
The Principal–Agent Problem in Finance (a summary)

Sunit N. Shah

Published 2014 by the CFA Institute Research Foundation

Summary prepared by Sunit N. Shah

Despite its prominence in economics today, the study of incentives is relatively new. Included in this field is the study of the principal–agent relationship. The principal is one who, within predefined terms, assigns a task to an agent, who performs the task on the principal's behalf. If the agent's incentives are not aligned with those of the principal and the principal cannot monitor the agent's actions, the agent has both the motivation and the ability to act undetected against the principal's interests. This scenario is referred to as the "principal–agent problem."

Early in the history of economics, researchers focused primarily on the behavior of market participants on an aggregate level. Ronald Coase is widely credited with taking the analysis one level deeper in the 1930s with his examination of the firm. In the 1950s and 1960s, economists began to examine how differences in incentives among members of a given team cause the various members to act differently from each other, sparking the subdiscipline of economics known as "optimal contract theory."

At the same time, another set of economists, including Robert Wilson and Kenneth Arrow, were exploring the nature of risk sharing among groups of people with different preferences for risk. Such studies brought to light a set of difficulties that can occur when parties to a contract involving risk transfer alter their actions after the contract is agreed upon. This area of work came to be known as "agency theory."

These two lines of study share a common thread: Each party to a contract must recognize that the other parties may change their behavior after the contract has been struck. The key question is how to structure the contract to minimize potential problems. These two fields eventually merged, and from this union, the principal–agent model and the study of the principal–agent problem were born.

For the principal–agent relationship to be problematic, two ingredients are needed: conflicting incentives and private information. Without the former, the principal may simply leave the agent to his or her own devices; without the latter, the principal need only structure the contract to cover each realization of private information *ex post*.

It is not surprising that the financial services industry finds itself rife with potential principal-agent problems. The interconnectedness of the industry has created a myriad of agency relationships in which monitoring is difficult, and many of these relationships involve risk transfer or risk sharing within groups. Consequently, ethical standards within the field must be high, lest the power of participants' own incentives drive them to act counter to their fiduciary duty to their clients.

Unfortunately, strong ethical standards have not been upheld. As several studies have shown, many participants in the finance industry who have witnessed wrongdoing do not report it and, worse yet, many would engage in illegal activity to get ahead if they were sure they would not be caught. These patterns exist even though other studies have shown that trust is the attribute that is most important to investors when hiring investment managers—even more important than an ability to achieve high returns.

Examining the literature that discusses such problems in two important areas of finance, asset management and the banking industry, is an important step in promoting the introspection needed to reevaluate the industry's practices.

Compensation Structures in Asset Management

Asset managers often receive two streams of revenue for their services. One, called a "management" fee, is a fixed percentage of the assets under management and is often justified by overhead expenses, such as payroll, rent, and infrastructure. The second revenue stream is referred to as the "performance" or "incentive" fee and is a predetermined percentage of the return the manager generates on the investor's assets.

On the one hand, because the manager does not pay the investor back for losses generated, the incentive fee is an option-like component of the management contract. The management fee, on the other hand, is an equity-like position in the fund because it grows commensurately with the assets. Consequently, the choice between the incentive fee and the management fee boils down to a choice between option compensation and equity compensation.

Much research has been done on these fee structures. Some of the research examines this topic in a static framework; that is, some studies use a one-period model without considering changes to the fund over time. Most of this subset of the research concludes that incentive fees do not have a high correlation with actual manager incentives and that the management fee component of the structure does a better job than the incentive fee of aligning a manager's motives with those of the investor.

Research examining this topic in a dynamic framework has incorporated the question of how capital flows react to fund performance over time. Such research finds that, although outperformance in a given period does benefit the

manager through higher fees in that period, the larger benefit to the manager comes from the additional fees he or she will receive in future periods on the capital inflows that result from this outperformance. Furthermore, the potential for redemptions in periods of underperformance can cause managers to take on less risk than is optimal, with the result that higher incentive fees are often required to counter this effect by motivating managers to take on more risk.

To collapse risk and return into one metric, some investors evaluate managers based on the Sharpe ratio a manager has achieved historically, but research has cast doubt on the effectiveness of such a metric in promoting prudent manager behavior. If the manager has an incentive to maximize his or her Sharpe ratio, that manager may execute strategies that generate a small profit in almost all scenarios but lose an enormous sum in the remaining few. An example is pairing an out-of-the-money short call position with an out-of-the-money short put position. Although such an approach may maximize a manager's Sharpe ratio in some circumstances, it is unlikely to be in the investor's best interest.

Investor Short-Termism

The direct incentives in the field of asset management are generally governed by the manager's compensation structure, but investors themselves often indirectly provide managers with incentives to act counter to the investors' interests through a focus on short-term results. That investors tend to focus on the very recent past, a phenomenon known as "short-termism," is well documented. In fact, most of the literature considers this behavior as simply one aspect of human nature in investing. The behavior is grounded in several well-established psychological effects, such as recency and saliency, and studies have shown that such behavior not only exists but also is increasing in magnitude over time. This tendency on the part of investors may force asset managers to manage for the short term, thereby causing them to neglect the best interests of those very investors.

The bulk of the research on investor short-termism has examined this behavior in a corporate management context. This research finds that when investors focus on short-term earnings results, corporate managers react to this myopic view by managing for the short term. In the resulting equilibrium, the managers artificially boost short-term earnings and the market rationally anticipates this behavior.

Subsequent research has focused specifically on asset management, beginning with the mutual fund industry. This research finds similar outcomes. Investors chase performance. They pour funds into recent sensational performers, yet often fail to exit underperformers at the same pace. Managers respond to this behavior by decreasing risk in scenarios in which additional outperformance would not help the fund as much as underperformance would

hurt it and by increasing risk in opposite scenarios. That finding is worth repeating: The empirical evidence shows that when the incentives resulting from investor short-termism contradict what is actually best for the investors, managers tend to act in their own self-interest rather than abide by their fiduciary duty to those investors.

Analysis of investor short-termism in the hedge fund industry is sparse, in large part because of the opacity of the industry and the consequent lack of data for analysis. The research that has been performed demonstrates that investors in this industry also react strongly to short-term results. Outflows tend to respond to underperformance more quickly than inflows respond to outperformance, however, which is a striking difference between investor behavior in the hedge fund industry and in the mutual fund industry.

Systemic investor behavior can have sweeping effects on markets. It can make markets less efficient. The absolutist version of the efficient market hypothesis maintains that the existence of one rational trader in the market is sufficient to nullify the effect of many irrational ones; the one rational trader will simply counter any irrational trades from others and return the market to efficiency. Research has shown, however, that to the extent that the rational traders have limited capital or limited time horizons, such behavior would not be rational because the market could, in words attributed to John Maynard Keynes, remain irrational longer than the rational investor remained solvent.

Many asset managers, using Warren Buffett as a model, have taken steps to escape the effects of investor short-termism by setting up permanent capital vehicles resembling Buffett's Berkshire Hathaway. Berkshire Hathaway has provided its investors with a return that far outpaces the risk-free rate and has also decisively outperformed the S&P 500 Index. It has, however, suffered its own ups and downs over time. For example, as the tech bubble expanded in the late 1990s, Berkshire Hathaway lost almost half its capital while the stock market gained 32%. But in such cases, Buffett's firm was able to hold its positions until the market corrected because, unlike a mutual fund, Berkshire Hathaway is a firm with a fixed number of shares. As a result, anyone wanting to sell his or her shares has to sell them to another investor rather than back to the issuer.

Management firms that have followed suit include Pine River Capital Management, which set up two publicly traded REITs, and many hedge funds, such as Moore Capital, Greenlight, Paulson, SAC, and Third Point Management. All of them have created reinsurance companies in which the hedge funds manage the assets.

The Banking Industry and the Financial Crisis of 2008

The banking industry contains its own share of principal-agent problems, many of which were highlighted by the financial crisis of 2008. The complexity of the

banking industry creates an environment that is ripe for potential incentive conflicts. In the run-up to the financial crisis, bank employees often faced conflicts between the incentives created by their compensation contracts and their duty to the shareholders of their companies. The government certainly faced tension between its duty to represent taxpayer interests and its stance of not interfering with private industry. And the bailouts themselves forged a new principal-agent relationship between bank managers and the taxpayers whose money was used to stabilize their institutions. The complex relationships among the various parties, combined with the density of relevant information in each transaction, provided a fertile breeding ground for principal-agent issues. Furthermore, the amount of money involved amplified each individual's incentives significantly, making those incentives more difficult to ignore.

Many bank employees faced conflicts between their own incentives and their responsibility to their banks' shareholders. Traders, who take on risk on behalf of bank shareholders, often have unlimited upside to their bonuses, whereas the shareholders participate equally in upside *and* downside outcomes. This situation motivates traders to take on much more risk than is optimal for the shareholders. During the financial crisis, this misalignment became apparent, with many traders receiving enormous bonuses, even though their trades brought down the very banks for which they worked.

The research is more forgiving in its evaluation of bank managers than traders. Like traders, some bank executives received large bonuses over time frames that included periods of loss that wiped out a decade's worth of prior earnings. However, the research that examines the relationship between the banks' losses and the structural alignment of their managers' incentives is mixed. Some of the evidence suggests that the banks that did better during the crisis had management compensation structures that were better aligned with the interests of shareholders. Other research demonstrates that banks whose managers had incentives closely aligned with shareholder interests actually performed worse. A third stream of research has shown that bank CEOs did not move to liquidate their personal holdings before the crisis, which demonstrates that they did not anticipate the losses.

Overall, the literature in this area seems to conclude that, for better or worse, bank managers were as unaware as the rest of the market that the crisis was going to materialize. It also shows, however, that bank managers' personal incentives probably played a role in the banks' behavior under the Troubled Asset Relief Program (TARP). Banks whose CEO compensation was above the TARP limit were more likely to reject TARP, and this likelihood increased significantly as manager compensation rose.

Through TARP and other policies, the US government also served as a major player in the financial crisis, creating principal-agent problems with its

own actions. (Striking similarities exist between the US financial crisis and that of Japan in the late 1990s.) First, the US government needed to ensure that the structure of the Capital Purchase Program motivated the “right” banks to apply for the preferred stock capital injections offered under the program. Second, the US Treasury needed to ensure that it approved the banks whose financial distress costs were the highest. Research shows that the government succeeded in both endeavors.

Some of the government’s actions, however, have been called into question. The insertion into the banks’ capital structures of a government-owned layer just above common equity meant that only one layer of capital needed to fail before regulators would have to seize bank assets to protect the taxpayers. The market perceived this change as an increase in risk, and banks with small common equity cushions suffered, in terms of stock market performance, relative to banks with large cushions.

The government’s behavior regarding Fannie Mae and Freddie Mac has also been questioned. In 2008, the Federal Housing Finance Authority (FHFA), acting in its authority as conservator of these entities, struck a deal with the US Treasury that stabilized Fannie and Freddie in exchange for preferred stock amounting to \$1 billion. About four years later, the FHFA and the Treasury signed an amendment to that agreement providing the Treasury with a full sweep of Fannie’s and Freddie’s earnings in the future as repayment for the taxpayers’ investment in the two firms.

Consequently, several principal-agent problems have been alleged to exist. The first involves a conflict of interest for the FHFA, which has a fiduciary duty to act on behalf of Fannie and Freddie shareholders in its role as conservator but also has a duty to act on behalf of the taxpayers in its role as part of the government. The second principal-agent issue pertains to an alleged violation of the Administrative Procedure Act and involves a conflict of interest within the government between its duty to act on behalf of the taxpayers as owners of Fannie and Freddie and its duty to administer the Housing and Economic Recovery Act by guiding Fannie and Freddie toward private ownership. The third issue alleges an improper use of the law of takings and involves a conflict between the government’s role as agent of the taxpayers and its duty to provide just compensation when it forcibly removes private property.

The research has also illuminated potential principal-agent problems in the role of rating agencies. These agencies’ revenue streams are generally a function of how many ratings they provide, and this system creates an incentive to sacrifice accuracy for speed. Furthermore, the oligopolistic nature of the ratings market enables issuers to engage in “ratings shopping”—that is, having their securities rated by the agency that will provide the highest rating. This behavior, in turn, gives the agencies an incentive to skew their

ratings upward. In addition, the repeat-customer nature of the business has resulted in many issuers' receiving advice from the agencies on structuring the very securities that will later be rated—a practice that has been likened to an auditor auditing his or her own work.

Conclusion

Organizations such as CFA Institute have developed codes of ethics to guide finance professionals and to set expectations for ethical behavior and professional conduct. Reflection upon such behavior, and on how successful the industry as a whole has been in achieving its ethical goals, has rarely been more important than it is now. Financial products and relationships have become so complex and interwoven that discerning ethical actions from irresponsible behavior is significantly more difficult than it has been in the past. This development is demonstrated by the recent financial crisis, which threatened to bring down the entire financial system. Investors and the general public have noticed, as several recent surveys have shown, that trust both of and within the financial markets has reached frighteningly low levels.

Asset management compensation structures directly provide managers with incentives that, if misaligned with those of the investors, can lead to conflicts with the managers' fiduciary duty to those investors. The tendency of investors to focus on short-term performance can exacerbate this problem and provide managers with additional incentives that run counter to the investors' best interests. Consequently, many asset managers, wishing to avoid the misaligned incentives that investor short-termism can create, have sought sources of capital with long lock-up periods and launched publicly traded entities to provide stable capital bases.

The banking industry contains its own share of potential incentive conflicts, many of which were highlighted by the recent financial crisis. Research on the compensation structures of senior bank executives is mixed, whereas most research on the incentives of the traders and others more directly involved in daily decisions points to these incentives as reasons for the increased risk on bank balance sheets. Several observers have also weighed in on changes the government must make to the current market environment to keep such problems from recurring. In addition, the literature offers considerable criticism of the way rating agencies are compensated. These researchers claim that the agencies' pay schemes motivate them to sacrifice accuracy for speed and to shade their ratings up to benefit their clients.

Who will act to solve these problems in the future? On their own, members of the financial profession are realizing that it is not enough to avoid conflicts or manage their own conflicts responsibly. A sustainable financial system requires a trustworthy reputation, not only for individuals but also

for the industry. There has sometimes been a leadership void, but the recent financial crisis has prompted CFA Institute and other organizations to take a more active role in (1) aligning interests so that the economic benefits of finance can be realized and (2) improving corporate governance in the financial industry. By finding ways to cultivate an ethical culture in the finance industry, we can together shape a better future for finance.

* * * * *



The complete monograph can be found at <http://www.cfapubs.org/doi/abs/10.2470/rflr.v10.n1.1>.

Use your smartphone to scan the QR code to go straight to the webpage.