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## Regulations and Brain Drain

### Evidence from Wall Street Star Analysts' Career Choices

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**A**nalysts from investment banks have long been suspected of issuing overly optimistic stock research in exchange for investment banking business, especially during the internet bubble in the late 1990s. In the early 2000s, regulators implemented a series of reforms to address the conflicts of interest in equity research. One of the provisions of the Global Research Analyst Settlement and Section 501 of the Sarbanes-Oxley Act require investment banks to physically separate their investment banking and research departments and to restrict interaction between them. In particular, banks' senior management must set the budget of the research department without input from investment bankers and without tying the budget to investment banking revenue. Investment bankers cannot take part in evaluating analysts' job performance or determining their compensation. Research analysts are prohibited from participating in investment banking activities and receiving compensation related to investment banking.

The restrictions imposed in the above reforms have led to a significant reduction in the bonuses and total compensation of analysts. For example, the median real bonuses for analysts in a big investment bank decreased from \$940,007 in 2001 to \$450,000 in 2005, although median real base salaries stayed roughly at \$175,000 during the same period. Such a decrease in compensation may cause a "brain drain" in investment banks and the research profession if high-ability analysts exit research to pursue other lucrative opportunities in other industries.

In this study, we examine whether star analysts depart the investment research industry as a consequence of the reforms. Star analysts have been substantially affected by such regulations, as they are mostly involved with their firms' investment banking activities, and their compensation (especially bonuses) is largely tied to investment banking revenue. With a significant cutoff in their compensation, it is likely that star analysts will exit equity research to pursue other lucrative career opportunities. We treat star analysts as a representative group of the best performers in the profession and, hence, we consider their departure as evidence of a brain drain in the investment research industry.

Over the period from 1995 through 2007, we find that the percentage of investment bank star analysts leaving increased from 5.1 percent before the regulations to 11.8 percent afterward. Investment bank star analysts are more likely than their nonstar counterparts to leave research in the postreform period, holding constant the analysts' forecast accuracy, optimism, experience, and affiliation. This result is robust to controlling for the confounding effects of the decrease in the investment banking revenue of banks and the change in investors' sentiment. These findings suggest that it has become more difficult for investment banks and the research industry to retain star analysts since the reforms. To further investigate the loss of investment banking bonuses as an explanation for the departure of star analysts, we test whether the reforms have a more pronounced effect on star analysts specialized in industries with a high level of investment banking activities. We observe

that the likelihood and propensity of star analysts to exit research is positively associated with investment banking revenue in the core industry of the star analysts.

The final test of our hypothesis involves tracking the career choices of the departed star analysts. We document that after the reforms, there was a significant jump in the percentage of investment bank star analysts moving to buy-side hedge funds, private equity firms, or venture capital firms. In particular, 31.1 percent of the departed star analysts moved to the buy side after the reforms, compared with 24.1 percent in the pre-reform period. We repeat the same set of empirical analyses on a sample of star analysts from noninvestment banks, including independent research firms, brokerage firms, and syndicate banks. As noninvestment banks have no or very little investment banking business, they are less affected by the reforms. We do not find an increase in the likelihood of noninvestment-bank star analysts exiting the sell side or moving to the buy side after the reforms. These findings provide triangulating evidence that the loss of investment banking–related bonuses is a reason for the departure of investment bank star analysts.

The departure of star analysts is potentially harmful to the investors who use the analysts' research. We compare the informativeness of the earnings–forecast revisions and stock recommendations issued by the departed star analysts with those issued by other analysts following the same companies or the analysts from the same brokerage firms replacing the departed star analysts. The informativeness of earnings–forecast revisions and stock recommendations is measured by the short-term market responses to these revisions or recommendations. We show that the departed star analysts provide more-informative research than both benchmarking groups. Specifically, the market reacts more positively (negatively) to the upward (downward) forecast revisions and recommendation changes issued by the departed star analysts than it does to those issued by replacing analysts. We also find that departing star analysts are more likely to issue industry recommendations. In addition, the market reacts more positively (negatively) to the upward (downward) industry recommendation changes issued by departed star analysts than it does to those issued by other analysts. The results are consistent with departing star analysts having more industry knowledge. Collectively, these findings suggest that star analysts contribute to the informational efficiency of the capital market and that their departure caused by the reforms may prevent the

information generated by the analysts from being fully impounded into stock prices.

We add to the overall understanding of the economic consequences of these regulations in the equity-research industry. Prior research has shown that these regulations have made analysts' stock recommendations less upwardly biased and more consistent with valuation based on analysts' earnings forecasts and have also reduced security mispricing. However, other research suggests that the reforms cause research departments to reduce their coverage and the quality of their research. It is important to identify and measure all the costs and benefits to conduct a fair and comprehensive evaluation of the regulations. In this study, we identify an unintended economic consequence of the reforms, namely that the regulations are associated with a brain drain in investment banks and the equity-research industry. We believe that the brain-drain effect should be considered in an overall assessment of the efficacy of the reforms.

This study also contributes to the stream of literature investigating the career concerns of financial analysts. Prior studies have shown that analysts' career outcomes are affected by their forecast accuracy, optimism, and experience. We show that reduced compensation is a factor that leads to the departure of the best analysts from the investment research profession. Annual pay for top analysts fell to approximately one quarter of its 2000 peak by 2008. We provide systematic evidence supporting the notion that the reforms affect the career choices of star analysts when the reforms reduce the earnings potential of analysts. More broadly, our study adds to the labor economics literature by demonstrating how regulations and compensation shocks affect human capital flows. Our study shows that a brain drain indeed occurs following a compensation shock in the investment research industry. In the mutual fund industry, good managers can be retained by allowing them to manage a hedge fund concurrently. Such an alternative may be difficult to find in the investment research industry.

#### NOTE:

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