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ABSTRACT

A conflict of interest exists when a party to a transaction could potentially make a gain from taking actions that are detrimental to the other party in the transaction. This paper examines the economics of conflicts of interest in financial institutions and reviews the growing empirical literature (mostly focused on analysts) on the economic implications of these conflicts. 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 overall these conclusions are more ambivalent and certainly more benign than the conclusions drawn by journalists and politicians from mostly anecdotal evidence. Though much has been made of conflicts of interest arising from investment banking activities, there is no consensus in the empirical literature supporting the view that conflicts resulting from these activities had a systematic adverse impact on customers of financial institutions.

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Since the turn of the century, much attention has been focused on conflicts of interest in the financial industry. A Google search (July 2006) for “conflict of interest” has more than one hundred and fifty million hits. The front pages of major newspapers and 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, 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 many mechanisms that control conflicts of interest in market economies fail to do so? If these mechanisms fail, does it mean that the conflicts have significant implications for the prices at which securities trade? For the efficiency of capital markets? For the welfare of customers of financial institutions? Were conflicts worse at the turn of the century than at other times? If they were, why? Does diversification of activities within financial institutions make conflicts of interest worse or better? Did attempts to affect the impact of conflicts of interest through changes in laws and regulations make the customers of financial institutions better off? Did these changes have unintended consequences that made U.S. capital markets less efficient and less competitive?

¹ Cited in Boni and Womack (2002).

² Two additional institutions joined the agreement in 2004.

In this paper, we define a conflict of interest as a situation where a party to a transaction could potentially make a direct gain by taking actions that affect the other party adversely. For example, in the context of sell-side analysts, a conflict of interest would arise if a financial institution were to obtain a direct advantage, for instance, potential underwriting fees, from 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 interests 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 party is somehow in a position of trust.⁵ This definition again seems too limiting. If one party provides a service to another, is it really clear when the provider is in a position of trust and when she is not?

The existence of a conflict of interest within a financial institution does not mean that, in equilibrium, the conflict will have an adverse impact on the customers of financial institutions. Using analysts as an example, the existence of conflicts could lead institutions to provide better forecasts so that customers benefit. Perhaps more importantly, many 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. Further, even if conflicts of interest affect the actions of financial institutions, they may not hurt their customers because these customers can rationally take into account how these

³ Sell-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 both types of analysts in the rest of the paper and use the term analyst to designate a sell-side analyst.

⁴ West'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."

⁵ The 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".

conflicts affect what financial institutions do. It follows from this discussion that even though one party could make a potential gain from taking actions that affect the other party in a transaction adversely, it may choose not to do so because these actions have large indirect costs, and if it does so, these actions may not hurt the other party because it may anticipate 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 enters the transaction to profit from it. When both parties have full information about the attributes of the good being transacted, when that information is fully verifiable, and when contracting is costless, no party has incentives to take actions that adversely affect the other party because the buyer receives exactly what she pays for. For instance, if one party buys a gold bar from another party, it is easy for the buyer to verify that she is receiving gold. There is a liquid market for gold which facilitates agreement of 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 may not be able to observe the quality of the good purchased, the seller may affect the quality of the good in ways that are not observable by the buyer, and the buyer may 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 the transaction at a price that is advantageous enough to cover the risks associated with conflicts of interest. The seller bears the costs of conflicts of

interest and has incentives *ex ante* to reduce their incidence on the seller as long as it is cost-effective to do so.

In this paper, we assess the economic issues surrounding conflicts of interests within financial institutions, review the existing literature, and explain how the papers collected in this special issue improve our understanding of these issues. The papers in this issue are some of the papers presented at a conference 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* in December 2004. There is a growing literature on conflicts of interest – on SSRN, 397 papers had “conflicts of interest” in the title or in 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 they have attracted the most attention from the public, from the regulators, and from academic researchers.⁶

The paper is organized as follows. In the next section, we define conflicts of interest and provide examples of such conflicts in financial institutions. We then turn in Section 2 to the issue of why these conflicts exist. In Section 3, we discuss the mechanisms that moderate and control the adverse impact of these conflicts. We review in Section 4 the evidence on whether these conflicts affect customers of financial institutions adversely. In Section 5, 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 6.

1. 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 difficulties that the customers of

⁶ We 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).

financial institutions have in ascertaining the quality of the advice given to them. Bolton, Freixas, and Shapiro analyze the situation where the customer cannot assess the accuracy of the advice received from a financial institution about whether a financial product is the most appropriate product for her. In such a situation, conflicts of interest could taint the advice. For instance, if the financial institution does not sell the product that is appropriate, but another institution does, its representative might lose a commission and the financial institution would lose the profits associated with the sale by recommending to the customer to go elsewhere. The representative may hence recommend a product that imperfectly suits the needs of the customer.

Analyst forecasts and recommendations do not completely fit into that framework. Historically, the main consumers of analyst reports were institutional investors. Typically, institutional investors can assess the quality of an analyst report and could even produce the output they obtain from sell-side analysts if they had to. They rely on sell-side analysts because their product provides different perspectives and they do not pay for it directly. However, since the 1990s, some analyst output has become increasingly available to retail investors. With retail investors, information asymmetries are magnified – the typical retail investor could not write an analyst report on her own. This problem is aggravated by the fact that media outlets typically focus on selected information from reports and ignore the caveats. For instance, websites such as Yahoo! Finance freely make available stock recommendations from a large number of analysts. Further, while a report may have important and detailed information about potential conflicts of interest, such information does not fit in a 30-second summary by a journalist or interview of an analyst.

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 or with brokerage operations.⁷ It is claimed that by offering optimistic advice, analysts might have made

⁷ The following quote represents this view: “Ostensibly, the job of the analysts was to recommend what stocks investors should purchase. But throughout the 1990s, they gave credibility to the overvalued markets

it easier for investment bankers to develop and maintain profitable relationships with firms. Anecdotes that analysts issued buy recommendations on stocks that they sold from their personal trading accounts generated strong reactions in the press and the investing public. Though sales from personal accounts can be consistent with legitimate portfolio rebalancing needs or liquidity shocks, 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 may be more likely to generate trading than downgrades when short-sales are expensive since, in that case, 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 for stocks that are costly to sell short.

Brokers can also have conflicts of interest separate from analyst conflicts of interest. They may receive indirect compensation for directing customers to particular products. For instance, a mutual fund may direct trades to a broker because it is grateful for the broker's sale of fund shares. This practice is known as directed brokerage.⁸ The broker's advice may be biased if it earns more by directing the investor to specific funds. The NASD has rules preventing brokers from taking into account commissions from portfolio transactions when making recommendations to investors.

Conflicts of interest are not 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 which have a fiduciary duty to the funds' investors. The board of a mutual fund hires service providers, including most importantly the

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.

⁸ See Mahoney (2004).

investment manager. The investment manager's contract is renewed yearly. For instance, FMR Co., better known as Fidelity, is the investment manager for Fidelity's Magellan Fund. 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 on approximately 330 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 replace him or her by the investment manager of a different family of funds.

The relationship of the board members with the investment manager may therefore trump their fiduciary duty to the investors in the fund, so that board members might be reluctant to take action against a poor-performing investment manager. Board members who work for the investment adviser 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 where the fund complex apparently agreed that some investors could enter market timing trades over the objections of individual fund managers who viewed these trades as detrimental to the performance of the funds. Also, the investment manager might vote the shares of the funds it manages to support management-initiated proposals that may be adverse to the interests of shareholders to curry favor with management because they provide profitable services to management's firm, such as managing the firm's 401(k) plan. 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 to 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 again compete fully with investment banks for underwriting mandates and again face underwriting conflicts of interest.

The Global Settlement attempted to restrict the practice of spinning, where individuals from institutions with investment banking activities would give shares in an IPO to executives who might hire the underwriter later on. These shares would gain in value on the first day and the beneficiaries of spinning would 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 the underwriter did not increase the offering price, so that the issuing firm would receive larger proceeds from the IPO. The finance literature suggests, among other explanations, that large first-day gains may be advantageous to the issuing firm as a way to signal its quality so that it can sell shares subsequently at a higher price.⁹ However, this issue is controversial. The traditional economic explanations for IPO underpricing seemed much more convincing before underpricing became extremely large 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 (for instance, Ljungqvist and Wilhelm, 2003).

Some argue that the high return of IPO stocks on the day of the offering in the late 1990s and early in 2000 were partly the result of underwriter conflicts of interest. It is claimed that underwriters would have found it advantageous to generate excitement for new issues because doing so would have increased subsequent equity issues and trading income, presumably at the expense of investors who bought the issues in the after-market.¹⁰ This argument raises the question of why underwriters find this advantageous or why they are only able to proceed this

⁹ See Ritter and Welch (2002) for a survey of the IPO literature.

¹⁰ See, for instance, Aggarwal, Purnanandam, and Wu (2005).

way episodically. Griffin, Harris, and Topaloglu (this issue) examine the trading of IPO stocks on the first day. Using a proprietary dataset, they find that between 1997 and 2002 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. The authors argue that their evidence is consistent with the hypothesis that investors buy through the lead underwriter in exchange for or on the expectation of favorable IPO allocations. One would expect, however, that investors who do more business with the lead underwriter are more likely to buy on the day of the IPO since the whole organization of the lead underwriter will be excited about the IPO and tout the stock. The authors investigate some reasons that investors have to direct more trades towards the lead underwriter on the day of the IPO and conclude that these reasons cannot explain their results.

2. 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 have costs for financial institutions if they fail to control them well. Financial institutions could eliminate many conflicts of interest by becoming specialized. For instance, a firm could insure that conflicts of interest created by investment banking activities do not affect its research by choosing not to have such activities. This is not the model that most financial institutions have pursued. In fact, firms that were specialized have tried to expand their scope of activities. To the extent that controlling conflicts of interest is expensive, financial institutions must be willing to enter in activities which lead to such conflicts because 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 activities that lead to conflicts of interest. Competition may force financial institutions to pass on these benefits to their customers.

If financial institutions were solely run for the benefit of their shareholders, one would have to conclude that conflicts of interest persist in financial institutions because shareholders are better off when conflicts exist than when they do not. 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 so well that one cannot exclude the possibility that managers may take actions that benefit them at the expense of shareholders. For instance, managers might value investment banking operations despite the conflicts of interest these operations create because they enhance their prestige rather than because they create wealth for shareholders.

To complicate matters further, financial institutions are regulated. Regulation can make it harder for institutions to enter or exit various businesses. Further, the regulated nature of financial institutions can make size advantageous for shareholders even when it would not be for comparable unregulated institutions. In banking, for instance, it is at times argued that large banks are more likely than small banks to be helped 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 under which circumstances conflicts of interest have less of an impact for an integrated financial institution than for a specialized financial institution. The benefit of integration is that, if the financial institution offers many products, it 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. A one-stop financial institution would always have a product that meets the investor's needs, so that it could recommend its product to the investor without facing a conflict of interest. Nevertheless, not all products might be equally profitable. In that case, the financial institution might prefer to recommend the more

profitable products. Hence, integrated banking, by itself, can only resolve the conflicts of interest when margins are similar across products.

There is a considerable literature in corporate finance on whether corporate diversification creates value for shareholders. Typically, papers in this literature find that on average diversified firms are valued less than a portfolio of comparable specialized firms, a finding called the diversification discount, but authors disagree as to what it means.¹¹ In general, the papers in the corporate diversification 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 changing regulatory environment. Laeven and Levine (this issue) investigate whether there is a diversification discount for financial conglomerates using a sample of 43 countries. 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 but also on a U.S. 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 U.S. 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 may have costs that offset these benefits. Financial institutions gain from activities that create conflicts of interest if they can re-use information obtained through one activity profitably in another activity. Underwriting due diligence is cheaper but also more effective for a

¹¹ For early evidence on the diversification discount, see Lang and Stulz (1994) and Berger and Ofek (1995).

bank that has intimate knowledge of the issuer from a lending relationship. Several papers examine whether underwriters' market share benefits 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% in contrast with a probability of 3% for a non-relationship lender. They also find that, though a lending relationship affects the probability that a bank will be chosen as an underwriter, the effect is less important than the loan effect they document. Ljungqvist, Marston, and Wilhelm (2006) also provide evidence that a prior lending relationship increases a bank's probability of being selected as an underwriter, but they show that prior underwriting relationships are more important.

The re-usability of the information acquired by a bank as a lender when it underwrites the securities of the borrower has led to a large literature that examines whether borrowers benefit from issuing securities with a bank that lends to them. 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 from 1994 to 1997 the underwriting spread for seasoned equity issues is lower when the lending bank is in the syndicate. Drucker and Puri (2005) demonstrate that issuers issue equity at lower cost when the underwriter is also lending to them.

Financial institutions can gain from diversification of activities 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 for sure. If these analysts belong to an organization with investment bankers, investors might be somewhat skeptical of their advice, inducing a cost to the financial institution from having both analysts and investment bankers. However, the institution also benefits from having both research and 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 because of an ongoing deal.¹² The understanding of the firms involved in the deal that the analyst brings to the table can be valuable to the investment bankers. If the firm stopped making analyst forecasts and recommendations available to its customers, the investment bankers would have to find another way to acquire the information they receive from analysts. Doing so would not be straightforward unless the investment bankers hired analysts but did not allow them to give advice to the public.¹³ This would increase the investment banking production costs of the financial institution and the advice that investment bankers would receive would most likely be less valuable if interaction with investors sharpens analysts' understanding of firms and industries. By being brought over the wall, analysts garner information about firms they would not have otherwise. Though they cannot use that information to improve their immediate recommendations and forecasts directly, their better understanding should presumably improve their future performance. With 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

¹² Underwriting activities and research activities are supposed to be separated by a "Chinese wall". An analyst is brought over the wall when he participates in underwriting activities. For an analyst's perspective on being brought over the wall, see Reingold and Reingold (2006).

¹³ Hiring outside consultants would have a host of problems since secrecy is often extremely important in investment banking transactions.

certainly possible in theory that the consumers of analyst services receive a better product from analysts subject to an investment banking conflict of interest than from independent analysts.

There is clear evidence in the literature that firms shopping for an underwriter care about analysts associated with the investment banks that they consider, so that joint production of investment banking services and research can increase the demand for investment banking services. Krigman, Shaw, and Womack (2001) surveyed firms that switched lead underwriters after the IPO. They found that dissatisfaction with the provision of analyst services on their firm played a major role in their decision to switch. In their survey, 88% of the CFOs of switching firms listed a research reason as one of their top three reasons to switch. This does not mean that CFOs are looking for biased coverage. In the survey, they seemed 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) is supportive of this conclusion. They show that underwriters initiate coverage faster than other firms and maintain it longer.

The possibility that analysts who face conflicts of interest because of investment banking activities could actually produce better information than others has empirical support. However, the way financial economists have studied analyst output may limit the extent of supportive evidence. Financial economists (with 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) have typically focused on few dimensions of the output of analysts, namely earnings forecasts, growth forecasts, and recommendations. Yet, in many ways, the other components of analyst reports may often be more useful to institutional investors. In particular, institutional investors value an analyst’s industry knowledge more than

his stock selection ability or his earnings forecasts.¹⁴ These harder-to-quantify components of analyst reports may also be the ones where the understanding of the firm and industry are the most valuable. Nevertheless, for earnings forecasts, growth forecasts, and recommendations, there is some evidence that analysts' 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 in their earnings forecasts and less biased. Jacob, Rock, and Weber (2003) reveal that investment bank analysts are on average more accurate using forecasts from 1998 to 2001.

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

If buyers are rational, they will only pay a price for the good they purchase that insures that they will not be hurt by conflicts of interest. To increase the selling price when the price is discounted because the buyer believes that the seller may have taken actions that decrease the value of the transaction to the buyer, the seller has incentives to take steps to commit to reducing the impact of conflicts of interest.¹⁵ For instance, the seller of a used car might offer a warranty. As is well-known, it is possible for conflicts of interest to prevent trade when the buyer believes that actions by the seller could effectively make the good purchased worthless and the seller cannot take actions to reduce the impact of conflicts of interest on the buyer.¹⁶ Therefore, financial institutions benefit from taking actions that control the impact of conflicts of interest to customers, but even when these actions are imperfect, customers may not suffer from conflicts of interest when they rationally take into account their impact.

¹⁴ Table 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, so that it is 11th attribute in 2003. In all years, industry knowledge is valued more than stock selection.

¹⁵ See Grossman (1981).

¹⁶ See Akerlof (1970).

Let us go back to analyst conflicts of interest. Consider the hypothetical case where an analyst will always do and say anything to make an investment banking deal happen. By acting that way, he would lose credibility with investors, so that they would ignore his recommendations. As a result, his usefulness to the investment banking clients of his firm would disappear. This suggests that there is a real sense that, when conflicts of interest become extreme, they cannot have an impact on the customers of financial institutions. Of course, this mechanism would not work if customers systematically underestimate the adverse impact of conflicts, so that we will have to consider this possibility.

To be credible, an analyst has to build a reputation of providing valuable information to investors. Jackson (2005) models reputation acquisition for analysts and shows that analysts acquire reputation with greater forecast accuracy. An analyst with greater reputation will be leery of tainting his advice and forecasts to help the investment bankers if they want to be helped that way. In the extreme case, if reputation is extremely valuable and is fragile, the analyst would always ignore pressures from investment bankers and always provide unbiased advice. With this reasoning, conflicts of interest would typically have a small enough impact that they would leave no significant traces in an analyst's output as long as this analyst values his reputation sufficiently. An analyst who puts low value on his reputation might, however, choose to offer tainted advice even though it affects his reputation adversely when confronted with the possibility of a sufficiently valuable short-term payoff from offering such advice.

Reputation reduces the impact of conflicts of interest, but at times reputation can be for sale. Conflicts of interest are likely to create the most problems when the benefits from not preserving one's reputation are highest. These benefits may be more likely to occur in unusual periods that are not recognized as such – if a party to a transaction knows that it is advantageous for the other party to behave in a way that endangers its reputation, the benefit to that party from behaving that way will disappear since its actions will rationally be anticipated by the other party. For instance, if an analyst will be compensated for shading the truth, shading the truth may be more

advantageous when high valuations make underwriting more profitable and the analyst expects the high valuations to be temporary but investors do not. Hence, viewed from this perspective, it may make sense that conflicts of interest would be more of a concern in periods such as the one of the turn of the century, when valuations were extremely high. However, the dramatic increase in valuations of the 1990s was followed by a crash. It is a well-established tradition that crashes lead to intense searches for scapegoats. After all, that is how the Pecora hearings mentioned earlier came about.

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

The labor market plays a role in reducing the impact of conflicts of interest. If analysts who have more accurate forecasts are better rewarded by the labor market, analysts' incentives to be more accurate will limit the impact of conflicts of interest. Does accuracy pay for analysts? The literature provides some evidence that analysts who are less accurate are more likely to separate from their jobs. Mikhail, Walther, and Willis (1999) show that an analyst is more likely to turn over if his accuracy declines relative to his peers, but the profitability of his recommendations does not matter. Hong and Kubik (2003) go one step further and investigate whether an analyst is more likely to move up or down, where a move up is one to a more prestigious firm. They find that more accurate analysts are more likely to move up. Controlling for accuracy, the analysts who issue more optimistic forecasts are more likely to move up. Ljungqvist, Malloy, and Marston (2006) show that the importance of accuracy for career outcomes is much more limited in recent years.

Analysts have a clear metric showing success in their profession, namely their rankings in the *Institutional Investor* annual poll. Reingold and Reingold (2006) show vividly the importance of this poll for analysts. The best an analyst can hope for is to be selected to the All-Star team.¹⁷ Analysts do not become All-Stars by offering tainted advice but by being helpful to institutional investor clients. Firms are eager to hire analysts who perform well in that poll. So, analysts who are also-ran are in danger of being replaced by analysts who do. An analyst's ranking in the poll is a major determinant of his compensation.¹⁸ Ljungqvist, Malloy, and Marston (2006) conclude that All-Star status appears to be the most important driver of career outcomes for analysts. Institutions advertise the success of their analysts in the poll. Analysts have repeated relationships with the voters in the poll, so that institutional investors effectively monitor the analysts. Typically, analysts visit the voters and talk to them constantly. 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. Career concerns of analysts therefore naturally reduce the impact of conflicts of interests. It is interesting to note that Clarke, Khorana, Patel, and Rau (2006) find that All-Star analysts do not change their recommendation levels for firms when they change jobs. Their result is consistent with analysts caring about their reputation sufficiently that they repel pressures from investment bankers – or alternatively that these pressures are often not there.

The paper by Ljungqvist, Marston, Starks, Wei, and Yan (this issue) shows clearly that analysts are responsive to the demands of institutional investors. They investigate recommendations from 1994 to 2000. They 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

¹⁷ Strictly speaking, *Institutional Investor* gives the title of All-American analyst.

¹⁸ See Stickel (1992).

forecasts are more accurate for firms with more institutional ownership and that ratings following share price decreases are adjusted more quickly.

We saw that there are conflicts of interest for mutual fund investment managers. Investment managers get 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, one might argue that regulations on the compensation of fund managers aggravate the impact of conflicts of interest. The regulations make it difficult to compensate mutual fund managers for their investment performance directly, so that they end up having compensation that is mostly sensitive to the size of the fund they manage.¹⁹

We have focused so far on mechanisms that provide incentives to individuals to avoid exploiting conflicts. However, financial institutions have incentives to control conflicts of interest as well. If an institution can convince customers that conflicts of interest will not affect its actions in a way that is costly to them, it will be able to sell its services and goods 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 such a reputation is valuable, the institution would 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 share of the investment bank in equity underwriting; their second proxy is the loyalty of underwriting clients. They find that there is a negative relation between the optimism of analysts and the reputational capital of the financial institution as measured by their proxies. This result is consistent with the prediction that institutions with greater reputational capital control conflicts of interest better.

Financial institutions also have incentives to develop a 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 where banks and investment banks

¹⁹ See Elton, Gruber, and Blake (2003).

underwrite securities. In that model, banks face a conflict of interest when they underwrite a security issue by a firm to which they have lent money since they will gain from a successful security issue either by having the loans repaid or by having the loans become more secure. In her model, however, reputation concerns mitigate this conflict of interest: A bank would make a short-run profit by underwriting a bad firm, but it would cost it 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. New highly valuable businesses have been built to take advantage of situations where competitors had 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. Regulatory actions can put an end to the career of an analyst. More generally, for jobs that require employees to hold a license, that license can be withdrawn. In addition, though, litigation can impose large costs on financial institutions. Should an institution damage customers because of conflicts of interests, if the judicial system worked well, the institution would have to make its customers whole, so that it would lose whatever benefits it derived from conflicts of interests, and the litigation costs would mean that it would lose more than these benefits. Of course, in practice, errors are possible, so that an institution might have to compensate customers for damages that do not exist or might not be held wholly accountable for damages it did inflict.

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

Conflicts of interest could be acute but have limited or no adverse impact on the provision of services by financial institutions because of the forces we discussed that mitigate the impact of these conflicts. However, even when conflicts of interest do affect the provision of services, they may still not adversely affect the consumers of these services because customers take the conflicts into account. To make this point clear, consider the output of financial analysts. Labor market incentives could make the recommendations of an analyst unbiased. If an analyst's recommendations are biased despite labor market incentives, the bias in his recommendations might have no impact on security prices because the capital markets discount them and might not affect the investment decisions of investors because they take the bias 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 which investigates the adverse impact of conflicts of interest. The literature that focuses on the impact of conflicts of interest on analysts and their customers is extremely large. To help the reader, we summarize the information contained in the papers from that literature we discuss in Table 1. The papers in that literature are divided into those papers that focus exclusively on how conflicts affects analyst forecasts and recommendations of analysts (Panel A) and those papers that consider how conflicts affect the returns of investors following analyst recommendations (Panel B).

It has been believed for a long time that analysts are optimistic. For instance, Lloyd-Davies and Canes (1978) show that analysts tend to have more positive recommendations than negative ones and Fried and Givoly (1982) show that earnings forecasts are upward biased. Analyst optimism may 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 would be consistent with this view. However, it is worth noting that the evidence on optimism of analyst forecasts is, to quote a review paper, “contextually defined and sample-period specific.”²⁰ In particular, it appears that the results of the literature are sensitive to the measure of earnings used – analysts may choose not to forecast some transitory components of actual earnings, so that they may appear to be overoptimistic if the components they do not forecast tend to be negative and are included in the earnings compared to the analyst forecasts.

There is evidence that optimistic biases for earnings forecasts have fallen over time. Brown (2001) finds that median forecasts become slightly pessimistic over the period from 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 mistakes.

Even if analysts were really issuing over-optimistic advice, there is evidence that investors can interpret the relative information value of rankings. By giving high rankings, however, analysts may have decreased the information value of these rankings. In contrast, the information value of rankings seldom given may have increased. For instance, Lin and McNichols (1998) find that hold rankings from affiliated analysts are more informative than hold rankings from independent analysts for their sample period, plausibly because hold rankings from affiliated analysts are really sell rankings since these analysts appear to be extremely reluctant to give sell

²⁰ See Ramnath, Rock, and Shane (2006), p. 66.

rankings during their sample period. Interestingly, Fang and Yasuda (2006b) find that buy recommendations in general do not have information that is useful to investors in contrast to sell recommendations. However, further supporting the importance of reputation, they find that buy recommendations made by All-Star analysts are useful to investors. Evidence in Kadan, Madureira, Wang, and Zach (2006) seems to suggest that investors saw through the scaling of the ratings. They investigate an episode in which, in response or anticipation to regulatory changes, financial institutions made large changes to their rating systems to have more balance and to simplify them. They write that these changes amounted to “massive reclassification of outstanding recommendations,” yet the 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 imbalance 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 rankings, small traders do not. These traders buy both for strong buy and buy recommendations but, paradoxically, fail to react significantly to sell recommendations of All-Star analysts. These results suggest that more analysis is required to understand exactly why the small traders behave the way they do.

There is a considerable literature that investigates the relation between the properties of analyst forecasts and recommendations and the investment banking activities of the firms they belong to. 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, so that studies compare the recommendations and the properties of forecasts of analysts from an issuing firm’s underwriters to those of analysts

unaffiliated to the firm's underwriters. Dugar and Nathan (1995) identify for a sample of companies the investment bank advising that company. For each analyst report produced by that investment bank, they identify a report produced by an analyst not associated with that bank. They find that the analysts from the firms' investment banks have more optimistic earnings forecasts and investment recommendations, but an investor following the recommendations from these analysts would not perform worse and the market discounts their recommendations.

Several papers examine analyst output following a securities offering. Lin and McNichols (1998) study forecasts and recommendations for firms with secondary equity issues. They 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 in their case, investors do not recognize 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 from 1994 to 2001. They find, like Michaely and Womack, that investors discount affiliated recommendations, but in contrast to them, they find no evidence that the recommendations of affiliated analysts are less valuable. In contrast, Bradley, Jordan, and Ritter (2006) examine IPOs from 1999 to 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 create conflicts. Generally, the authors following this approach do not find evidence of bias when they consider earnings forecasts. This

literature 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.

In a separate paper, Agrawal and Chen (2005) look at 110,000 recommendations issued by 4,000 analysts from 1994 to 2003 using the same approach. 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 this optimistic bias induced by conflicts of interest. In fact, this discounting even 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 which 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 may simply

be due to the possibility that the importance of investment banking pressures is overstated. Ljungqvist, Marston, and Wilhelm (2006) investigate specifically whether more biased research helps investment banks to obtain more underwriting mandates for the period from 1993 through 2002. They could not find “evidence that aggressive analyst behavior increase their bank’s probability of winning an underwriting mandate.” They conclude that the main determinants of the lead-bank choice are prior underwriting relationships and lending relationships. Clarke, Khorana, Patel, and Rau (2006) also find no evidence that issuing optimistic earnings forecasts or recommendations affect 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 are biased than evidence that earnings forecasts are biased by affiliated analysts. However, even for recommendations, the literature does not reach a consensus. Importantly, findings that analysts affiliated with underwriters are more optimistic are not, by themselves, evidence that this optimism occurs because of conflicts of interest. Other explanations are possible. For instance, such a finding could simply be evidence that selection biases are 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 following the issuing firm has a hold or sell recommendation on that firm. If an underwriter participates in an offering only if its analyst following the offering firm does not have a hold or sell rating on the firm, ex post analysts affiliated with underwriters will appear 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 from 1998 to 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 studies seem more likely to find such differences when they compare analyst forecasts and recommendations closer to the issuance date than the six-month window utilized by these authors.

Barber, Lehavy, and Trueman (this issue) compare the recommendation performance of analysts from firms with investment banking business to the recommendation performance of analysts from independent research firms from 1996 to 2003. They find that investors would have been better off by almost 8 percentage points annually (before transaction costs) when following the buy recommendations of the independent analysts. However, all the evidence of the authors for the better performance of independent analysts comes from the period after the peak of NASDAQ and for stocks with recommendations of buy or better. In contrast, investors would have done well to follow recommendations of hold or sell from analysts from investment banking firms. The evidence the authors present differs substantially between firms that issued equity either in an IPO or in a seasoned equity offering (SEO) and other firms. When the authors look at the whole sample of firms, there is no evidence that following the buy recommendations of analysts affiliated with investment banks would have led investors to have underperforming portfolios, but investors following sell recommendations by affiliated analysts would have had superior performance. In contrast, when the authors separate firms between 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 that 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 keeping buy recommendations when stocks were collapsing is often viewed as proof that analysts allowed conflicts of interests to influence their judgments. Yet, in an efficient market, the fact that a stock’s price has fallen does not mean that it will keep falling. Hence, poor past returns do not justify a sell recommendation. Other explanations are also plausible. For instance, suppose that an analyst has a valuation model suggesting that a stock price should be \$100 when the stock trades at \$80. For the stock price to increase to \$100, the market has to eventually agree with the analyst. Instead, the stock falls to \$5. If, when the stock trades 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 valuation model would recommend the stock as a purchase as long as his model tells him that the stock is worth significantly more than \$5. It does not logically follow, therefore, that an analyst who fails to change his recommendation as a stock price has fallen is providing misleading or fraudulent recommendations. It could also be that the price drop leads the analyst to revise his 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. In contrast, O’Brien, McNichols, and Lin (2005) argue that analysts associated with investment banks are slower to downgrade stocks. Ljungqvist, Marston, Starks, Wei, and Yan also find this result when they do not control for institutional holdings for the firms followed by analysts. It seems then that whether one concludes that analysts affiliated with institutions with investment bank activities delay downgrades or not is sensitive to the variables one controls for. 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 in their valuations strongly. Such analysts might be more likely to support a stock after an IPO if it is performing poorly. 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 on analysts we have reviewed so far is mixed. We saw some reasons why it is so. There are also more technical reasons for why the evidence is so mixed. Studies typically use short sample periods. Yet, some studies discussed in this paper show that results that hold in one sample period may not hold in another one. 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 selection biases or random variation that is poorly understood. 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 than others. The studies also use different databases. There are some concerns about the quality and integrity of the databases. Ljungqvist, Malloy, and Marston (2006) show that thousands of recommendations which were associated with the name of analysts in 2002 on I/B/E/S are now no longer associated with analyst names – i.e., they were made anonymous (the evidence of the authors suggest that analysts are most likely responsible for the anonymization). The recommendations that were made anonymous tend to be bolder and made by more senior analysts. These recommendations are associated with poor performance. Strikingly, those analysts whose recommendations were anonymized experienced better career outcomes than other analysts.

The evidence on the adverse impact of conflicts of interest of banks acting as lenders and underwriters is unambiguous. Overall, there is a consensus in the literature that, on average, these

adverse impacts do not exist. Recent research has shown that the bonds underwritten by bank underwriters in the years before the Glass-Steagall Act performed as well, if not better, than the bonds underwritten by investment banks, so that the claims that bank underwriters took advantage of the public are not supported.²¹ 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) conclude that bank underwriting reduced the probability of default of a bond using a matched sample of bonds. 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 in the 1990s before the Glass-Steagall Act was repealed. These studies find no evidence supportive of the view that possible conflicts of interest by commercial banks adversely affected investors. Hence, enabling 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 firms these managers invest in affect how the shares of these firms are voted by mutual fund managers. In the absence of conflicts of interest, one would expect the managers to vote the shares for proposals that increase the value of the firms since doing so improves their performance and makes the funds' shareholders better off. However, if such proposals are objected to by the management of the firms, the fund managers may offend the management of the firms and lose business. For instance, if FMR handles all of the 401(k) business of a corporation, the management of that corporation might be upset if FMR votes shares against the management's recommendation and it might retaliate by withdrawing the 401(k) business from FMR. Davis and Kim have an extremely large dataset of votes by mutual funds. They find that there is no relation between how likely an investment manager is to vote with the management of a company and the business ties of that company with the investment manager. However, when they look at the votes of funds across firms, they conclude that mutual funds associated with

²¹ Drucker and Puri (2006) review the literature on bank underwriters.

investment management companies with more business ties to corporations 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 have an effect on 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. They 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. Also finding similar results are Ding and Wermers (2005), who investigate how mutual fund performance is related to the composition of the mutual funds' board. In their paper, the performance of a mutual fund increases with the number of independent directors on its board, and an underperforming manager is more likely to be replaced when the board has more independent directors. It is striking that mutual fund studies find stronger evidence of an association between board composition and performance than studies focuses on operating firms.²²

There is no convincing evidence that underwriters choose to dump stocks they underwrite into funds that their firms manage. Though both Ritter and Zhang (2006) and Johnson and Marietta-Westberg (2005) show that funds managed by underwriting firms invest more in IPOs underwritten by their firm than in others, both papers have evidence against what the former authors call the "dumping" hypothesis. Most importantly, Johnson and Marietta-Westberg find evidence that funds affiliated with underwriting firms earn significantly higher returns than funds not affiliated with such firms.

²² See, for instance, Bhagat and Black (2002).

5. Is there a role for law and regulation?

If customers of financial institutions take into account the conflicts of interest appropriately, the costs of these conflicts will be born by the owners of financial institutions so that these institutions have incentives to invest in reducing the deadweight costs associated with these conflicts. It is possible, however, that laws and regulations can decrease these deadweight costs because competition among financial institutions could produce equilibria where these deadweight costs cannot be reduced further without coordination. For instance, in the vein of Stein (1989), one could think of an equilibrium where each institution pushes its analysts to be optimistic about investment banking clients. However, this optimism has no impact in equilibrium on investment banking market shares because everybody behaves in the same way and has no impact on customers of analyst services because they discount the advice they receive. Such an equilibrium would be inefficient and firms might not be able to reach an efficient equilibrium without coordination by regulators.

A more thorny issue is that not all investors may be sufficiently rational or sufficiently informed to take into account the conflicts of interest of financial institutions in their investment decisions. Historically, the output of analysts 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. Malmendier and Shanthikumar (this issue) view their results as evidence that retail investors are not fully cognizant of the impact of conflicts of interest. Some might argue that legislation should protect small investors even more than it does. Such a view might be reasonable for a range of products. However, analyst conflicts of interest have been known about for a long time. Investors know that different analysts have different views. They can make their investment decisions accordingly. The efficiency of the stock market depends critically on investors having incentives to acquire and exploit information. If, to protect small investors, it is necessary to reduce the information produced by analysts and hence limit the information available in the markets, the net outcome of regulation may be a reduction in market efficiency.

Regulatory solutions impose costs on financial institutions. As a result, while deadweight costs associated with conflicts of interest may decrease, they may be replaced with regulatory costs. Financial analysts have an important role to play in producing information about companies. Many regulatory changes have affected how they perform their job. When regulations increase the cost of producing analyst services, fewer analyst services are produced. With rational investors, less production of analyst services leads to a decrease in the efficiency of financial markets. Further, analyst services can 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.

Several papers have attempted to identify the impact of regulatory changes on analyst coverage, bias, and precision. The Global Settlement imposed many changes on the signatory firms. It forced firms to “physically separate their research and investment banking departments to prevent the flow of information between the two groups...”. Such a requirement decreased the potential legitimate synergies between investment banking and research discussed earlier. Boni (2006) summarizes the changes in research for the 10 firms that were party to the Global Settlement as follows. First, these firms reduced their coverage (though some of this reduction may have come from delistings). In 2001, these financial institutions covered 996 companies. Two years later, this number fell to 800. Second, the analysts did not become less optimistic. Third, the stock-price impact of recommendation changes fell, so that analysts’ recommendations became less informative. This evidence suggests that the Global Settlement might have succeeded in making investors worse off and the capital markets less efficient. However, the Global Settlement has many different provisions, so some provisions might have a positive impact. Unfortunately, assessing the impact of the regulatory changes is complicated by the fact that not all authors reach the same conclusions. More data will probably be required before we can obtain a more definitive assessment of the impact of the regulatory changes. The samples used by authors in existing studies have at most slightly more than two years of data with all the important

new regulations in place. Some of the effects of these regulations may not be noticeable with such a short sample period.

The first important regulatory change affecting analysts was the promulgation of 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 leads to a level playing field among investors. To the extent that analysts receive valuable information as a result of ties of their financial institution with corporate clients, one would expect Reg FD to have made these relationships less useful. Mohanram and Sunder (2006) conclude that the forecasting accuracy of analysts who were more likely to have preferential access before Reg FD because of the financial institutions they belonged to declined. Gintschel and Markov (2004) have similar results. As banking corporate ties became less useful in producing information, corporate ties of financial intermediaries not affected by Reg FD should have become more valuable. Accordingly, Jorion, Liu, and Shi (2006) 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 (Aggrawal, Chadha, and Chen, 2004; Gintschel and Markov, 2004), that analyst forecast dispersion has increased (Bailey, Li, Mao, and Zhong, 2003; Mohanram and Sunder, 2006), that disagreement among analysts has increased (Bailey, Li, Mao, and Zhong, 2003), that recommendation changes have less impact (Cornett, Tehararian, and Yalcin, 2005), and that 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 decreases steadily from then on to the end of their sample period of June 2003. Barber, Lehavy, McNichols, and Trueman (2006) investigate the evolution of the distribution of recommendations further. They 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 NYSE and NASD rules.

Finally, Kadan, Madureira, Wang, and Zach (2006) compare analyst output before the adoption of the regulations that were aimed at changing the conduct of research in financial firms to analyst output afterwards. The authors consider a pre-regulation period from November 2000 to August 2002 and a post-regulation period from September 2002 to December 2004. They find that the odds of an analyst issuing an optimistic recommendation during the pre-regulation period increased by 38% for stocks that had undergone an IPO or SEO and an additional 10% if the analyst was an affiliated analyst. These effects effectively disappear in the post-regulation period. Focusing on IPO/SEO firms, they 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 non-affiliated 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 both affiliated and non-affiliated analysts. This evidence suggests that in the pre-regulation period they consider, the market discounted positive recommendations for these firms completely and did not think that, somehow, affiliated analysts were more biased

than non-affiliated analysts. 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 U.S. markets.

6. Conclusion

In this paper, we define conflicts of interests generally as a situation where one party in a transaction could potentially make a gain by taking actions detrimental to the other party. Because taking advantage of conflicts of interest has indirect costs, for instance, reputation costs, it does not follow that the party will take these actions. It is also possible that the other party anticipates the actions taken, in which case it is not hurt by them. We show that there is a large and growing literature on the economics of conflicts of interests. 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, the literature on the conflicts of interest arising because banks underwrite securities for firms that have borrowed from them does not find evidence that this conflict has an adverse impact. At the other extreme, the literature seems to find that independent boards for mutual funds have value. In between, the literature on 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. It seems to us that a fair assessment of that literature is that the majority of the papers do not suggest that the analyst conflict of interest arising from investment banking activities had a systematic and persistent impact on the customers of analyst services.

Overall, the academic literature on conflicts of interest, 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 individuals working for financial institutions 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 recommendations

made to them for biases that might result from these conflicts. Nevertheless, the existence of factors that mitigate the impact of conflicts of interests should not lure us into complacency.

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Table 1**Papers on conflicted versus non-conflicted sell-side analysts**

The papers are sorted by the beginning of the sample period within each panel. Panel A lists the papers focused on the impact of conflicts of interest on forecasts and recommendations. Panel B lists the papers that draw conclusions on the impact of conflicts of interest on the stock return performance of recommendations or on the market's reaction to forecasts and recommendations. The last column for both panels provides our assessment of whether the paper shows that the conflicts of interests afflicting sell-side analysts affect adversely the actions of analysts and/or investors. If a study considers only the impact of conflicts on actions of analysts, we indicate that the conflicts have adverse effects if analysts are shown to have biased forecasts and/or recommendations because of the conflicts. If a study considers the impact of conflicts on analyst actions and on investors, we determine if the conflicts have adverse effects based on whether investors are affected adversely by the conflicts. If a study finds that analysts are biased because of conflicts but this has no impact on returns of investors, we therefore conclude that the conflicts have no adverse effects. Admittedly, this assessment involves an element of arbitrariness. The conclusions listed are those of the authors of the papers. The papers in bold are in this issue.

No.	Paper	Sample Period, Data Sources	Conclusions	Adverse Effects?
Panel A: Conflicts of interest and biases in forecasts and recommendations				
1.	Bradshaw, Richardson, and Sloan (2006)	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
2.	Chan, Karceski, and Lakonishok (2006)	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
3.	Clarke, Khorana, Patel, and Rau (2006)	1988-1999, I/B/E/S, <i>Institutional Investor</i> , 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
4.	Jackson (2005)	1992-2002, I/B/E/S, SDC, Australia Stock Exchange Transaction Data.	Analysts can generate more trade 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.	No
5.	Irvine (2004)	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

No.	Paper	Sample Period, Data Sources	Conclusions	Adverse Effects?
6.	Ljungqvist, Marston, Starks, Wei, and Yan (this issue)	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. Evidence that earnings forecasts are more accurate for firms with more institutional ownership and that ratings following share price decreases occur more quickly.	No
7.	Ljungqvist, Marston, and Wilhelm (2005)	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
8.	Ljungqvist, Marston, and Wilhelm (2006)	1993-2002, I/B/E/S, SDC, LPC.	No evidence that aggressively optimistic analyst recommendations increased their bank's probability of winning an underwriting mandate. Main determinant of lead-bank choice is strength of prior underwriting and lending relationships.	No
9.	O'Brien, McNichols, and Lin (2005)	1994-2001, First Call, SDC.	Affiliated analysts downgrade their recommendations from a buy rating more slowly than unaffiliated analysts subsequent to equity offerings.	Yes
10.	Malmendier and Shanthikumar (this issue)	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.	Yes
11.	Agrawal and Chen (2004)	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 LTG forecasts is positively related to the importance of brokerage business.	No
12.	James and Karceski (2006)	1996-2000, First Call, SDC.	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 poor-performing firms.	Yes
13.	Cowen, Groysberg, and Healy, (2006)	1996-2002, First Call and I/B/E/S, SDC, Nelson's Directory of Investment Research.	Analysts at firms that funded 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

No.	Paper	Sample Period, Data Sources	Conclusions	Adverse Effects?
14.	Jacob, Rock, and Weber (2003)	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
15.	Bajari and Krainer (2004)	1998-2003, Nasdaq-100 index firms, First Call, SDC.	Using a new approach that allows for peer group effects, they show that 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

Panel B: Studies of the stock performance of firms following analyst forecasts and recommendations

16.	Dechow, Hutton, and Sloan (2000)	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
17.	Dugar and Nathan (1995)	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.	No
18.	Lin and McNichols (1998)	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.	No
19.	Michaely and Womack (1999)	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 do not react as much to buy recommendations issued by underwriter analysts compared to those issued by non-underwriter analysts.	Yes

20.	Clarke, Khorana, Patel, and Rau (2004)	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
21.	Fang and Yasuda (2006a)	1993-2003, I/B/E/S, <i>Institutional Investor</i> , Carter-Manaster rankings.	During the market downturn, analysts ranked by Institutional Investor 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
22.	McNichols, O'Brien, and Pamukcu (2006)	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.	No
23.	Fang and Yasuda (2006b)	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 the market troughs. Therefore, reputation exerts a mitigating role for conflicts of interest.	No
24.	Agrawal and Chen (2005)	1994-2003, I/B/E/S, x-17a-5 SEC Filings.	Using revenue breakdowns as proxies for conflicts of interests, they find that the 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.	No
25.	Barber, Lehavy, and Trueman (this issue)	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
26.	Groysberg, Healy, Chapman, and Gui (2005)	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 were less profitable than those of sell-side analysts.	No

27.	Boni (2006)	1999-2004, I/B/E/S.	After the <i>Global Research Analyst Settlement</i> , the involved banks reduced their coverage of firms, continued to be optimistic, and issued recommendations changes that have lower price impacts. The Settlement seems to have done little to change the recommendations made by the ten Ssettlement banks or the long-term investment value of their recommendations for investors. Also, naïve investors who trade on the level of analyst recommendations can be adversely impacted both pre- and post-Settlement.	Yes
28.	Kadan, Madureira, Wang, and Zach (2006)	2000-2004, I/B/E/S, SDC.	The odds of an analyst issuing an optimistic recommendation during the pre-regulation period (Nov 2000-Aug 2002) increased by 38% for stocks that have undergone an IPO or SEO 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 non-affiliated firm in the post-regulation period.	Yes