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Are Stars' Opinions Worth More? The Relation Between Analyst Reputation and Recommendations Values

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Abstract

We study the effect of personal reputation on the values of analysts' stock recommendations using the 1994-2003 U.S. data. All-American (AA) analysts' buy recommendations earn significantly positive abnormal returns over the 10-year period. Buy recommendations of analysts at top-tier banks also earn significantly positive abnormal returns, but only AAs contribute to this out-performance; top-tier non-AAs' buy recommendations do not provide positive abnormal returns.

Interestingly, sell recommendations made by all four sub-groups of analysts (top-tier AA, top-tier non-AA, lower-status AA, lower-status non-AA) have significant investment value. Among them, top-tier-bank analysts out-perform lower-status-bank analysts.

Comparing investment performances across groups, we find that top-tier AAs out-perform all the other groups in both buy and sell category. The value of their recommendation is economically significant. For buys, they out-perform the market by 6.12% per year in raw returns, and by 4.35% and 2.59% per year in market- and Fama-French three-factor adjusted returns, respectively. For sells, their market- and three-factor-adjusted returns are 3.56% and 6.9% per year, respectively. These results indicate that active sell-side research has value, and that personal reputation is positively related to recommendation value.

We document evidence consistent with the existence of conflict of interest in top-tier investment banks. We find that buy recommendations made by top-tier non-AAs out-perform all other groups in the peak year of 1999, but they yield the negative and the lowest abnormal returns in the subsequent trough of 2000. Since top-tier analysts generally have superior skill, this volatile performance pattern is consistent with top-tier non-AAs aggressively touting "glamour" stocks during market booms and subsequently being reluctant to downgrade their former champion stocks in the following bear market. In contrast, since top-tier AAs' recommendations remain valuable during the troughs of the market, our results indirectly suggest that personal reputation, as indicated by the AA status, can play a mitigating role in the conflict of interest problem and thus has a net positive effect on the value of analysts' stock recommendations.

1. Introduction

The idea that Wall Street research is subject to conflict of interest has long been around in the academic literature, but it is only the fall of Enron and other high profile corporate scandals in recent years that brought the issue into spot light. Moreover, some of the highly publicized cases of conflict of interest have involved former-"star" analysts, leading some critics to view the prevailing incentive schemes facing analysts as seriously flawed. Amid the collapse of Wall Street's credibility, regulators rushed to the scene and passed a slew of regulations aimed at enforcing the integrity of sell-side analyst research. These regulations include, among other things, requirements that investment banks publish the distribution of the recommendations issued by their analysts, and that they contract with no fewer than three independent research firms to provide an unbiased view of the prospects of the companies they cover.[1]

Without doubt, the earnest aim of the new regulations is to increase transparency in Wall Street research and reduce the potential conflict of interest. The implicit assumption is that the research provided by investment banking firms is necessarily biased, and that investors are harmed by such research. Although the example of Enron, WorldCom, and a few other cases make these assumptions appear compelling, they are assumptions nonetheless, and their truthfulness is an empirical question. To what extent are the stock recommendations made by analysts working at big investment banks biased? And, perhaps more importantly, to what extent are investors harmed by their recommendations? Do investors gain by differentiating between analysts with and

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[1] The new disclosure rule (NASD Rule 2711) became effective as of September 9, 2002. In addition, as part of the $1.4 billion settlement with SEC reached on January 15, 2003, 10 of the country's biggest brokerage firms were also required to spend anywhere from $7.5 million to $75 million each on independent research during the next five years. The independent research service started in July, 2004.

without personal reputation? Do investors gain by following recommendations of analysts unaffiliated with those large underwriters? These are the central questions that we attempt to answer in this paper.

The existing literature provides inconclusive and incomplete evidence with regard to these questions. Most of the existing work that concludes conflict of interest has examined the specific context of new stock issues (IPOs and SEOs). Here, researchers find that conflict of interest exists as affiliated analysts tend to be more bullish than non-affiliated analysts and the value of their recommendations are correspondingly lower. Notable work in this vain include Michaely and Womack (1999) which examine post-IPO recommendations, Dechow, Hutton, and Sloan (2000) which examine long term earnings forecasts around IPOs and SEOs, and Lin and McNichols (1998) which examine earnings forecasts as well as stock recommendations around IPOs. However, the evidence on conflict of interest is much less clear-cut in the more general context without stock issues. Two recent papers, Agrawal and Chen (2004) and Iskoz (2003) both conclude that *in general*, there is no evidence that affiliated or investment bank analysts are more biased than analysts from independent research firms.[2] Furthermore, it is not clear that less biased recommendations of unaffiliated analysts are necessarily *more valuable* to investors. Unbiased opinions, after all, could be just noise.

Given that the evidence on the effect of potential bias on the *investment value* of analyst recommendations is far from being conclusive, our first empirical question is the

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[2] Even in the context of stock issues, the empirical result is not entirely consistent. While Michaely and Womack (1999) and Dechow, Hutton, and Sloan (2000) favor the view that affiliated analysts opinions provide lower investment values, Lin and McNichols (1998) did not find lower investment value from affiliated analysts' recommendations. Furthermore, it is possible that in equilibrium, even if analysts are biased, rational investors can undo the effect of biased recommendations by under-weighing recommendations made by conflicted analysts. This theoretical possibility is outside the scope of this paper.

economic consequence of following analysts' recommendations. We provide empirical evidence on this question by comparing the total returns of following analyst recommendations with the gains of the overall market, and thus establish whether there is a role for active research in the first place. This obvious question has received little attention in the literature compared to the conflict of interest problem, especially in recent years, when conflict of interest seems to have become the paramount issue.[3]

A second contribution of our paper is the emphasis on the role of personal reputation in determining the quality of stock recommendations. In the existing literature very little has been done regarding whether an analyst's personal reputation plays a role in mitigating the potential bias. The lack of evidence in this regard is surprising given that some of the high profile cases in recent years involved high profile, once-star analysts. By emphasizing the role of personal reputation in analyst behavior, our paper fills a gap in the existing literature.

The role of personal reputation on recommendation quality is *a priori* ambiguous and thus a largely empirical question. On the one hand, to the extent that star analysts are elected on the basis of past research quality (forecast accuracy and recommendation value), in the absence of conflict of interest, one would expect star-analysts' recommendations to have higher investment value. On the other hand, it is possible that star analysts are particularly conflicted when it comes to recommendations, precisely because they are expected to leverage their influence and visibility in cultivating good relationships with investment banking clients.

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[3] Two previous papers have examined the overall investment value of sell-side analyst recommendations, Womack (1996) and Barber et al. (2001). Both papers find significant abnormal returns from following analyst recommendations in a timely fashion. We provide more recent and more nuanced evidence in this regard by examining whether analyst reputation and bank status are effective screening devices for gauging investment values of analyst recommendations.

The analysis is further complicated by the fact that there are two distinct aspects to an analyst's job: One is to issue earnings forecasts, and the other is to issue stock recommendations. The effect of personal reputation on these two distinct aspects can be quite different. While earnings forecasts are precise numbers whose accuracy can be easily gauged by investors (*ex post*), recommendation is a softer target. Thus, it is conceivable that an analyst might strategically use the two aspects of his job to satisfy both the desire of maintaining a good reputation (by issuing accurate forecasts), and the desire of exhibiting optimism for investment banking clients (by issuing somewhat inflated opinions, or recommendations of the stocks).[4]

In a paper that examines the effect of personal reputation on earnings forecasts, Fang and Yasuda (2005) find that personal reputation plays a mitigating role in the conflict of interest problem. The authors find that, consistent with the existence of conflict of interest, the normally superior accuracy among analysts working at top-tier investment banks (large underwriters) goes down during hot IPO markets. Moreover, consistent with the mitigating role of personal reputation, the deterioration of forecast quality is driven only by non-star analysts; star-analysts, in comparison, remain accurate during peak years. In light of the forgoing argument on the difference between forecasts and recommendations, however, it is not clear that the mitigating effect of reputation should necessarily hold for recommendations. Thus the effect of personal reputation on investment values of recommendations remains an empirical question and thus is a focus of this paper.

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[4] This notion of strategic behavior on the part of analysts is echoed in the business press: In an interview with the *Wall Street Journal,* Chuck Hill, former head of stock research at Thomson First Call, said that "any conflicts would be more likely to show up in analyst recommendations than earnings and price forecasts, which inherently demand such a level of precision that they're more difficult to fudge." **Wall Street Journal** (Eastern Edition). New York, N.Y.:August 6, 2004. p. C.3

Our findings can be summarized as follows.

1. Overall sell-side analysts' buy recommendations yield higher raw cumulative returns relative to the market. However, on a risk-adjusted basis (using both the market model and the Fama-French 3-factor model) only all-American analysts' buy recommendations continue to out-perform the overall market. In contrast, non-All-American analysts' buy recommendations do not provide significant positive *abnormal* returns.

2. Top-tier-bank buy recommendations earn significantly positive abnormal returns. Sub-sample results reveal that AAs drive this out-performance. Notably, top-tier AAs provide valuable buy recommendations even during the post-bubble market of 2000 and 2001, while top-tier non-AAs' buy recommendations perform particularly poorly. Examining the source of the performance difference, we find that in the post-bubble years, top-tier AAs are significantly more conservative than their non-AA colleagues, as they issue far more sells and downgrades. This suggests that when the market prospect dimmed, top-tier non-AAs are too sluggish in down-grading former champions stocks, likely due to conflict of interest.

3. Unlike for buys, where only top-tier AAs consistently provide valuable recommendations, for sells, we find that all four analysts groups (top-tier AA, top-tier non-AA, lower-status AA, and lower-status non-AA) provide valuable recommendations on a risk-adjusted basis. In sells, top-tier AAs again out-perform all other groups, and top-tier analysts out-perform lower-status-bank

analysts. These results suggest that at least in sell recommendations, following active research can be a profitable strategy for investors.

Interestingly, top-tier-bank analysts' performance in the sell category indicates that these higher-paid analysts do possess higher ability or skill. The fact that among them, the non-AAs' buy recommendations perform particularly badly in the post-bubble years then seems to be consistent with conflict of interest. However, since top-tier AAs do not share this time-varying performance record with the top-tier non-AAs – and in fact, their performance look particularly remarkable in the post bubble years – suggests that personal reputation, as measured by All-American status, apparently plays a mitigating role in the conflict of interest problem and thus has a net positive effect on the value of analyst stock recommendations.

The rest of the paper is organized as follows. Section 2 details our research questions and empirical approach. Section 3 discusses the data and presents summary statistics. Section 4 and 5 present the main results – the investment values of analysts' buy and sell recommendations, respectively. Section 6 concludes.

2. Research Questions and Empirical Approach

2.1. Research Questions

The first question we are interested in is whether recommendations made by sell-side analysts have investment value in general. This question is relevant because it examines the fundamental role of active research, and provides a baseline for further, more nuanced analysis.

In recent years, as conflict of interest emerges as the paramount issue, this basic question has been largely ignored. In fact, the numerous new regulations that recently came into effect implicitly assume that not only are sell-side analysts' recommendations biased, but investors also suffer economic losses from following these recommendations. Popular sentiment not withstanding, this allegation does not square with existing evidence. Among the few papers that examine the overall investment value of Wall Street research, Womack (1996) and Barber et al. (2001) both find that significant excess returns can be gained from following analyst recommendations in a timely fashion. These results paint a different picture from the view that self-serving, conflicted analysts deliberately cheat investors. Instead, they are consistent with the Grossman and Stiglitz (1980) notion of market efficiency: In the presence of information costs, information collecting activities such as active research is rewarded. In light of the recent scandals, however, there is a genuine concern as to whether the Womack (1996) and Barber et al. (2001) type of result still holds in recent years. Thus we start off by re-examining this issue and re-establishing the basic role of active research.

The second question we are interested in builds on the first and concerns whether and how personal reputation (star-status) of an analyst is related to the investment value of his recommendations. The motivation of this question is the simple observation that numerous analysts exposed in the conflict of interest probe were once-star analysts.[5] Are they representative of the whole star-analyst sample? If the answer is yes, the evidence will support the view that the star-election process is a "beauty contest" and yet another

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[5] Henry Blodget, the internet analyst for Merrill Lynch, and Jack Grubman, the telecom analyst for Salomon Smith Barney/Citigroup, both paid multi-million-dollar fines in their settlements with the prosecutors in 2003 and were barred from the securities industry for life. Both were All-American analysts prior to their falls. In contrast, the technology analyst at Morgan Stanley Mary Meeker, once-called the "Queen of the Net", was never charged and continued to produce research after the stock bubble burst. She was an All-American from 1994-2000, and has been re-elected to an AA (runner-up) title in 2003 and 2004.

marketing tool that serves the narrow interest of the investment banks and the individual analysts. If the answer is no, however, the evidence will suggest normalcy in the market functions in the sense that the star-election process is overall more efficient than corrupt, and that personal reputation is an important concern that can help self-regulate sell-side analysts. Given what is at stake, it is surprising that the existing literature has been oblivious about the effect of personal reputation on investment value. We provide timely evidence in this regard and fulfill this void in the literature.

Our final question is concerned with how investment-bank type is related to the value of analysts' recommendations. This question directly addresses the conflict of interest issue, and is closely related to a growing body of literature that examines which type of institutions are more subject to conflict of interest. While the regulatory probe focuses on investment banking ties in causing conflict of interest, two recent papers – Agrawal and Chen (2004) and Cowen, Groysberg, Healy (2003) show that other types of business, in particular, brokerage services, might be even more at fault in causing biased research. To accommodate both sources of conflict, we examine whether analysts working at top-tier (or the so called "bulge bracket") investment banks are more biased than others. This is also a natural angle to examine the issue because the recent regulatory probe has been very much focused on the bulge bracket firms.

In summary, these are the empirical questions we investigate in this paper:

1. *Do sell-side analysts' recommendations have investment value in general?*

2. *How is an analyst's personal reputation related to the investment value of his stock recommendations?*

3. *How is the type of an investment bank (top-tier bank versus lower-status bank) related to the value of its analysts' stock recommendations?*

The first question concerns with the role of active research in general; the second question examines the effect of persona reputation; and the last question sheds light on the conflict of interest issue.

2.2. Empirical Approach

To study the investment value of analysts' recommendations, we form dynamic portfolios based on the recommendations as they are issued.[6] Since we are interested in the performance of various sub-groups of analysts, we start out by classifying each recommendation in our sample along two dimensions: personal star-status and bank status. The most obvious measure of an analyst's star-status is the All-American title that is granted by the influential *Institutional Investor* magazine.[7] For bank status, we identify the nine underwriters with the highest Carter-Manaster ranks provided in Carter, Dark, and Singh (1998) as the "top-tier" group. These top-tier banks are: Alex Brown & Sons, First Boston Corporation, Goldman Sachs & Company, Hambrecht & Quist, Merrill Lynch, Morgan Stanley & Company, Paine Webber, Prudential-Bache, and Salmon Brothers.[8] The two-way sorting results in a partitioning of all the recommendations into

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[6] According to I/B/E/S manual, the date in the I/B/E/S database is the date that the recommendation is entered into the database. Thus, there is likely a delay from the actual issue date of the recommendation. Barber et al. (2004) uses recommendations data from First Call. According to Barber et al., the First Call data more accurately reflects the issue dates of the recommendations. Using somewhat stale data biases our results against finding excess return performance. Green (2003) shows that the return to a strategy that follows analyst recommendations is increasing with the promptness of the trade. Thus, if anything, our results understate the magnitude of the gain or loss by following various types of recommendations.

[7] Every year, *Institutional Investor* conducts a large survey among buy-side managers, asking them to evaluate sell-side analysts along the following four dimensions: stock picking, earnings forecasts, written reports, and overall service. The result of this survey leads to the annual election of the All-American analysts, which is featured in the October issues of the magazine every year.

[8] The Carter, Dark, and Singh (1998) listing includes Drexel Burham Lambert as one of the firms having the highest ranking. This is because their ranking is based on data from 1983 to 1991. We exclude Drexel in out top tier list because our sample period starts from 1994, at which time Drexel has already become defunct.

four sub-sets: top-tier-AA recommendations, top-tier-non-AA recommendations, lower-status-AA recommendations, and lower-status-non-AA recommendations.

One way of studying the investment value of the four groups of analysts is to form one long-short portfolio for each group. For instance, we could create a long-short portfolio for the top-tier-AA group by longing the stocks that this group of analysts recommend as "buy", and shorting the stocks that they recommend to "sell". However, the overall performance of the long-short portfolios would mask the source of the performance. Thus, for each group, we form two separate dynamic portfolios: A buy portfolio which follows any recommendation that has a buy or strong buy rating issued by that group of analysts, and a sell portfolio which follows any recommendations that has a hold, sell, or strong sell rating by that group of analysts.[9] The relative performance of either the buy or sell recommendations of the analyst groups are obtained by comparing the portfolio returns.

In forming the portfolios, correct assignment of AA and bank status is important. Since AA elections occur in October of every year, only those recommendations made by an AA analyst from October of the election year to the end of September of the following year are considered AA-recommendations. The assignment of the bank status depends on the analyst's employment affiliation at the time the recommendation is issued. Since we use a time-invariant definition of bank status, only those recommendations made by analysts working in the nine top-tier banks at the time of issue are considered top-tier recommendations.[10]

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[9] In the reported results, the portfolio formation is based on all available recommendations, i.e., including initiations, reinstatements, and up-/down-grades to a specific rating. Results using sub-samples of the recommendations, e.g., initiations only, are broadly consistent with the results using all data.

[10] Another rationale for using the time-invariant definition of bank status is that these portfolios are *ex ante*

In forming the dynamic portfolios, we follow the methodology in Barber et al. (2004). Each recommended stock enters its respective portfolio on the close of the issue date of the recommendation. For each recommendation i, let $\mathbf{X}_{it}$ denote the cumulative total return of stock i from the recommendation date to a future date t. That is,

$$X_{it} = R_{i,recdat_i+1} * R_{i,recdat_i+2} * \ldots * R_{i,t},\tag{1}$$

where R_{it} is the total return of stock i on date t.

Assuming a \$1 initial investment in each recommendation, the date t return on the portfolio containing recommendation i is simply given by:

$$R_{pt} = \frac{\sum_{i=1}^{N_{pt}} X_{i,t-1} R_{it}}{\sum_{i=1}^{N_{pt}} X_{i,t-1}},\tag{2}$$

where N_{pt} is the number of stocks held in portfolio p on date t. To see this, note that X_{it} is the cumulative value of \$1 invested in a previously issued recommendation i from the recommendation date up to (the close of) date t-1. Thus, the denominator of (2) is simply the open value of portfolio p on date t. Since X_{it} also represents the value-weight of recommendation i in portfolio p, equation (2) correctly calculates the value-weighted return of portfolio p on date t.[11]

Thus for each portfolio, equation (2) yields a time-series of daily returns. In our empirical analyses, we examine the investment performance of each portfolio by looking at three different return measures: the unadjusted return, the market-adjusted return, and the Fama-French 3-factor adjusted return.

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well-defined.

[11] To be complete, we need to define X_{it} to be 1 on the issue date of recommendation i, and 0 after the stop date of the recommendation.

3. Data and Descriptive Statistics

We collect information on analyst recommendations – company identification, analyst and broker codes, recommendation date and level – from the I/B/E/S Detailed History file. Since I/B/E/S started comprehensive data coverage on recommendations in October 1993, we define our sample period to be January 1994 to December 2003.

Analysts' AA status is obtained from the October issue of the *Institutional Investor* for each year in the sample. For confidentiality, I/B/E/S uses numeric codes to identify brokers and analysts in the details file; the names are available upon request in a separate translation file. We matched the names of the AA analysts from the *Institutional Investor* listings with the names in the translation file.

Table I reports the number of firms, analysts, and recommendations in each year of the sample.[12] Number of firms receiving analyst recommendations peaked in 1998 at 5,745; since then it has come down to 4,379 in 2003. In contrast, the number of analysts hit a plateau at around 3,600 at the end of the last decade and has not significantly changed since then. The ratio of AAs to non-AAs in the sample is relatively stable. With the only exception of the first year of data when coverage is less comprehensive, AAs comprise about 8% of all analysts. This means that becoming an AA is fairly competitive.

Table I shows that the total number of recommendations peaked in 1999, declined in 2000 and 2001, and then sharply increased again in 2002. This last spike is likely because of a large number of reinstatements issued as a result of NASD Rule 2711 that

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[12] Since AAs are elected in October of each year, we report the numbers of applicable AA and non-AA analysts (and other statistics) from October of previous year to September of current year in each row. So "1994" in the year column refers to the period from October 1993 to September 1994.

required security firms to disclose the fractions of recommendations that are in each category. (This rule came into effect on September 9, 2002).

Finally, it is interesting to note that the non-AA to AA ratio in head count is always larger than the same ratio in the number of recommendations issued. For instance, in 1996, the non-AA to AA head-count ratio was 11.48, but the non-AA to AA total-recommendations ratio was only 6.87. This indicates that AAs tend to issue more recommendations per year than non-AAs.

That AAs tend to carry a larger work load is further evidenced from Table II, which reports summary statistic on the analysts' work patterns. The three panels of this table reports the number of firms covered by an analyst, the average frequency of updating a recommendation, and the total number of recommendations issued during a year, respectively. AAs on average cover almost twice as many firms as non-AAs. Over the whole sample period, the average number of firms an AA cover in a year is 11.67, whereas the same average is 6.68 for non-AAs. AAs also update recommendations more frequently than non-AAs, and thus AAs issue more recommendations overall as well.

Table III presents the median and mean levels of recommendations for our four analyst groups for each year in our sample. Panel A compares AA analysts with non-AA analysts; Panel B compares top-tier-bank analysts with lower-status-bank analysts. Banks often have distinct rating systems for coding their analyst recommendations, so what is a "buy" in one bank's system may not necessarily translate to a "buy" in another's. I/B/E/S addresses this issue by creating its own numeric coding system of analysts' stock recommendations on a scale of 1 to 5. 1 refers to the strongest positive recommendation and 5 to the strongest negative recommendation. Using this coding

system, we re-classify recommendations of 1 and 2 as "buy". Typical designations of these ratings are "strong buy" and "buy". Correspondingly, we classify recommendations of 3, 4, and 5 as "sell". These ratings frequently represent "hold", "sell", and "strong sell", respectively.

First, the median recommendation levels for all four groups are 2 in most years, which is a "buy". This confirms the widely-held view that sell-side recommendations are on average inflated, in the sense that an average firm with analyst coverage gets an above-average rating. Notable exceptions occur in 2002, when the median rating for AAs and top-tier-bank analysts is lowered to 3, or "hold", and in 2003, when the median rating for lower-status group goes down to 3, as well. These changes in the median rating are most likely associated with the new rule introduced in 2002 that requires sell-side research providers to disclose the proportions of their outstanding ratings in each category. As of 2003, the only group that maintains a median rating of 2, or "buy" is the non-AA group.

Comparison of mean ratings between AAs and non-AAs reveals that AAs are significantly more conservative than non-AAs in most years. However, in 1999, the peak of the market, they were significantly more bullish than non-AAs. Interestingly, in the post-bubble market of 2000, while AAs become more conservative, non-AAs turned even more bullish, with their mean rating dipping below 2. This time-series pattern suggests that AAs may be better market-timers than non-AAs, or that they are leaders while non-AAs are followers. Both suggest that AAs are more skilled. We will explicitly examine this issue in our portfolio return analysis in the next section.

Comparison of mean ratings between top-tier-bank and lower-status-bank analysts (Panel B) shows similar overall as well as time-series pattern. Overall, top-tier analysts are significantly more conservative than lower-status analysts. This is somewhat surprising given the established view that affiliated analysts are more positively biased, and top-tier-bank analysts are more likely to have underwriting affiliations. We interpret the finding as indicating that taking the data as a whole, rather than focusing only on periods around security issuance (as is done in the previous literature), top-tier-bank analysts are in general more conservative than lower-status-bank analysts.

The only exception to this general rule occurs in 1999, when the top-tier group becomes more aggressive in their overall recommendation level. Interestingly, while their rating remains unchanged in 2000, the lower-status group surpasses them in their bullishness. In retrospect, with the knowledge of the peak and trough of the stock market in those two years, this pattern suggests that top-tier analysts were better market-timers than lower-status analysts, or that they were leaders while the lower-status analysts were followers. This indicates that, like AA-status, bank status can be an effective screening device for skill in analysts' labor market. This point has also been made in Fang and Yasuda (2005).

4. Buy recommendations

In this section, we study the investment value of buy recommendations. We are interested in the performance of all analysts' recommendations against the broad market in general, and the relative performance of AAs versus non-AAs, and that of top-tier analysts versus lower-status-bank analysts in particular. For each comparison, we present

three sets of results, using raw, market-adjusted, and Fama-French 3-factor-adjusted returns, respectively.

4.1. AAs versus non-AAs

Panel A of Table IV compares the unadjusted annual returns of following AAs' buy recommendations with those of following non-AAs' buy recommendations. The first vertical panel pertains to the whole sample; the second and the third panels pertain to the top-tier-bank and lower-status-bank sub-samples, respectively.

Several observations can be made. First, judging from the average annual total returns, AAs out-perform non-AAs in all three samples. The average annual difference in returns is 1.45% for the whole sample, while it is 1.78% for the top-tier-bank sub-sample and 1.00% for the lower-status sub-sample. This means that AAs in top-tier banks out-perform their non-AA colleagues by a larger margin than AAs at lower-status banks.

As a visual summary for the raw investment performances, Figure 1 plots the cumulative returns of investing $1 in each dynamic portfolio from 1/1994 to 12/2003. For ease of comparison, the total returns on the S&P 500 and the CRSP value-weighted index over the same period are also shown. It is evident from this figure that the top-tier-AA group out-performs all the other groups, followed by lower-status AAs, top-tier non-AAs, and lower-status non-AAs, in that order. This rank ordering of performance is consistent with one's prior expectation, and with the notion that both AA status and bank status are screening devices in analysts' labor market. As a result, AAs tend to be more skilled than non-AAs, and top-tier-bank analysts tend to be more skilled than lower-

status-bank analysts, on average. The magnitude of cumulative out-performance is economically significant for the top-tier AA group. $1 invested in January 1994 in S&P500 index is worth about $2.38 as of December 2003. Had investors followed buy recommendations by top-tier AA analysts, $1 invested in January 1994 would have been worth $4.11 by December 2003, just short of doubling the overall market performance, providing an excess return of 6.12% per year. The fact that AAs in top-tier investment banks offer economically valuable buy recommendations is an important and perhaps often over-looked result and suggests that sell-side research (at least some of it) has value.

According to Figure 1, it seems that even the worst-performing group still outperforms the overall market (either S&P500 or the CRSP value-weighted index) over the 10-year period. However, we must not hasten to conclusion that all analysts out-perform the overall market, because first, the graph does not allow us to judge the statistical significance, and second, the out-performances can be driven by higher risks or firm characteristics.

Taking these issues into account, Panels B and C of Table IV adjust the raw performances reported above for the market return, and the Fama-French 3-factor returns, respectively. In other words, Panel B reports alphas from market model regressions:

$$R_{p,t} - R_{f,t} = \alpha_p + \beta_p (R_{m,t} - R_{f,t}) + \varepsilon_{p,t}; \tag{3}$$

and Panel C reports alphas from Fama-French 3-factor regressions:

$$R_{p,t} - R_{f,t} = \alpha_p + \beta_{p1}(R_{m,t} - R_{f,t}) + s_p SMB_t + h_p HML_t + \varepsilon_{p,t}. \tag{4}$$

In both equations, $R_{p,t}$ is portfolio p's return on date t; $R_{m,t}$ and $R_{f,t}$ are the market return

and risk-free rate on date t, respectively; and SMB_t and HML_t are the size and book-to-market premium, respectively.[13] Reported alphas are daily excess returns in basis points. We use stars to indicate alphas that are significantly different from zero (t-statistics suppressed), and we also report p-values for the equality of alphas across groups.[14]

Looking at the market-adjusted returns (Panel B), the first observation is that on a risk-adjusted basis, only AA's buy recommendations continue to out-perform the overall market. This is true for the whole sample, as well as the two sub-samples. Overall, AAs out-perform the market by 1.56bp a day, which translates to 3.93% annualized. AAs in top-tier banks do better than those in lower-status banks, with an alpha of 1.69bp per day, or 4.25% annualized.

Second, in terms of relative performance, AAs out-perform non-AAs in all three samples. The difference in daily alphas is 0.48bp (1.56-1.08) in the whole sample, or 1.22% annualized. Since the previous sub-section shows that the difference in raw returns between the two groups is 1.45%, this means that approximated 84% (1.22/1.45) of the overall performance difference between AAs and non-AAs is attributable to their stock-picking ability, while 16% is attributable to differences in risk characteristics of the firms they pick. The AA/non-AA performance difference, however, is not significant for the 10-year period overall.

However the insignificant *overall* performance difference over the 10-year period masks an interesting time-series variation which is most pronounced in the top-tier-bank sub-sample. Among top-tier analysts (the second vertical panel), the only years in which non-AAs out-performed the AAs are 1994, 1999, and 2003. Interestingly, all three years

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[13] Market returns, risk-free rates, size and book-to-market premium data are obtained from Kenneth French's website.

[14] The p-values are based on F-statistics for coefficient equality.

are up-ticks of a rising bull market. In contrast, in the bear-market year of 2000, AAs do far better than non-AAs. Top-tier non-AAs volatile performance record around 1999 and 2000 is particularly interesting. In 1999, at the height of the market, top-tier non-AAs showed the highest alpha among all four groups. (This is true both for market-adjusted returns and for the 3-factor-adjusted returns). In contrast, in 2000, when the market went through a dramatic decline from the peak, top-tier non-AAs went on to deliver worse performance among all groups.

A consistent explanation for these patterns is that non-AAs can outperform others during the rising market by aggressively touting "glamour" stocks. Since the overall market is rising, being bullish is a good thing. However, when market conditions start to dim, analysts face a dilemma as to whether and when to down-grade stocks. In such an environment, non-AAs' performance may start to lag behind because they are more reluctant or conflicted to downgrade their former champion stocks. This suggests conflict of interest. Interestingly, the fact that this pattern is particularly pronounced in top-tier banks in consistent with the notion that analysts at large investment banks (with both investment banking and brokerage services) are more likely to be subject to conflict of interest. Consistent with this interpretation, Figure 2 reveals that the top-tier non-AAs' performance tracks that of top-tier AAs throughout the rising market of 1994 – 1999, but they start to fall behind immediately after the market peak in March 2000 and never filling the gap subsequently.

If conflict of interest is driving this time-series pattern, we should observe that non-AAs issue fewer sell recommendations and downgrades when the overall market moves south. To examine this hypothesis, Table V reports the percentage of

recommendations that are in the sell category (Panel A) and those that are downgrades (Panel B). Here we see that indeed top-tier AAs issued more sell recommendations and far more downgrades (as a portion of their overall recommendations and recommendation changes) than the top-tier non-AAs in the severe bear-market year of 2000. While the evidence is superficial, it does support the view that AA buy recommendations become more valuable during market downturns, because their recommendations are more immune to the conflict of interest problem that becomes acute at top-tier investment banks towards the end of a bull market.

Finally, before leaving this sub-section, we note that results pertaining to Fama-French 3-factor adjusted alphas are largely consistent with those from market-adjusted alphas. Comparing Panel C results with Panel B, we note that first, not surprisingly all alphas become smaller with the 3-factors adjustment. Second, the only significant alphas again come from the AA group and in particular the AAs in top-tier banks. Third, there is again an interesting reversal of relative performance between AAs and non-AAs during the dramatic bull-run of 1999 and the subsequent fall of 2000.

Thus, the overall conclusion we draw from this subsection is that first, while all analyst group's buy recommendation generate larger raw returns than the market, only AAs' (and in particular top-tier AAs') performance survives risk adjustments. Second, judging from the time-series pattern of the relative performance, there is some evidence of conflict of interest in top-tier investment banks. Interestingly, the non-AAs in these banks might be particularly susceptible to this problem.

4.2. Top-tier vs. Lower-status

Table VI compares the buy performances of top-tier-bank analysts versus lower-status-bank analysts. Panels A, B, and C exhibit raw returns, market-adjusted returns, and Fama-French 3-factor adjusted returns, respectively. In each set of results, the first vertical panel pertains to the whole sample; the latter two pertain to the AA and non-AA sub-groups, respectively.

Looking first at the raw returns (Panel A), we find that top-tier analysts' buy recommendations yield a higher return than the lower-status-bank portfolio in most years.[15] This is consistent with the overall efficiency of the labor market for analysts, and top-tier analysts being generally more skilled. However, the out-performance is only a modest of 0.58% p.a. over the 10-year sample period. This is small compared to the out-performance of AAs over non-AAs by 1.45% p.a. (the previous sub-section). Moreover, comparing the AA and non-AA sub-samples reveals that AAs drive the overall out-performance of top-tier analysts, with average annual out-performance of 0.81%. In contrast, top-tier, non-AA analysts do not outperform lower-status, non-AA analysts; the average out-performance is a puny 0.02% p.a.

On risk-adjusted basis (Panels B and C), we see that while top-tier-bank analysts' alpha is positive and significant, this is not the case for lower-status bank analysts. Consistent with the raw returns result, sub-sample analyses reveal that the top-tier result

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[15] Interestingly, the year in which top-tier analysts most significantly under-performed lower-status-bank analysts is the post-regulation year of 2003. In this year, both AAs and no-AAs in top-tier banks significantly under-performed their lower-status-bank counterparts. As noted earlier, there was a flurry of restatements of recommendations in the fall of 2002 following the new rule (Rule 2711) requiring banks to disclose proportions of their outstanding recommendations in each rating category. It is possible that this rule had a larger impact on top-tier banks because they were under heightened media scrutiny. Though the evidence is superficial, it does hint on the possibility that some of the new regulations might have inadvertently created distortion in the market for information production.

comes from AAs, and not the non-AAs. In addition, although statistically insignificant, top-tier analysts' alphas are generally bigger than lower-status analysts' alphas. These patterns again indicate that both AA status and bank-status are positively correlated with skill, on average.

For all groups, strong performance (positive and significant alphas) on the buy recommendations clusters around market run-ups, such as 1999 and 2003. This is not surprising because when the overall market is rising, buy recommendations will generally do well. It is interesting to note that in these years, the top-tier non-AA group has the strongest performance. For instance, in 1999, top-tier non-AAs' 3-factor adjusted daily alpha of 5.22bp (Panel C) outpaces all the other groups'. Likewise, their daily alpha of 2.85bp in 2003 is the largest in magnitude and most significant among all four groups. In contrast, in the severe bear market years of 2000 and 2001, they consistently delivered the worst performances among all groups. In these years, top-tier AAs continue to perform well relative to peers.

These time-series patterns are again consistent with the hypothesis that top-tier non-AAs are more reluctant to downgrade their former champion stocks after the market fundamentals have shifted (which suggests conflict of interest), or that they are followers rather than leaders and fail to timely update their recommendations (which suggests a lack of ability). Meanwhile, top-tier AAs' recommendations seem most valuable in bear market years, either because they are more willing to timely downgrade stocks when market moves south (which suggests that personal reputation can mitigate conflict of interest), or because they are leaders among the analysts (which suggests superior ability). While our evidence cannot help us distinguish between the alternative explanations, the

important conclusion from the perspective of the investor is that overall recommendations from top-tier AAs become relatively more valuable in tough markets, when the marginal value of sound investment advice is high.

5. Sell Recommendations

5.1. AAs vs. non-AAs

Table VII compares the sell performances of AAs and non-AAs. Panels A, B, and C exhibit raw returns, market-adjusted returns, and Fama-French 3-factor adjusted returns, respectively. In each set of results, the first vertical panel pertains to the whole sample; the latter two pertain to the top-tier-bank and lower-status-bank sub-samples, respectively.

Focusing first on the raw returns (Panel A), we find that again AAs seem to outperform non-AAs in sell recommendations. Note that since our returns are reported as buy-and-hold returns, better recommendation performance mean poorer stock returns on the "sell" recommended stocks. Overall AAs' sell recommendations beat non-AAs' sell recommendations by 0.91% a year. The overall out-performance is again driven by the AAs at top-tier banks, who out-perform their non-AA peers by 0.93% a year; the AAs in lower-status banks in fact under-perform their non-AA peers by 0.32% a year on average.

Figure 3 provides a visual summary of the various group's sell recommendations. Top-tier AAs again perform the best (in the reversed sense of predicting poor-performing stocks), followed by top-tier non-AAs, lower-status non-AAs, and lower-status AAs, in that order. Top-tier AAs' performance relative to the S&P500 index is 3.07% per year which is economically significant.

Panel B reports market-adjusted alphas. First, we find average alphas for all groups are negative, consistent with analysts being able to pick under-performing stocks for sell recommendations. However, the only group for which the overall statistic is significant is the top-tier AAs. Second, while AAs out-perform non-AAs overall, the out-performance is driven by AAs in top-tier banks. In the top-tier-bank sub-sample, the AA/non-AA difference in daily alpha is 0.42bp (1.44-1.02) per day (or 1.06% per year). In the lower-status-bank sub-sample, the AAs actually under-perform the non-AAs: Their average alpha is -0.63bp per day compared to -0.73bp per day for non-AAs. Comparing the two type of AAs, we find that top-tier AAs' alpha (-1.44bp per day) is more than twice as large as lower-status group's alpha (-0.63bp per day). This translates into an annual performance difference of 2.06%. These results indicate that in both absolute and relative terms, top-tier AAs' performance stands out.

Panel C reports alphas after adjusting for Fama-French three factors. Strikingly, compared to the market-adjusted alphas in Panel B, the 3-factor adjusted alphas are generally *larger* in magnitude (more negative). In fact, after the 3-factor adjustment, all groups' sell recommendations significantly out-perform the market. This indicates that the sell recommendations made by sell-side analysts have investment value in general, and in particular, the value-added seems to be explained by skill. Interestingly, this contrasts sharply with the results on buy recommendations, where the overall investment value is more tenuous – in the previous sub-section, we find that the only group that consistently make valuable buy recommendations is the top-tier AA group.

The fact that analysts can out-perform the market in the sell category but not so in the buy category is interesting. Perhaps it is easier to identify losers than to pick winners.

But a more compelling explanation is that sell-side analysts' recommendations have a bias towards buy. Since buy recommendations are issued with less scrutiny, their investment value is not very high. Sell recommendations, on the other hand, are unwelcome (by both recommended firms and the investment banks). Since they are issued more sparingly, they are more informative and have larger investment value for investors.

Interestingly, sell recommendations for all groups remain significantly valuable throughout much of the long bull-run from 1995 to 1999[16], and continue to have value during the bear market years of 2000 and 2002. In 2003, however, the value of sell recommendations diminished. Notably, this diminishing of investment value coincided with the new regulations that required investment banks to disclose the proportion of their recommendations in each category. Combining this observation with the result in Table V that the fraction of sell recommendations significantly increased in 2003, the finding suggests that ironically, some the new regulations aimed at improving the integrity of sell-side research might have inadvertently distorted the information production function, and made recommendations less informative.

5.2 Top-tier vs. Lower-status banks

Table VIII compares the sell performances of top-tier-bank analysts with that of lower-status-bank analysts. Panels A, B, and C exhibit raw returns, market-adjusted returns, and Fama-French 3-factor adjusted returns, respectively. In each set of results,

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[16] The only exception is 1999, the most spectacular year in the bull-run. This can be because in that year the whole market is overwhelmingly bullish, and bears as a result do not out-perform.

the first vertical panel pertains to the whole sample; the latter two pertain to the AA and non-AA sub-samples, respectively.

In terms of raw returns (Panel A), there is evidence that top-tier analysts out-perform lower-status-bank analysts (in the reverse sense that stocks recommended as sell by top-tier analysts have lower returns). The magnitude of the performance difference is of 1.27% per year for the whole sample, which is marginally significant in economic terms. This result is borne out on a risk-adjusted basis, as Panels B and C indicate that the alphas for top-tier analysts are bigger than the alphas for lower-status-bank analysts, and this holds true for both AAs and non-AAs. Better performance among top-tier-bank analysts is again consistent with higher ability, which in turn suggests that competition for top-tier-bank jobs serves as a useful screening in the job market for security analysts. This result has also been noted in Fang and Yasuda (2005), which examine analysts' earnings forecasts.

Time-series patterns in the alphas shown in Panels B and C, and the comparison between the two panels are largely consistent with results in the previous sub-section. Again, we observe that the 3-factor adjusted alphas are larger in magnitude than those with only market adjustment, indicating that the investment value of sell recommendations become higher after adjusting for firm characteristics as well as the market return. This indicates that skill explains at least part of the value-added in sell recommendations.

We again observe that while sell recommendations remain valuable throughout much of the bull market of the late 1990s and extend to the early part of the bear market in 2000s, the performance diminishes in 2003. This is disconcerting, as it coincides with

the introduction of the new disclosure rule that requires investment banks to publish proportion of their outstanding recommendations in each category. While not conclusive, our data provides precursory evidence that the new rule amounted to enforcing an artificial sell "quota" on analysts, and thereby inadvertently distorting the investment values of their recommendations.

6. Conclusion

We study the investment value of analysts' stock recommendations. We are interested in three questions. First, can investors gain abnormal return by following analysts' recommendations in general? Second, how does personal reputation, as measured by the AA status, affect the investment value of analysts' stock recommendations? Third, how does bank type affect the investment value of recommendations? These questions are relevant as the first question addresses the role of active research in general; the second question examines the effect of persona reputation; and the last question sheds light on the conflict of interest issue.

Regarding the first question – do investors gain from following sell-side analyst research – our answer, combining evidence from both buy and sell recommendations, using raw returns as well as factor-adjusted returns, is, (not surprisingly) "it depends".

On the buy front, the only group of analysts that consistently provide valuable investment advice is the top-tier-bank AAs. Their out-performance over and above the market is economically significant, with the raw performance differences of 6.12% per year, and abnormal returns of 4.35% and 2.59% per year for CAPM model and 3-factor model, respectively.

Interestingly, on the sell front, we find that all four analyst groups (top-tier AA, top-tier non-AA, lower-status AA, lower-status non-AA) provide valuable recommendations on a risk-adjusted basis. In particular, for all four groups, Fama-French 3-factor adjusted returns are *larger* than the market-adjusted returns, indicating that skill at least explains part of the recommendation value. Among all four groups, top-tier AAs again out-perform the most. Their sell recommendations have out-performed the market model by 3.56% per year, and out-perform the Fama-French 3-factor model by 6.9% per year.

These results indicate that active sell-side research is not completely "much ado about nothing". This is an important result because in the post-bubble years, as the conflict of interest problem becomes the paramount issue, it seems that researchers and policy makers alike might have over-looked this question relating to the fundamental role of sell-side research.

These results also shed light on our second question, which is what role, if any, personal reputation plays in determining the investment value of stock recommendations. Judging from the fact that top-tier AAs are the only group of analysts that make valuable stock recommendations over the 10-year sample period on a risk-adjusted basis in both buy and sell category, we find it compelling to argue that personal reputation, as indicated by the AA status, is positively related to recommendation value. This suggests, somewhat contrary to the view that the AA election is just a "beauty contest" that serves the narrow interest of the investment banks and the individual analyst, that the AA election is by and large efficient in the sense that analysts with superior ability are

generally elected as stars, and they continue to provide valuable recommendations after obtaining the star status.

Finally, regarding our last question, which concerns the effect of bank-type on analysts' recommendation quality, our results is most nuanced and interesting. Here, we find broad evidence that top-tier analysts are generally more skilled than lower-status-bank analysts. On both the buy and sell side, their risk-adjusted alphas tend to be larger, *on average*. This is consistent with bank-status being an additional screening device in analysts' labor market, and that top-tier analysts are in general more skilled.

However, we do find evidence consistent with the notion that the conflict of interest exists and is more acute at top-tier banks. To this end, we find that first, while buy-recommendations of top-tier analysts overall earn significantly positive abnormal returns, only AAs contribute to this out-performance. Non-AAs at top-tier banks, in contrast, do not provide positive abnormal returns in their buy recommendations over the entire sample period. Moreover, examining the time-series variation in performances, we find that the buy recommendations of top-tier non-AAs out-perform others (including top-tier AAs) during the peak of the market in 1999, only to under-perform most severely in the subsequent trough of the market in the early 2000s.

Since evidently top-tier non-AAs is not completely void of skill, as they are able to provide valuable recommendations in the sell category, this time-series pattern in the buy category is more consistent with conflict of interest and the notion that top-tier non-AAs aggressively touting "glamour" stocks during the boom market, and subsequently being slow to downgrade those former champion stocks. Notably, since AAs in top-tier banks do not share this performance record – in fact, their buy recommendations become

relatively more valuable during market downturns when others may be more reluctant to downgrade their former winner stocks – our results suggest that reputation, as measured by All-American status, apparently plays a mitigating role in the conflict of interest problem and thus has a net positive effect on the value of analyst stock recommendations.

Finally, we note that while sell recommendations are generally valuable to investors, their investment value significantly deteriorated in 2003 for all groups of analysts. Interestingly, this anomalous result coincides with introduction of the new disclosure rule in the fall of 2002 that required investment banks to publish the proportion of recommendations in each category. As a result of the rule, there has been an increase in the number of sell recommendations overall in 2003. The lackluster quality of the additional sell recommendations issued, however, offers some precursory evidence that the new disclosure rule amounted to enforcing an artificial sell "quota" on top-tier-bank analysts, thereby inadvertently hurting investment values of analysts' stock recommendations. This at least suggests that there might be a downside to some of the new regulations in place. Additional analysis is needed to determine the efficacy of the recent reforms in sell-side research.

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Figure 1. Investment Values of Buy Recommendations

This figure plots the total value of a $1-investment in dynamic portfolios constructed by following four different analyst groups' buy recommendations. The four different analyst groups are: top-tier-bank AAs, top-tier-bank non-AAs, lower-status-bank AAs, and lower-status-bank non-AAs. Total return on the S&P 500 and the CRSP value weighted index are also graphed. The dynamic portfolios are constructed to mimic a strategy that buys each stock with a buy-rating (including buy and strong buy) on the close of the date that the recommendation is issued. See Section 2 for details of the portfolio construction. The dashed vertical line indicates March 2000, the month in which Nasdaq reached its all time peak.

Figure 2. Investment Value of Buy Recommendations: Top-tier AAs versus Top-tier non-AAs

This figure plots the total value of a $1-investment in dynamic portfolios constructed by following the buy recommendations of two groups of analysts: the top-tier-bank AAs and the top-tier-bank non-AAs. Total return on the S&P 500 is also graphed. The dynamic portfolios are constructed to mimic a strategy that buys each stock with a buy-rating (including buy and strong buy) on the close of the date that the recommendation is issued. See Section 2 for details of the portfolio construction. The dashed vertical line indicates March 2000, the month in which Nasdaq reached its all time peak.
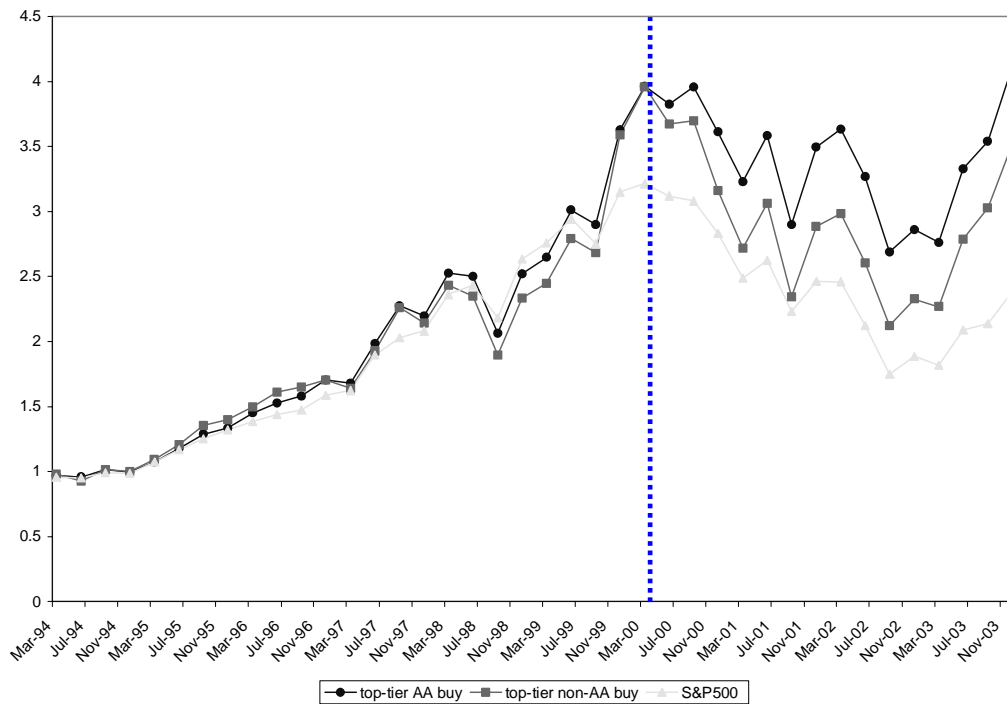
Figure 3. Investment Values of Sell Recommendations

This figure plots the total value of a $1-investment in dynamic portfolios constructed by following four different analyst groups' sell recommendations. The four different analyst groups are: top-tier-bank AAs, top-tier-bank non-AAs, lower-status-bank AAs, and lower-status-bank non-AAs. Total return on the S&P 500 and the CRSP value weighted index are also graphed. The dynamic portfolios are constructed to mimic a strategy that buys each stock with a sell-rating (including sell and strong sell) on the close of the date that the recommendation is issued. See Section 2 for details of the portfolio construction. Since the portfolio returns are buy-and-hold returns, the investment value of the recommendations is inferred from the negative of these returns.
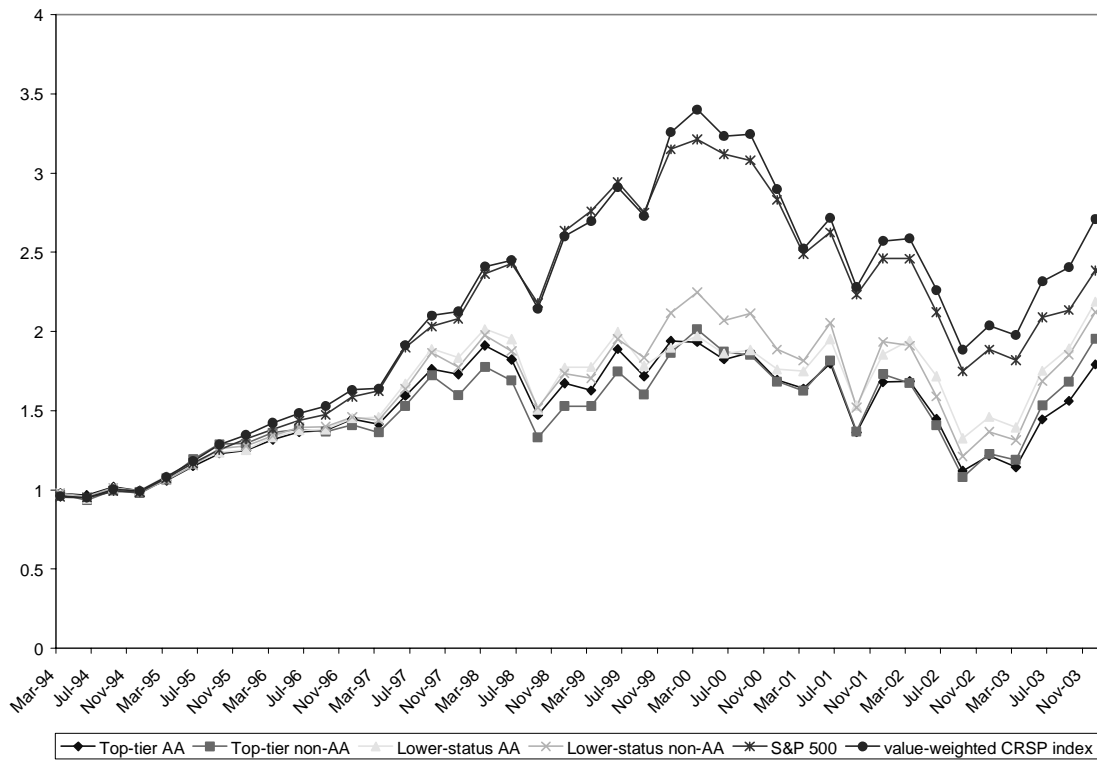
Table I. Descriptive Statistics

This table presents summary statistics of the I/B/E/S recommendations sample. The first vertical panel shows the number of firms receiving recommendations in the whole sample. The second vertical panel shows the number of analysts in the sample. The third vertical panel tabulates the total number of recommendations recorded in the sample. "AA" refers to All-American analysts. These are the star-analysts elected by the *Institutional Investor* magazine after conducting a large survey from buy-side managers. The list of AAs in each year is obtained from the October issue of the magazine. Since AAs are elected in October of each year, we report the applicable statistics (including the number of AAs) from October of previous year to September of current year in each row. So "1994" in the year column refers to the period from October 1993 to September 1994.

Year	Firms	Analysts				Recommendations			
		All	AA	Non-AA	Non-AA to AA Ratio	All	AA	Non-AA	Non-AA to AA Ratio
1994	4,598	1,897	306	1,591	5.20	34,079	8,306	25,773	3.10
1995	4,654	2,145	307	1,838	5.99	26,322	5,208	21,114	4.05
1996	5,141	2,415	213	2,202	10.34	26,603	3,907	23,506	6.02
1997	5,398	2,795	224	2,571	11.48	26,061	3,310	22,751	6.87
1998	5,745	3,258	265	2,993	11.29	30,407	3,642	26,765	7.35
1999	5,504	3,606	307	3,299	10.75	32,550	4,087	28,463	6.96
2000	5,102	3,517	309	3,208	10.38	27,081	3,317	24,484	7.38
2001	4,366	3,391	290	3,101	10.69	27,893	3,537	24,356	6.89
2002	4,430	3,640	298	3,342	11.21	41,275	6,446	34,829	5.40
2003	4,379	3,613	288	3,325	11.55	37,230	5,127	32,103	6.26

Table II. Analysts' Work Patterns

This table presents summary statistics of analysts' work pattern. The first vertical panel shows the average number of firms receiving recommendation from an analyst. "AA" refers to All-American analysts. These are the star-analysts elected by the *Institutional Investor* magazine after conducting a large survey from buy-side managers. The list of AAs in each year is obtained from the October issue of the magazine. The second vertical panel shows the average number of times an analyst's updates his recommendation on a firm that he covers. The third vertical panel tabulates the average total number of recommendations issued by an analyst during a year.

Year	Coverage			Updating Frequency			Total Recommendations		
	AA	Non-AA	T-Stat	AA	Non-AA	T-Stat	AA	Non-AA	T-Stat
1994	19.22	11.41	10.99	1.43	1.37	2.53	27.14	16.20	10.94
1995	11.28	7.70	8.35	1.46	1.39	1.81	16.96	11.49	6.78
1996	10.45	7.53	6.10	1.36	1.33	1.20	14.54	10.68	5.19
1997	10.33	6.62	6.87	1.36	1.28	3.62	14.78	8.85	6.81
1998	10.26	6.47	8.16	1.31	1.32	-0.33	13.74	8.94	7.26
1999	9.06	5.99	8.89	1.31	1.33	-1.09	13.31	8.63	7.74
2000	8.12	5.72	7.19	1.27	1.27	0.04	10.74	7.63	6.15
2001	8.50	5.56	8.07	1.38	1.32	2.66	12.20	7.85	7.26
2002	13.06	6.49	14.37	1.59	1.50	4.41	21.63	10.42	13.05
2003	10.75	6.36	9.19	1.57	1.43	3.98	17.80	9.66	8.34
All Years	11.67	6.68	30.02	1.41	1.35	6.35	16.42	9.62	27.84

Table III. Overall Levels of Stock Recommendations

This table presents summary statistics on the overall levels of stock recommendations by different groups of analysts. Panel A compares AAs' recommendations levels with non-AAs' recommendation levels. Panel B repeats the comparison for top-tier-bank analysts versus lower-status bank analysts. "AA" refers to All-American analysts. These are the star-analysts elected by the *Institutional Investor* magazine after conducting a large survey from buy-side managers. The list of AAs in each year is obtained from the October issue of the magazine. According to I/B/E/S convention, a recommendation of "1" corresponds to the most positive recommendation (normally a "strong buy"), and a recommendation of "5" corresponds to the least favorable recommendations (normally a "strong sell").

		AA			Non- AA		
Panel A: AA versus non-AA							
Year	**Mean**	**Median**	**Standard Deviation**	**Mean**	**Median**	**Standard Deviation**	**t-stat for Mean**
1994	2.24	2	0.90	2.24	2	0.97	0.18
1995	2.31	2	0.93	2.20	2	0.97	7.36
1996	2.08	2	0.89	2.12	2	0.95	-2.02
1997	2.10	2	0.81	2.06	2	0.91	2.77
1998	2.09	2	0.78	2.09	2	0.86	-0.02
1999	1.97	2	0.82	2.03	2	0.85	-4.50
2000	2.04	2	0.80	1.99	2	0.83	3.47
2001	2.19	2	0.83	2.14	2	0.85	3.00
2002	2.60	3	0.93	2.38	2	0.97	18.37
2003	2.74	3	0.92	2.50	2	1.02	15.82
All years	2.28	2	0.91	2.19	2	0.94	19.29

		Top-tier Banks			Low-status Banks		
Panel B: Top-tier Banks versus Lower-status Banks							
Year	**Mean**	**Median**	**Standard Deviation**	**Mean**	**Median**	**Standard Deviation**	**t-stat for Mean**
1994	2.30	2	0.99	2.22	2	0.87	6.35
1995	2.25	2	0.84	2.21	2	1.01	3.49
1996	2.08	2	0.80	2.12	2	0.98	-1.06
1997	2.07	2	0.80	2.06	2	0.92	0.41
1998	2.10	2	0.77	2.08	2	0.88	1.19
1999	2.00	2	0.78	2.03	2	0.87	-2.56
2000	2.02	2	0.78	1.99	2	0.84	2.28
2001	2.26	2	0.86	2.12	2	0.85	10.94
2002	2.58	3	0.95	2.35	2	0.97	21.50
2003	2.74	3	0.99	2.49	3	1.01	19.23
All years	2.26	2	0.89	2.18	2	0.95	20.76

Table IV. Investment Value of Buy Recommendations: AA versus Non-AA

This table compares the investment value of buy recommendations issued by AAs versus those issued by non-AAs. Panel A presents raw (un-adjusted) returns, Panels B and C presents market-adjusted and Fama-French 3-factor adjusted excess returns (alphas), respectively. *, **, and *** indicate that the alphas are significantly different from zero at the 10%, 5%, and 1% level, respectively. P-values for the difference in alphas between the AAs and non-AAs are tabulated.

	Panel A: Raw Returns								
	All			**Top-tier Banks**			**Lower-status Banks**		
Year	**AA**	**non-AA**	**Difference**	**AA**	**non-AA**	**Difference**	**AA**	**non-AA**	**Difference**
1994	-1.52%	-0.40%	-1.12%	-0.52%	0.28%	-0.80%	-2.97%	-0.59%	-2.38%
1995	34.49%	36.95%	-2.46%	34.20%	39.53%	-5.33%	34.90%	36.30%	-1.40%
1996	26.45%	21.77%	4.68%	27.72%	21.65%	6.06%	24.74%	21.80%	2.94%
1997	30.49%	24.50%	5.99%	28.88%	25.80%	3.08%	32.32%	24.14%	8.18%
1998	13.40%	5.17%	8.23%	14.61%	9.06%	5.56%	12.53%	4.23%	8.30%
1999	44.06%	47.40%	-3.34%	44.04%	53.65%	-9.61%	43.83%	46.05%	-2.22%
2000	-1.13%	-9.17%	8.04%	-0.45%	-11.95%	11.50%	-2.69%	-8.61%	5.92%
2001	-4.44%	-2.89%	-1.56%	-3.18%	-8.73%	5.55%	-6.42%	-1.91%	-4.51%
2002	-19.12%	-21.27%	2.15%	-18.19%	-19.32%	1.13%	-20.58%	-21.56%	0.98%
2003	47.31%	59.02%	-11.71%	43.79%	51.30%	-7.50%	51.58%	60.16%	-8.58%
All years	14.92%	13.48%	1.45%	15.19%	13.41%	1.78%	14.38%	13.39%	1.00%

	Panel B: Market-adjusted Returns(Daily Alphas, in basis points)								
	All			**Top-tier Banks**			**Lower-status Banks**		
Year	**AA**	**Non-AA**	**p-value**	**AA**	**Non-AA**	**p-value**	**AA**	**Non-AA**	**p-value**
1994	-0.39	-0.03	0.60	-0.06	0.47	0.64	-0.89	-0.16	0.29
1995	-0.96	-0.79	0.85	-0.83	-1.22	0.77	-1.14	-0.66	0.65
1996	1.97	0.20	0.11	2.47*	-0.27	0.07	1.28	0.33	0.43
1997	1.01	-0.64	0.10	0.49	-0.55	0.37	1.60	-0.66	0.06
1998	-3.06	-5.89*	0.02	-2.55	-4.75*	0.06	-3.49	-6.17**	0.09
1999	5.96**	7.35***	0.21	6.25***	8.54***	0.09	5.41*	7.10***	0.30
2000	5.82	2.90	0.11	5.76	1.04	0.02	5.86	3.27	0.22
2001	3.12	4.47	0.42	3.42	2.09	0.50	2.68	4.86	0.17
2002	0.67	-0.54	0.44	0.93	0.41	0.75	0.24	-0.68	0.54
2003	3.49**	6.99***	0.01	2.69*	5.70***	0.01	4.44***	7.19***	0.05
All years	1.56**	1.08	0.25	1.69**	1.03	0.17	1.32*	1.06	0.57

	Panel C: Fama-French 3-factor Adjusted Returns (Daily alphas, in basis points)								
	All			**Top-tier Banks**			**Lower-status Banks**		
Year	**AA**	**Non-AA**	**p-value**	**AA**	**Non-AA**	**p-value**	**AA**	**Non-AA**	**p-value**
1994	-0.10	0.30	0.43	0.23	0.73	0.57	-0.58	0.19	0.22
1995	-1.59**	-0.37	0.05	-1.31	-0.44	0.39	-2.01**	-0.34	0.04
1996	1.71**	0.36	0.05	2.37***	0.29	0.04	0.81	0.38	0.64
1997	-0.19	-1.65**	0.03	0.21	-0.86	0.26	-0.60	-1.87**	0.18
1998	1.32	0.12	0.13	1.77	0.61	0.26	0.95	0.01	0.41
1999	3.75**	3.83***	0.93	4.72***	5.22***	0.65	2.07	3.53**	0.35
2000	4.53**	1.55	0.02	4.37*	-0.71	0.01	4.74*	1.99	0.14
2001	-0.88	-0.02	0.47	-0.58	-1.77	0.48	-1.28	0.26	0.24
2002	-0.10	-0.84	0.53	0.11	0.16	0.97	-0.43	-0.99	0.66
2003	0.75	2.00*	0.14	0.20	2.85**	0.02	1.44	1.93*	0.62
All years	0.91**	0.54	0.22	1.02**	0.66	0.41	0.74	0.48	0.51

Table V. Time- Series pattern of Upgrades and Downgrades: AA versus non-AA

This table presents the time-series pattern of the proportion of all recommendations that are in the sell category (including "hold", "sell", and "strong sell"), and the time-series pattern of the proportion of all recommendation changes that are downgrades.

	Panel A: Percentage of Sell Recommendations					
	All		**Top-tier Banks**		**Lower-status Banks**	
year	**AA**	**NON-AA**	**AA**	**NON-AA**	**AA**	**NON-AA**
1994	41.65%	42.30%	41.25%	41.89%	42.18%	42.41%
1995	44.37%	40.41%	43.98%	37.87%	44.79%	41.03%
1996	33.78%	36.33%	32.88%	32.08%	34.65%	37.40%
1997	32.73%	32.91%	32.74%	31.53%	32.72%	33.29%
1998	32.46%	33.35%	31.14%	33.71%	34.59%	33.26%
1999	27.80%	30.30%	24.00%	30.18%	32.99%	30.33%
2000	31.38%	28.60%	30.99%	28.39%	32.14%	28.65%
2001	38.07%	36.82%	40.28%	46.61%	34.04%	35.53%
2002	55.61%	49.42%	57.84%	57.86%	54.24%	47.40%
2003	64.80%	56.73%	66.85%	64.84%	62.12%	55.33%

	Panel B: Percentage of Downgrades					
	All		**Top-tier Banks**		**Lower-status Banks**	
Year	**AA**	**NON-AA**	**AA**	**NON-AA**	**AA**	**NON-AA**
1994	43.65%	47.22%	42.58%	47.07%	45.04%	47.26%
1995	57.73%	50.26%	59.07%	50.21%	56.11%	50.27%
1996	47.77%	46.20%	46.55%	46.46%	49.22%	46.14%
1997	47.39%	46.50%	45.89%	46.71%	50.16%	46.44%
1998	49.10%	48.10%	49.15%	48.77%	49.02%	47.94%
1999	42.50%	44.21%	41.43%	42.11%	43.90%	44.69%
2000	52.87%	45.92%	54.06%	44.87%	50.72%	46.15%
2001	52.80%	51.72%	58.12%	56.13%	53.75%	50.89%
2002	69.70%	59.68%	70.40%	64.74%	68.55%	58.58%
2003	55.55%	56.03%	54.27%	58.48%	57.22%	55.71%

Table VI. Investment Value of Buy Recommendations: Top-tier versus Lower-status

This table compares the investment value of buy recommendations issued by top-tier-bank analysts versus those issued by lower-status-bank analysts. Panel A presents raw (un-adjusted) returns, Panels B and C presents market-adjusted and Fama-French 3-factor adjusted excess returns (alphas), respectively. *, **, and *** indicate that the alphas are significantly different from zero at the 10%, 5%, and 1% level, respectively. P-values for the difference in alphas between top-tier-bank analysts and lower-status-bank analysts are tabulated.

		Panel A: Raw Returns							
	All			**AA**			**non-AA**		
Year	**Top**	**Lower**	**Difference**	**Top**	**Lower**	**Difference**	**Top**	**Lower-**	**Difference**
1994	-0.07%	-0.93%	0.86%	-0.52%	-2.97%	2.45%	0.28%	-0.59%	0.87%
1995	37.44%	36.17%	1.27%	34.20%	34.90%	-0.71%	39.53%	36.30%	3.23%
1996	23.32%	22.03%	1.30%	27.72%	24.74%	2.97%	21.65%	21.80%	-0.15%
1997	26.60%	24.85%	1.76%	28.88%	32.32%	-3.44%	25.80%	24.14%	1.66%
1998	10.68%	4.85%	5.83%	14.61%	12.53%	2.09%	9.06%	4.23%	4.83%
1999	50.12%	45.93%	4.19%	44.04%	43.83%	0.21%	53.65%	46.05%	7.60%
2000	-7.44%	-8.24%	0.80%	-0.45%	-2.69%	2.24%	-11.95%	-8.61%	-3.34%
2001	-6.43%	-2.22%	-4.21%	-3.18%	-6.42%	3.24%	-8.73%	-1.91%	-6.82%
2002	-18.80%	-21.50%	2.70%	-18.19%	-20.58%	2.39%	-19.32%	-21.56%	2.24%
2003	48.45%	59.55%	-11.10%	43.79%	51.58%	-7.79%	51.30%	60.16%	-8.87%
All years	14.04%	13.46%	0.58%	15.19%	14.38%	0.81%	13.41%	13.39%	0.02%

		Panel B: Market-adjusted Returns (Daily alphas, in basis points)							
	All			**AA**			**Non-AA**		
Year	**Top**	**Lower**	**p-value**	**Top**	**Lower**	**p-value**	**Top**	**Lower**	**p-value**
1994	0.22	-0.26	0.33	-0.06	-0.89	0.23	0.47	-0.16	0.40
1995	-1.10	-0.71	0.47	-0.83	-1.14	0.72	-1.22	-0.66	0.48
1996	0.51	0.40	0.84	2.47*	1.28	0.26	-0.27	0.33	0.41
1997	-0.28	-0.46	0.77	0.49	1.60	0.34	-0.55	-0.66	0.87
1998	-4.09	-5.97**	0.01	-2.55	-3.49	0.46	-4.75*	-6.17**	0.07
1999	7.71***	6.98**	0.44	6.25***	5.41*	0.66	8.54***	7.10***	0.16
2000	2.95	3.43	0.76	5.76	5.86	0.97	1.04	3.27	0.13
2001	2.64	4.71	0.07	3.42	2.68	0.65	2.09	4.86	0.01
2002	0.64	-0.62	0.28	0.93	0.24	0.56	0.41	-0.68	0.34
2003	4.57***	6.99***	0.07	2.69*	4.44***	0.11	5.70***	7.19***	0.27
All years	1.26*	1.07	0.57	1.69**	1.32*	0.42	1.03	1.06	0.93

		Panel C: Fama-French 3-Factor Adjusted Returns(daily alphas, in basis points)							
	All			**AA**			**Non-AA**		
Year	**Top**	**Lower**	**p-value**	**Top**	**Lower**	**p-value**	**Top**	**Lower**	**p-value**
1994	0.49	0.08	0.35	0.23	-0.58	0.20	0.73	0.19	0.46
1995	-0.81	-0.52	0.57	-1.31	-2.01**	0.41	-0.44	-0.34	0.90
1996	0.87	0.41	0.38	2.37***	0.81	0.14	0.29	0.38	0.89
1997	-0.57	-1.76**	0.03	0.21	-0.60	0.46	-0.86	-1.87**	0.12
1998	0.92	0.08	0.15	1.77	0.95	0.51	0.61	0.01	0.40
1999	5.06***	3.43**	0.06	4.72***	2.07	0.13	5.22***	3.53**	0.09
2000	1.36	2.16	0.46	4.37*	4.74*	0.88	-0.71	1.99	0.03
2001	-1.27	0.16	0.08	-0.58	-1.28	0.64	-1.77	0.26	0.04
2002	0.15	-0.96	0.18	0.11	-0.43	0.62	0.16	-0.99	0.22
2003	1.86*	1.88*	0.97	0.20	1.44	0.24	2.85**	1.93*	0.28
All years	0.77*	0.50	0.28	1.02**	0.74	0.53	0.66	0.48	0.58

Table VII. Investment Value of Sell Recommendations: AA versus non-AA

This table compares the investment value of sell recommendations issued by AAs versus those issued by non-AAs. Panel A presents raw (un-adjusted) returns, Panels B and C presents market-adjusted and Fama-French 3-factor adjusted excess returns (alphas), respectively. *, **, and *** indicate that the alphas are significantly different from zero at the 10%, 5%, and 1% level, respectively. P-values for the difference in alphas between the AAs and non-AAs are tabulated.

	Panel A: Raw Returns								
	All			**Top-Tier Banks**			**Lower-status Banks**		
Year	**AA**	**non-AA**	**Difference**	**AA**	**non-AA**	**Difference**	**AA**	**non-AA**	**Difference**
1994	-0.61%	-1.40%	0.79%	-0.63%	-2.05%	1.42%	-0.69%	-1.27%	0.58%
1995	25.82%	29.93%	-4.11%	25.81%	31.95%	-6.14%	26.14%	29.39%	-3.25%
1996	15.87%	13.37%	2.49%	15.83%	9.05%	6.78%	15.88%	14.36%	1.52%
1997	22.73%	19.76%	2.97%	19.37%	13.33%	6.04%	26.35%	21.33%	5.02%
1998	-3.59%	-2.48%	-1.11%	-3.23%	-4.32%	1.09%	-3.33%	-2.10%	-1.23%
1999	11.78%	22.00%	-10.22%	15.93%	22.02%	-6.09%	6.93%	21.97%	-15.04%
2000	-10.43%	-10.75%	0.31%	-12.73%	-9.73%	-2.99%	-7.21%	-10.90%	3.69%
2001	1.50%	2.63%	-1.13%	-0.74%	2.67%	-3.42%	5.45%	2.61%	2.84%
2002	-25.57%	-29.27%	3.70%	-27.59%	-29.04%	1.45%	-21.30%	-29.38%	8.08%
2003	48.33%	56.11%	-7.78%	47.29%	59.34%	-12.05%	49.84%	55.43%	-5.59%
All years	6.76%	7.67%	-0.91%	6.00%	6.93%	-0.93%	8.14%	7.82%	0.32%

	Panel B: Market-adjusted Returns (Daily alphas, in basis points)								
	All			**Top-tier Banks**			**Lower-status Banks**		
Year	**AA**	**non-AA**	**p-value**	**AA**	**non-AA**	**p-value**	**AA**	**non-AA**	**p-value**
1994	-0.21	-0.52	0.62	-0.31	-0.70	0.66	-0.14	-0.48	0.62
1995	-2.42**	-1.16	0.10	-2.41**	-1.29	0.33	-2.36*	-1.12	0.18
1996	-1.09	-1.90	0.26	-0.85	-3.57**	0.03	-1.35	-1.52	0.86
1997	-0.74	-1.66	0.31	-1.66	-3.96**	0.07	0.24	-1.12	0.20
1998	-8.86***	-8.33***	0.69	-8.39***	-9.23***	0.63	-9.16***	-8.14***	0.55
1999	-2.37	1.32	0.01	-0.86	1.39	0.20	-4.20	1.30	0.00
2000	-1.36	-1.79	0.81	-2.25	-1.74	0.84	-0.11	-1.77	0.48
2001	5.86*	6.51*	0.70	5.12	6.28*	0.57	7.16**	6.55	0.81
2002	-2.03	-3.97	0.24	-2.99	-4.16	0.47	-0.07	-3.96	0.06
2003	3.20*	5.13**	0.09*	2.89	6.35***	0.00	3.67*	4.87*	0.32
All years	-1.16	-0.80	0.36	-1.44*	-1.02	0.43	-0.63	-0.74	0.83

	Panel C: Fama-French 3-Factor Adjusted Returns (Daily alphas, in basis points)								
	All			**Top-tier Banks**			**Lower-status Banks**		
Year	**AA**	**non-AA**	**p-value**	**AA**	**non-AA**	**p-value**	**AA**	**non-AA**	**p-value**
1994	0.07	-0.21	0.60	-0.01	-0.42	0.61	0.11	-0.16	0.67
1995	-3.55***	-1.70***	0.01	-3.52***	-1.95*	0.13	-3.51***	-1.63***	0.03
1996	-1.82**	-2.45***	0.30	-1.60*	-3.89***	0.02	-2.05*	-2.12***	0.94
1997	-3.10***	-3.21***	0.89	-3.73***	-5.10***	0.22	-2.41**	-2.76***	0.73
1998	-4.83***	-3.29***	0.17	-4.69***	-3.71***	0.49	-4.73***	-3.21***	0.36
1999	-0.96	0.97	0.10	0.91	1.37	0.78	-3.33*	0.86	0.02
2000	-5.96**	-6.22***	0.87	-6.02**	-6.78**	0.75	-5.94**	-6.09***	0.95
2001	0.65	1.18	0.74	-0.09	1.21	0.53	1.98	1.17	0.72
2002	-2.97*	-4.38*	0.32	-3.89**	-4.67**	0.60	-1.05	-4.34*	0.08
2003	-0.69	-0.07	0.46	-0.71	2.00	0.02	-0.61	-0.50	0.92
All years	-2.63***	-2.16***	0.18	-2.84***	-2.43***	0.42	-2.19***	-2.09***	0.84

Table VIII. Investment Value of Sell Recommendations: Top-tier versus Lower-status

This table compares the investment value of sell recommendations issued by top-tier-bank analysts versus those issued by lower-status-bank analysts. Panel A presents raw (un-adjusted) returns, Panels B and C presents market-adjusted and Fama-French 3-factor adjusted excess returns (alphas), respectively. *, **, and *** indicate that the alphas are significantly different from zero at the 10%, 5%, and 1% level, respectively. P-values for the difference in alphas between top-tier-bank analysts and lower-status-bank analysts are tabulated.

	Panel A: Raw Returns								
	All			**AA**			**non-AA**		
Year	**Top**	**Lower**	**Difference**	**Top**	**Lower**	**Difference**	**Top**	**Lower**	**Difference**
1994	-1.33%	-1.21%	-0.12%	-0.63%	-0.69%	0.06%	-2.05%	-1.27%	-0.77%
1995	29.17%	28.92%	0.24%	25.81%	26.14%	-0.33%	31.95%	29.39%	2.56%
1996	11.16%	14.50%	-3.34%	15.83%	15.88%	-0.05%	9.05%	14.36%	-5.31%
1997	15.06%	21.74%	-6.68%	19.37%	26.35%	-6.98%	13.33%	21.33%	-8.00%
1998	-4.02%	-2.21%	-1.81%	-3.23%	-3.33%	0.10%	-4.32%	-2.10%	-2.22%
1999	20.02%	20.84%	-0.82%	15.93%	6.93%	9.00%	22.02%	21.97%	0.05%
2000	-10.53%	-10.66%	0.13%	-12.73%	-7.21%	-5.52%	-9.73%	-10.90%	1.16%
2001	1.29%	2.82%	-1.53%	-0.74%	5.45%	-6.19%	2.67%	2.61%	0.07%
2002	-28.48%	-29.00%	0.52%	-27.59%	-21.30%	-6.29%	-29.04%	-29.38%	0.34%
2003	54.64%	54.92%	-0.27%	47.29%	49.84%	-2.55%	59.34%	55.43%	3.91%
All years	6.53%	7.80%	-1.27%	6.00%	8.14%	-2.14%	6.93%	7.82%	-0.89%

	Panel B: Market-adjusted Returns								
	All			**AA**			**non-AA**		
Year	**Top**	**Lower**	**p-value**	**Top**	**Lower**	**p-value**	**Top**	**Lower**	**p-value**
1994	-0.49	-0.44	0.89	-0.31	-0.14	0.81	-0.70	-0.48	0.70
1995	-1.82	-1.29	0.37	-2.41**	-2.36*	0.96	-1.29	-1.12	0.83
1996	-2.70*	-1.50	0.05	-0.85	-1.35	0.65	-3.57**	-1.52	0.02
1997	-3.30**	-1.00	0.00	-1.66	0.24	0.11	-3.96**	-1.12	0.00
1998	-8.99***	-8.23***	0.36	-8.39***	-9.16***	0.65	-9.23***	-8.14***	0.30
1999	0.66	0.91	0.80	-0.86	-4.20	0.10	1.39	1.30	0.93
2000	-1.80	-1.67	0.92	-2.25	-0.11	0.45	-1.74	-1.77	0.98
2001	5.80	6.60*	0.47	5.12	7.16**	0.38	6.28*	6.55*	0.84
2002	-3.70	-3.77	0.95	-2.99	-0.07	0.05	-4.16	-3.96	0.85
2003	5.03**	4.76*	0.76	2.89	3.67*	0.43	6.35***	4.87*	0.12
All years	-1.21	-0.75	0.11	-1.44*	-0.63	0.14	-1.02	-0.74	0.41

	Panel C: Fama-French 3-Factor Adjusted Returns(Daily alphas, in basis points)								
	All			**AA**			**Non-AA**		
Year	**Top**	**Lower**	**p-value**	**Top**	**Lower**	**p-value**	**Top**	**Lower**	**p-value**
1994	-0.21	-0.13	0.84	-0.01	0.11	0.86	-0.42	-0.16	0.64
1995	-2.66***	-1.89***	0.19	-3.52***	-3.5***1	0.99	-1.95*	-1.63***	0.70
1996	-3.16***	-2.12***	0.09	-1.60*	-2.05*	0.69	-3.89***	-2.12***	0.03
1997	-4.71***	-2.73***	0.00	-3.73***	-2.41**	0.27	-5.10***	-2.76***	0.00
1998	-4.05***	-3.34***	0.40	-4.69***	-4.73***	0.98	-3.71***	-3.21***	0.63
1999	1.20	0.56	0.48	0.91	-3.33*	0.04	1.37	0.86	0.64
2000	-6.34**	-6.09***	0.83	-6.02**	-5.94**	0.98	-6.78**	-6.09***	0.64
2001	0.67	1.23	0.59	-0.09	1.98	0.36	1.21	1.17	0.98
2002	-4.37**	-4.20*	0.85	-3.89**	-1.05	0.05	-4.67**	-4.34*	0.74
2003	0.96	-0.53	0.02	-0.71	-0.61	0.92	2.00	-0.50	0.00
All years	-2.61***	-2.12***	0.06	-2.84***	-2.19***	0.23	-2.43***	-2.09***	0.30

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