coverage of firms, continued to be optimistic, and issued recommendation changes that have lower price impacts. The Settlement seems to have done little to change the recommendations made by the signatory banks or the long-term investment value of their recommendations for investors.	Yes	Yes

Table 1 (continued)

No.	Year, Authors	Sample period, data sources	Conclusions	Biased advice?	Adverse impact on returns?
26.	2006, Kadan, Madureira, Wang, and Zach	2000–2004, I/B/E/S, SDC	Also, naïve investors who trade on the level of analyst recommendations can be adversely impacted both pre- and post-Settlement. The odds of an analyst issuing an optimistic recommendation during the pre-regulation period (Nov 2000–Aug 2002) increased by 38% for IPO and SEO stocks and an additional 10% if the analyst is an affiliated analyst. Effects disappear in the post-regulation period (Sep 2002–Dec 2004). Price reactions to upgrades to buy are stronger in the post-regulation period for IPO/SEO firms, but the stock price reactions to downgrades to sell are weaker. Stock price reactions to upgrades and downgrades are similar for affiliated and unaffiliated analysts in the post-regulation period.	Yes	Yes
27.	2007 (this issue), Ljungqvist, Marston, Starks, Wei, and Yan	1993–2000, I/B/E/S, Thomson 13F, SDC	Recommendations relative to consensus are positively related to investment banking relationships and brokerage pressures, but negatively related to ownership by institutional shareholders. Earnings forecasts are more accurate for firms with more institutional ownership, and recommendation changes following share price decreases occur more quickly.	No	-NA-
28.	2007 (this issue), Malmendier and Shanthikumar	1994–2001, I/B/E/S, SDC New Issues, TAQ	Large traders react to strong buy recommendations, but not to buy recommendations. They sell on hold recommendations. Small traders take recommendations literally. Moreover, only large traders discount affiliated recommendations more than unaffiliated ones. It appears that small investors fail to adjust rationally for the incentive distortions of analysts. They also find that there is no difference in returns from following affiliated versus unaffiliated analysts' recommendations.	Yes	No
29.	2007 (this issue), Barber, Lehavy, and Trueman	1996–2003, First Call, SDC, Nelson's Directory of Investment Research	The average abnormal return to independent research firms' buy recommendations exceeds that of investment bank buy recommendations by 8% per year. This underperformance is more pronounced after the market peak in March 2000 and for firms that recently issued equity. Sell recommendations have the reverse result—investment banks issue more profitable sell recommendations than independent research firms.	Yes	Yes

outnumber negative ones, and [Fried and Givoly \(1982\)](#) show that earnings forecasts are biased upward. Analyst optimism could simply reflect behavioral biases. In particular, [Affleck-Graves, Davis, and Mendenhall \(1990\)](#) provide evidence that individuals who have no reason to produce optimistic earnings forecasts do so when confronted with a time-series of earnings (they call this the “judgmental heuristics” bias). Evidence by [Willis \(2001\)](#) and [Groysberg, Healy, Chapman, and Gui \(2005\)](#) showing that buy-side analysts also have optimistic forecasts is consistent with this view. However, it is worth noting that evidence on the optimism of analyst forecasts is, to quote a review paper, “contextually defined and sample-period specific” ([Ramnath, Rock, and Shane, 2006](#), p. 66). In particular, it appears that the results of the literature are sensitive to the measure of earnings—analysts might omit or overlook certain transitory components of actual earnings, making their forecasts appear to be overoptimistic if the omitted components tend to be negative and are included in the earnings measure that they are being compared to.

There is evidence that optimistic biases for earnings forecasts have decreased over time. [Brown \(2001\)](#) finds that median forecasts become slightly pessimistic over the period 1984–1999. [Chan, Karceski, and Lakonishok \(2006\)](#) attribute this evolution to conflicts of interest. They argue that in strong bull markets, analysts might have incentives to have pessimistic earnings forecasts so that firms will be less likely to have negative earnings surprises since the market penalizes negative surprises strongly. In their paper, analysts became more pessimistic over time. However, despite becoming more pessimistic, analysts have become less likely to underpredict earnings by more than two cents. This result suggests that the whole distribution of earnings might have shifted, making it hard to evaluate the evolution of the distribution of forecasting errors.

Even if analysts were really giving overoptimistic advice, there is evidence that investors can interpret the relative information value of recommendations. By frequently issuing buy recommendations, analysts might have decreased the information value of these recommendations (akin to grade inflation). In contrast, the information value of recommendations seldom given may have increased. For instance, [Lin and McNichols \(1998\)](#) find that hold recommendations from affiliated analysts are more informative than hold recommendations from independent analysts for their sample period, plausibly because the former are really sell recommendations since these analysts appear to be extremely reluctant to issue sell recommendations during the sample period. Interestingly, [Fang and Yasuda \(2006b\)](#) find that buy recommendations in general do not contain information that is useful to investors. Further supporting the importance of reputation, however, they find that buy recommendations by All-Star analysts are useful to investors. Evidence in [Kadan, Madureira, Wang, and Zach \(2006\)](#) seems to suggest that investors see through the scaling of the ratings. The authors investigate an episode in which, in response to regulatory changes, financial institutions made significant changes to balance and simplify their rating systems. They write that these changes amounted to “massive reclassification of outstanding recommendations,” yet the new recommendations “did not elicit significant price or volume reactions.”

[Malmendier and Shanthikumar \(this issue\)](#) attempt to determine who trades when analysts change recommendations. They investigate trade imbalances for shares on days when analysts make recommendations and separately measure imbalances for large and small trades. They find that large traders, which would be mostly institutional investors, buy more on strong buy recommendations but not on buy recommendations, and sell on

hold recommendations. Though large traders seem to take into account the optimistic bias of analysts in their recommendations, small traders do not. These traders buy for both strong buy and buy recommendations but, paradoxically, fail to react significantly to the sell recommendations of All-Star analysts. These results suggest that more analysis is required to understand exactly why small traders behave the way they do.

There is also a considerable literature that investigates the relation between the properties of analyst forecasts and recommendations and the investment banking activities of the firms they work for. This literature has followed two different approaches and reaches somewhat different conclusions depending on the approach used. The first approach has been to use underwriting relationships to identify conflicts of interest; such studies investigate the recommendations and forecasts of analysts from an issuing firm's underwriters as compared to those of analysts unaffiliated with the firm's underwriters. [Dugar and Nathan \(1995\)](#) identify a sample of companies and their investment bank advisers, and for each analyst report produced by that investment bank they identify a report produced by an analyst not associated with that bank. The analysts from the companies' investment banks have more optimistic earnings forecasts and investment recommendations, but the market discounts their recommendations and an investor following the recommendations of these analysts would not perform worse.

Several papers examine analyst output following a securities offering. [Lin and McNichols \(1998\)](#) study forecasts and recommendations for firms with seasoned equity issues and find that analysts affiliated with lead underwriters have more optimistic recommendations and growth forecasts, but their earnings forecasts are not more optimistic than those of unaffiliated analysts. However, investors discount the recommendations of affiliated analysts and there is no difference in the performance of stocks after the recommendations. [Dechow, Hutton, and Sloan \(2000\)](#) conclude that long-term earnings growth forecasts of affiliated analysts are more optimistic. [Michaely and Womack \(1999\)](#) examine IPOs and find that stocks highly recommended by affiliated analysts perform poorly. They also find that investors discount the recommendations of affiliated analysts but not by the full extent of the bias, so that they underperform by following the advice of affiliated analysts. [McNichols, O'Brien, and Pamukcu \(2006\)](#) replicate the Michaely and Womack study for the period 1994–2001 and similarly find that investors discount affiliated recommendations, but they find no evidence that the recommendations of affiliated analysts are less profitable. In contrast, [Bradley, Jordan, and Ritter \(2006\)](#) examine IPOs in 1999 and 2000 and find no evidence of a differential reaction between affiliated and unaffiliated analyst initiations once they control for recommendation characteristics and timing.

The second approach uses a broader lens to identify conflicts and assumes that the very presence of investment banking and brokerage activities creates conflicts. Generally, this literature does not find evidence of bias when considering earnings forecasts, and further demonstrates that there is little relation between optimism in earnings forecasts from analysts of a financial institution and the importance of investment banking as a source of income for that institution. For instance, [Agrawal and Chen \(2004\)](#) find no evidence that the accuracy or bias in earnings forecasts are related to the importance of investment banking or brokerage activities as sources of revenues in a financial institution. However, they show that the relative optimism of long-term growth forecasts and the frequency of quarterly earnings forecast revisions are positively related to the importance of brokerage activities in a financial institution. [Cowen, Groysberg, and Healy \(2006\)](#), [Jacob, Rock, and](#)

Weber (2003), and Clarke, Khorana, Patel, and Rau (2004) find no evidence that conflicts of interest from investment banking make analysts more optimistic or less precise. Using the same approach, Agrawal and Chen (2005) look at 110,000 recommendations issued by 4,000 analysts over the period 1994–2003. They find that conflicts of interest, measured by the importance of investment banking income and brokerage income, are associated with more optimistic recommendations. When they examine the reactions to recommendation changes, they conclude that the capital markets discount the optimism bias induced by conflicts of interest. In fact, this discounting increased during the 1990s. In their sample, the investment performance of recommendations is not related to proxies for conflicts of interest.

Irvine (2004) uses a dataset from the Toronto Stock Exchange that identifies the broker associated with every trade. He concludes that buy recommendations generate relatively more trading for the analyst's brokerage firm, but forecast bias does not. Jackson (2005), in contrast, using Australian data, finds that optimistic analysts generate more trades for their brokerage firm, but high-reputation analysts generate more trades too.

Though it is often taken for granted that investment bankers pressure analysts when they can, the evidence that investment banking clients actually want biased research seems limited to anecdotes since academics have not been particularly successful in finding support for that view. Consequently, the result in the literature that affiliated analysts are not more biased could simply be due to the possibility that the importance of investment banking pressures is overstated. Ljungqvist, Marston, and Wilhelm (2006) specifically investigate whether more biased research helps investment banks to obtain more underwriting mandates for the period 1993–2002. They find no “evidence that aggressive analyst behavior increases their bank's probability of winning an underwriting mandate,” and conclude that the main determinants of the lead-bank choice are prior underwriting and lending relationships. Clarke, Khorana, Patel, and Rau (2007) also find no evidence that issuing optimistic earnings forecasts or recommendations affects investment banking deal flow. However, Ljungqvist, Marston, and Wilhelm (2005) show that providing coverage makes it more likely that a bank will be chosen as a co-manager. Further, aggressive recommendations seem to make it more likely that a bank will be chosen as co-manager for equity issues for which the lead manager is a commercial bank but not when the lead manager is an investment bank. For debt issues, aggressive recommendations increase the likelihood of co-manager appointments regardless of the lead-manager's identity.

Overall, there is more evidence that recommendations by affiliated analysts are biased than that their earnings forecasts are biased. However, even for recommendations, the literature does not reach a consensus. Importantly, evidence that analysts affiliated with underwriters are more optimistic does not prove that this optimism occurs because of conflicts of interest. For instance, selection biases could be at work. Suppose that, for a given firm, some analysts are optimistic relative to the consensus and others are not. An underwriter would not be in a position to participate in an underwriting if its analyst has a hold or sell recommendation on the issuing firm, so analysts affiliated with underwriters will appear *ex post* to be biased. Bajari and Krainer (2004) find that when selection biases are taken into account, conflicts of interest due to investment banking (defined more broadly than is typical) do not have a significant impact on analyst recommendations for firms in the NASDAQ 100 over the period 1998–2003. Bradshaw, Richardson, and Sloan (2006) find that analysts are generally too optimistic for firms that have high external net

financing. Among the various plausible explanations for their finding, they suggest that firms choose to issue when analysts are optimistic about them. They find no evidence, however, that this optimism is somehow greater for affiliated analysts. However, it is important to note that studies seem more likely to find such differences when they compare analyst forecasts and recommendations closer to the issuance date than over the six-month window used by these authors.

Barber, Lehavy, and Trueman (this issue) compare the recommendation performance over the period 1996–2003 of analysts from firms with investment banking business to that of analysts from independent research firms. They find that investors would have been better off by almost eight percentage points annually (before transaction costs) when following the buy recommendations of the independent analysts. However, the better performance of independent analysts comes from the period after the NASDAQ peak and for stocks with recommendations of buy or better. In contrast, investors would have done well to follow the hold or sell recommendations of analysts from investment banking firms. This evidence differs substantially for firms that issued equity either in an IPO or a seasoned equity offering (SEO) versus non-issuing firms. For the whole sample of firms, there is no evidence that following the buy recommendations of analysts affiliated with investment banks would have caused investors' portfolios to underperform, but investors following sell recommendations by affiliated analysts would have had superior performance. In contrast, when the authors separate firms into those that issued equity and those that did not, they find evidence that following the buy recommendations of analysts affiliated with investment banks for issuing firms would have led to underperformance while following the buy recommendations of independent analysts for issuing firms would have led investors to earn positive abnormal returns. The authors interpret this evidence to be consistent with the view that analysts associated with investment banks were reluctant to lower their ratings when stocks fell after the peak of NASDAQ because of conflicts of interest. At the same time, however, they correctly point out that their results may "reflect hindsight bias, rather than evidence of biased research."

Evidence of analysts maintaining buy recommendations when stocks are collapsing is often viewed as proof that analysts allow conflicts of interests to influence their judgments. In an efficient market, however, the fact that a stock's price has fallen does not mean that it will keep falling. Hence, poor past returns alone do not justify a sell recommendation. For instance, suppose that an analyst has a valuation model suggesting that a stock price should be \$100 when the stock is trading at \$80. For the stock price to increase to \$100, the market has to eventually agree with the analyst. Suppose that, instead, the stock falls to \$5. If, when the stock is trading at \$5, none of the variables that enter the analyst's pricing model have changed, the analyst should view the stock as a bargain. An analyst who stays true to his or her valuation model would recommend the stock as a purchase as long as the model says that the stock is worth significantly more than \$5. It does not logically follow, therefore, that an analyst who fails to change a recommendation as a stock price has fallen is providing misleading or fraudulent recommendations. The price drop might lead the analyst to revise his or her assumptions, but not sufficiently to change the recommendation.

Ljungqvist, Marston, Starks, Wei, and Yan (this issue) find no evidence that investment banking conflicts of interest lead analysts to delay downgrades, although when they do not control for institutional holdings of the firms followed by analysts, they find that analysts associated with investment banks are slower to downgrade stocks, similar to O'Brien,

McNichols, and Lin (2005). It seems that whether one concludes that affiliated analysts delay downgrades or not is sensitive to the control variables. O'Brien, McNichols, and Lin argue that if a selection bias explains their results, the only reason issuers would prefer analysts who are slow to downgrade is “for the purpose of delaying the disclosure of negative information to investors” (p. 625). It could also be, however, that issuers prefer analysts who believe strongly in their valuations. Such analysts might be more likely to support a poorly performing stock after an IPO. James and Karceski (2006) find evidence that affiliated analysts provide strong support for IPOs that perform poorly in the aftermarket. It does not seem unreasonable to think that such analysts might be less likely to change their opinion in the face of adverse stock returns. This explanation might seem even more likely after the peak of NASDAQ. It would not be surprising if investment banks were a magnet for analysts who thought that new technologies had changed the investment landscape dramatically.

The evidence reviewed thus far is mixed, and we have suggested some plausible reasons for this, but there are also some technical explanations. For example, some studies show that results that hold in one sample period might not hold in another period. While it may be that conflicts of interest have adverse effects in some periods but not in others, one also has to be concerned that period-specific results reflect poorly understood selection biases or random variation. Some authors include earnings announcement dates in their studies while others do not. Some authors do a better job at measuring earnings that correspond to earnings forecasted by analysts. The studies also use different databases, raising concerns about the quality and integrity of the data. Ljungqvist, Malloy, and Marston (2006) show that thousands of recommendations that were associated with the names of analysts in 2002 on I/B/E/S are no longer associated with analyst names—i.e., they are now anonymous (possibly at the request of the analysts themselves, as the authors suggest). The recommendations that are now anonymous tend to be bolder and made by more senior analysts, and are associated with poor performance. Strikingly, these same analysts experience better career outcomes than other analysts.

In contrast, the evidence on the adverse impact of conflicts of interest on the part of banks acting as lenders and underwriters is unambiguous. Overall, there is a consensus in the literature that, on average, these adverse impacts simply do not exist. Recent research has shown that bonds underwritten by bank underwriters in the years before Glass–Steagall performed as well as, if not better than, bonds underwritten by investment banks, refuting claims that bank underwriters took advantage of the public (for a review of the literature on bank underwriters, see Drucker and Puri, 2006). Puri (1994) shows that bank-underwritten bonds during that period had a lower mortality rate than bonds underwritten by investment banks. Kroszner and Rajan (1994) examine a matched sample of bonds and conclude that bank underwriting reduces the probability of bond default. Further work on such conflicts of interest examines debt issues that took place as banks were again given the opportunity to underwrite some debt issues in the 1980s and 1990s before Glass–Steagall was repealed. These studies find no evidence that possible conflicts of interest by commercial banks adversely affected investors. Hence, permitting banks to write loans as well as to underwrite securities does not have an adverse effect on bank customers or investors.

Davis and Kim (this issue) investigate how business ties between mutual fund investment managers and the companies these managers invest in affect how the shares of those companies are voted by the fund managers. In the absence of conflicts of interest, fund

managers would presumably vote the shares for proposals that increase the value of the companies since doing so would improve the fund's performance and makes the fund's shareholders better off. However, if a company's own management objects to a particular proposal, fund managers who vote to approve the proposal might offend the company's management and lose business. For instance, if Fidelity handles all of the 401(k) business of a company, that company's management might be upset if Fidelity votes shares against management's recommendation and might retaliate by withdrawing the 401(k) business from Fidelity. Davis and Kim examine an extremely large dataset of votes by mutual funds and find no relation between the likelihood that an investment manager votes with a company's management and the business ties between that company and the fund manager. When they look at the votes of funds across firms, however, they conclude that mutual funds associated with investment management firms with more business ties to companies are more likely to vote with management overall. The pattern of votes is interesting because they seem to side with management especially when there is no clear evidence from finance that the measures being voted on affect shareholder wealth.

Khorana, Tufano, and Wedge (this issue) investigate how board characteristics affect the probability that a fund will merge with a fund from another fund family and find that mergers of this type are more likely for underperforming funds. However, they also provide evidence that boards with more independent directors are more likely to approve such mergers. Strikingly, this effect is most pronounced when a board has only independent directors. The SEC has required 75% independence, though this regulation has faced difficulties in the courts. Apparently, the presence of some non-independent directors can have a substantial effect on the decisions of a mutual fund board. Ding and Wermers (2005) investigate the relation between mutual fund performance and board composition and find that 1) performance increases with the number of independent directors and 2) an underperforming manager is more likely to be replaced when the board has more independent directors. It is striking that there is stronger evidence of an association between board composition and performance in mutual funds than in operating firms (see, e.g., Bhagat and Black, 2002).

There is no convincing evidence that underwriters choose to dump the stocks they underwrite into funds that their firms manage. Though Ritter and Zhang (2006) and Johnson and Marietta-Westberg (2005) show that funds managed by underwriting firms invest more heavily in IPOs underwritten by their firm than in other IPOs, both papers offer evidence against what the former authors call the dumping ground hypothesis. Most importantly, Johnson and Marietta-Westberg find evidence that funds affiliated with underwriting firms earn significantly higher returns than unaffiliated funds. Massa and Rehman (2005) provide related evidence that access to information is valuable to bank-affiliated mutual funds. They show that affiliated funds tend to invest in firms following the extension of loans by their bank and perform better as a result.

6. Is there a role for law and regulation?

If customers of financial institutions appropriately take into account any conflicts of interest, the deadweight costs of these conflicts will be borne by the owners of financial institutions who will then have incentives to invest in reducing such costs. Of course, if competition among financial institutions produces equilibria in which these deadweight costs cannot be eliminated without coordination, there could be a role for laws and

regulations. For instance, in the vein of [Stein \(1989\)](#), one could think of an equilibrium in which each institution pushes its analysts to be optimistic about investment banking clients, but this optimism has no impact either on investment banking market shares (because everybody behaves in the same way) or on customers of analyst services (because they discount the advice they receive). Nonetheless, such an equilibrium would be inefficient and firms might not be able to reach an efficient equilibrium without coordination by regulators.

A thornier possibility is that not all investors are sufficiently rational or informed to take into account the conflicts of interest of financial institutions in their investment decisions. Historically, analyst research was targeted to institutional investors, who seem to be able to assess on their own the impact of conflicts of interest and to discipline analysts who stray. In contrast, [Malmendier and Shanthikumar \(this issue\)](#) view their results as evidence that retail investors are not fully cognizant of the impact of conflicts of interest. It might be reasonable to take the view that legislation should protect small investors even more than it already does, at least for a range of products. However, analyst conflicts of interest have not been a secret. Investors know that different analysts have different views and can make their investment decisions accordingly. In addition, the efficiency of the stock market depends critically on investors having incentives to acquire and exploit information. If protecting small investors involves reducing the information produced by analysts and hence limiting the information available in the markets, the net outcome of regulation could be a reduction in market efficiency.

Regulatory solutions also impose their own costs on financial institutions. As a result, the deadweight costs associated with conflicts of interest might be replaced with regulatory costs. As we saw, the Glass–Steagall Act was adopted following concerns about conflicts of interests in financial institutions. By the 1990s, there was clear evidence that Glass–Steagall was costly for financial institutions, but there was no convincing evidence that it was benefiting their investors by mitigating the impact of conflicts of interest, so the Act was largely repealed.

In the late 1990s, however, sentiment shifted towards regulation of analyst activities, albeit with little apparent regard for the potential impact of regulation on the cost or quality of analyst services. Financial analysts play an important role in producing information about companies, and a regulatory-induced increase in the cost of producing analyst services will result in fewer analyst services and ultimately a decrease in the efficiency of financial markets. Analyst services can also reduce corporate agency costs, so that decreased production of these services can adversely affect valuations in the long run and make it harder for companies to finance their growth.

The Global Settlement imposed many changes on the signatory firms, forcing them to “physically separate their research and investment banking departments to prevent the flow of information between the two groups...” and thereby decreasing the potential for legitimate synergies between investment banking and research. [Boni \(2006\)](#) summarizes the changes in research practices for the ten signatory firms. First, these firms reduced their coverage (though some of this reduction could have come from delistings) from 996 companies in 2001 to 800 two years later. Second, the analysts did not become less optimistic. Third, the stock price impact of recommendation changes fell, so that analysts’ recommendations became less informative. Taken together, this evidence suggests that the Global Settlement might have made investors worse off and the capital markets less efficient, although individual provisions might have had a positive impact. To date, the

evidence on the impact of the regulatory changes is mixed, and more data will probably be required for a definitive assessment. The samples used in existing studies have at most slightly more than two years of post-Global Settlement data, and some of the effects of these regulations might not be noticeable with such a short sample period.

Prior to the Global Settlement, the first important regulatory change affecting analysts was Regulation Fair Disclosure (Reg FD), which became effective on October 23, 2000. Reg FD prohibits firms from making selective disclosures. Its proponents argue that it creates a level playing field among investors. To the extent that analysts received valuable information as a result of ties between their financial institution and its corporate clients, one would expect Reg FD to have made these relationships less useful. [Mohanram and Sunder \(2006\)](#) conclude that there was a decline in forecasting accuracy of analysts who were more likely to have preferential access before Reg FD because of the financial institutions they belonged to. [Gintschel and Markov \(2004\)](#) find similar results.

As corporate ties to banks became less useful in producing information, corporate ties to financial intermediaries not affected by Reg FD should have become more valuable. [Jorion, Liu, and Shi \(2005\)](#) show that credit rating changes became more informative after Reg FD because credit rating agencies are not subject to Reg FD and hence can receive selective disclosures. More generally, authors investigating the impact of Reg FD find that analyst forecasts have become less precise ([Agrawal, Chadha, and Chen, 2006](#); [Gintschel and Markov, 2004](#)), analyst forecast dispersion has increased ([Bailey, Li, Mao, and Zhong, 2003](#); [Mohanram and Sunder, 2006](#)), disagreement among analysts has increased ([Bailey, Li, Mao, and Zhong, 2003](#)), recommendation changes have less impact ([Cornett, Tehranian, and Yalcin, 2005](#)), and analysts follow fewer firms ([Mohanram and Sunder, 2006](#)). [Gomes, Gorton, and Madureira \(2006\)](#) conclude that by cutting off the selective disclosure channel, Reg FD increased the cost of capital of small firms. However, not all the evidence is negative, as some authors show that information asymmetries around earnings announcements appear to have decreased after Reg FD ([Eleswarapu, Thompson, and Venkataraman, 2004](#)) and that analysts invest more in the production of idiosyncratic information ([Mohanram and Sunder, 2006](#); [Bailey, Li, Mao, and Zhong, 2003](#)). Some authors also fail to find an impact of Reg FD on analyst forecast dispersion and on analyst forecast errors ([Heflin, Subramanyam, and Zhang, 2003](#)).

In early 2002, the NYSE and the NASD approved rules that required research reports to include information on the distribution of recommendations of the issuing firms. [Barber, Lehavy, and Trueman \(this issue\)](#) find that the fraction of buy and strong buy recommendations peaks in 2000 and then decreases steadily to the end of their sample period, June 2003. [Barber, Lehavy, McNichols, and Trueman \(2006\)](#) find that the reduction in buys and strong buys is most pronounced in the second half of 2002; they argue that this pattern cannot be explained by the evolution of the economy but reflects instead the impact of the new NYSE and NASD rules.

Finally, [Kadan, Madureira, Wang, and Zach \(2006\)](#) compare analyst output before and after the adoption of regulations aimed at changing the conduct of research in financial firms. The authors consider a pre-regulation period from November 2000 to August 2002 and a post-regulation period from September 2002 to December 2004 and find that the odds of an optimistic recommendation during the pre-regulation period were 38% higher for stocks that had undergone an IPO or SEO and an additional 10% higher for affiliated analysts. These effects disappear in the post-regulation period. Focusing on IPO/SEO firms, the authors also show that the stock price reactions to upgrades to buy or strong buy

are stronger in the post-regulation period, but the stock price reactions to downgrades to sell are weaker. They find that stock price reactions to upgrades and downgrades are similar for affiliated and unaffiliated firms in the post-regulation period. Unusual among existing studies, they find no stock price reactions to positive recommendations for IPO and SEO firms in the pre-regulation period for either affiliated or unaffiliated analysts. This evidence suggests that in the pre-regulation period, the market discounted positive recommendations for these firms completely and did not think that affiliated analysts were more biased than unaffiliated analysts. Of course, it may be that their short pre-regulation period, starting after Reg FD, is unusual as it corresponds to a period of turmoil in the US markets.

7. Conclusion

In this paper, we examine the economics of conflicts of interests in financial institutions and review the literature. We define conflicts of interests as occurring when one party in a transaction can gain by taking actions detrimental to its counterparty. Because such actions have indirect costs, including reputation costs, they will not necessarily be undertaken. It is also possible that the counterparty anticipates and adjusts for the harmful actions, thereby avoiding any damage. There is a large and growing literature on conflicts of interests in financial institutions. The conclusions reached by this literature seem to depend on the type of conflict that is investigated as well as on the sample period. At one extreme, there is no evidence of an adverse impact from conflicts of interest arising because banks underwrite securities for firms that have borrowed from them. At the other extreme, the literature seems to find that independent boards for mutual funds have value. In between, the literature on security analysts finds a mix of results. Some authors interpret their results as evidence that conflicts of interest matter for their sample, but other authors reach opposite conclusions. A fair assessment of the literature seems to be that the majority of the papers do not find that the analyst conflict of interest arising from investment banking activities has a systematic and persistent impact on the customers of analyst services.

Overall, the academic literature on conflicts of interest in financial institutions, using large samples, reaches conclusions that are weaker and often more benign than the conclusions drawn by journalists and politicians. Such an outcome is not surprising because there are important factors that mitigate the impact of these conflicts of interest. First, financial institutions and their representatives have incentives to limit the impact of these conflicts. Second, investors have incentives to take into account conflicts of interest in their decisions and adjust analyst recommendations for any attendant biases. Nevertheless, the existence of factors that mitigate the impact of conflicts of interests should not lure us into complacency. At the same time, however, it is important to remember that relying on laws and regulations to limit conflicts of interests rather than on market forces can make financial markets less efficient in pricing securities and allocating capital, and hence can reduce economic growth.

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