Andreas Krause

Financial innovations and asset management

- We will look at a two distinct business lines that many investment banks also offer their clients. One is the provision of financial innovations and the other asset management services.
- These two business areas are quite distinct and are mostly offered to different clients, although asset management can lead to the demand for new securities to address specific requirements of clients.

Investment bank business beyond advice

- Investment banks are active in many areas beyond providing advice to companies issuing securities and investors
- Companies or investors might approach them with specific concerns whose solution might be the development of new securities
- Examples of such securities were futures on interest rates and exchange rates in the 1970s, before they were available for commodities mainly
- Other innovations include stock index futures in the 1980s and credit derivatives in the 1990s
- Investment banks also take their advice one step further by offering to manage the wealth of their clients

Investment bank business beyond advice

→ The main role of investment banks is to provide advice to companies in mergers and when underwriting securities, in addition to providing advice to investors trough financial analyst reports; however, they also offer other services to their clients.

- While merger advice, underwriting od securities, and financial analyst coverage are the core business lines of most investment banks, they also offer a wide range of services that go beyond their core business. This might on the one hand be the result of investment banks seeking to generate more revenue using the information they have acquired through their core business, or to offer such services with the aim of obtaining information for their core business. Another motivation might be to gain access to key decision-makers in organisations that might influence the investment bank chosen for any advice in mergers or the underwriting of securities they seek to issue.
- It might also be that existing clients approach them with a specific concern they have and which might be solved through the development of new securities. This might involve the circumvention of regulations; one might think of avoiding restrictions on capital movements where a security might transform capital into earnings, if they can be moved across borders. It might also involve attempts at reducing the tax burden, for example by employing securities to move revenue or profits between jurisdictions or across time.
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  - Historically, modern new securities were futures on interest rates and currency that were introduced in the early 1970s in the aftermath of the collapse of the Bretton-Woods agreement on fixed exchange rates which caused currency fluctuations, but also more widespread interest rate fluctuations.
  - Futures were no new securities in principle, they were used for commodities for a long period of time, but applying them to exchange rates and interest rates was new and required some adjustments from commodity futures.
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  - This was then later followed by stock index futures, a futures contract on the value of a stock index, which unlike most futures at the time was settled in cash rather than with the transfer of the underlying security (a common practice now).
  - More recently the introduction of credit derivatives, credit default swaps and collaterised debt obligations or the most prominent examples, have opened up a new market for investors by allowing them exposure to credit risk.
- With investment banks already providing advice to investors, they typically also offer the next step by not only providing advice on which investors can act, but by making decisions on behalf of investors. This area is known as asset management.

→ We will explore these two areas, financial innovations and asset management, and look at theway new securities might be introduced and what conflicts of interest might be present if investment banks make investment decisions on behalf of their clients.

Financial innovations

- Reacting to demands for new types of securities by their clients can impose significant costs
- New securities require the desired properties to be designed and legal documentation to ensure the contracts are enforceable
- Investment banks will also have to develop models to price these securities
- Investment banks will often act as counterparties due to a lack of market and expose themselves to risks

Financial innovations

→ We will first look at financial innovations and the incentives for investment bank to develop and sell these.

- Clients might have specific needs for their circumstances and a carefully designed security might reduce their costs or allow them investments that are otherwise not possible. However, the development of such securities is generally costly for investment banks.
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    - The first challenge will be to design securities that have the desired properties, while at the same time take into account any regulatory constraints and taxation arrangements, often in multiple jurisdictions.
    - In addition the legal documents for this security must be drawn up, again meeting any regulatory requirements, such that the rights and obligations of all parties are clearly defined.
- After this has been achieved successfully, the investment bank needs to determine the value of the security, taking into account the properties it has assigned to it. Such pricing of securities is often not easily achieved and will require the use of advanced mathematical, statistical, and often also computational methods.
- Securities require a buyer and seller, and with many specific security a counterparty for the clients' optimal security might not be available as no other investor has an similar, but opposing, problem, and no investor is willing to take on such a specific risk. In this case the investment bank will act as the counterparty and hold the security. This exposes the investment bank to risks and it will generally also bind capital and other resources.

→ The development of financial innovations is a costly and often time-consuming process. It is therefore that when developing a new security, the investment bank wants to be sure to recover its costs.

Motivations when introducing financial innovations

- We will look at the conditions under which financial innovations are introduced to the market
- Financial innovations might be introduced in phases or shared with other banks
- We will see which strategies banks are using once they introduce financial innovations

Motivations when introducing financial innovations

→ We will analyse how financial innovations are introduced in the market.

- We will look at how financial innovations are brought to the market, provided they have been developed in the first instance. That is we will focus on twhether they are immediately released, released in stages, or sold to other investment banks.
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  - We will look at cases where financial innovations are introduced in multiple steps, each showing an aspect of the final product and these intermediate steps are offered to clients, rather than developing the security fully and offering only the final version to clients.
  - Investment banks might also not sell a financial innovation to their clients, but instead sell it to another investment bank, who offers it to their clients.
- We will see the conditions under which investment banks use each of these strategies to introduce financial innovations they have developed.

→ The complexity of developing financial innovations, how to design securities with the required properties and how to price them, are not considered here.

Andreas Krause

Chapter 11.2

Introduction of innovations

→ The model we are going to discuss is based on Chapter 11.2 of the book 'Theoretical Foundations of Investment Banking'. A more detailed description of the model, additional steps for its solution, and a more in-depth discussion of results can be found there.

Discussion of the model results

- Investment banks can use financial innovation as a tool to gain reputation and market share
- This is a strategy that is particularly attractive to small investment banks, while mid-sized investment banks seek cooperations to reach a larger market

? Will investment banks always seek to develop controversial financial innovations to gain market share?

! Investment banks will balance the gains from such innovations against the potential costs from tighter regulatory oversight, reputation with less aggressive clients, and general reputation with investors

Discussion of the model results

→ Now that we have derived the main results of the model, as far as relevant for us, we will briefly discuss some implications as well as limitations of this model. This will allow us to interpret the model in its context of the initial problem and enables us to apply it appropriately in a realistic context.

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  - The substantial costs of financial innovations makes most of them not very profitable to investment banks and the ability to copy them , will further limit the profitability of financial innovations. However, investment banks can use financial innovations to show to existing and prospective clients their understanding of their clients needs and their ability to find solutions for their clients. This would increase their reputation in the market and in the long run might attract additional clients.
  - By offering financial innovations that other investment bank cannot offer, an investment bank can also increase its market share directly bif the clients that seek the financial innovation subsequently provide them with other business as well.
- ▶
  - Gaining reputation and expanding their market share by attracting new clients through financial innovations is particularly attractive to small investment banks who can tap into a larger number of potentially new clients.
  - It is more mid-sized investment banks that will seek a cooperation with larger investment banks. They do not have the client basis to recover costs from their own existing clients, but they have a large enough client base such that attracting new clients will be difficult. By cooperating with other, larger, investment banks they are able to gain additional revenue through the client base of the other investment bank.
- [?] We have seen that controversial financial innovations that are likely to be of benefit only for a short period of time allow investment banks to charge the highest price. With the ability to gain market share, will they always seek to develop such financial innovations if they have a profitable opportunity to do so?
- [!] There might well be costs associated with introducing controversial innovations. If such financial innovations are frequently developed, regulators might decide to put the investment bank under tighter regulatory oversight as a form of retaliation, which will increase their compliance costs. The investment bank might also obtain a reputation for aggressive tactics with regulators or tax authorities, which might cause clients seeking a less confrontational approach to obtain the services of other investment banks; the same can be true of investors seeking their advice.

→ When introducing financial innovation, there are other concerns beyond the immediate profits that can be generated. These concerns, for being innovative on the one hand, but also pursuing aggressive tactics to circumvent regulations, will affect the decision of developing financial innovations.

Delegation of investment decisions

- Investment banks provide advice to clients through financial analysts, but many clients have not the knowledge or time to make use of this information
- For such clients, investment banks offer to manage their wealth without clients having to make specific investment decisions
- Investment banks make the detailed decisions within the framework of investment agreed
- Such delegation of decision-making will allow the investment bank to make investment decisions that suit their objectives

Delegation of investment decisions

→ Managing the wealth of clients is an important part of the revenue for investment banks. This is especially the case in times when other investment banking divisions are less profitable than normal as asset management is generating a stable revenue stream, regardless of other market conditions.

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  - Investment banks already provide investment advice to clients through their analyst reports. Clients can use this information to improve their investment decisions.
  - However, many clients will have either not the knowledge to use the information provided, or they do not have the time to make use of this information.
- In these cases, and if the assets that are involved are sufficiently high, investment banks offer to make decisions for their clients. Thus clients are not involved in the day-to-day decisions on their investment. Their involvement will be limited to regular (annually or semi-annually) meetings to discuss general principles of the investment strategy the investment bank is to pursue.
- Within this general agreement, the investment bank then makes decision on which securities to hold in the portfolio and how much to invest.
- A consequence is that investment banks will make decisions that suit their objectives, their own profits, rather than make decisions that are optimal for their clients.

→ We will explore this potential conflict of interest and what its consequences are.

Andreas Krause

Chapter 12

Asset management

→ The model we are going to discuss is based on Chapter 12 of the book 'Theoretical Foundations of Investment Banking'. A more detailed description of the model, additional steps for its solution, and a more in-depth discussion of results can be found there.

Discussion of the model results

- Investment banks invest into assets that have higher risks than the clients seeks, but the informational advantage might still improve clients' utility
- By taking more risky investments, investment banks are more exposed to wrong information and invest more into the skills of asset managers

? Clients would be able to establish *ex-post* that investment banks have taken higher risks than they wanted, why do they not require banks to reduce risks?

! The risks have to be evaluate relative to the information precision of the investment bank and clients have no knowledge of this

Discussion of the model results

→ Now that we have derived the main results of the model, as far as relevant for us, we will briefly discuss some implications as well as limitations of this model. This will allow us to interpret the model in its context of the initial problem and enables us to apply it appropriately in a realistic context.

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  - We have seen that investment banks make investments that are more risky than what their clients would find optimal, even taking into account the informational advantage of banks.
  - This informational advantage of investment banks, might increase the utility of clients from using the asset management of the investment bank, despite the higher risks that are taken.
- The higher risk also puts their investment skills more under scrutiny as the consequences are more severe than with lower risk, resulting in investment banks having to invest more into the expertise of their asset managers.
- [?] When analysing the investment decisions taken by investment banks in the regular reviews, the client would notice that the risk the investment bank took was higher than he would have liked. He could then simply require the investment bank to reduce risks in the future to avoid this scenario. Why does this not work?
- [!] The problem is that the information precision of banks, σ_B, needs to be known to make such an evaluation, and the bank will not (truthfully) reveal this information to their client, so could at any point claim to have had more precise information than they actually had to justify the high risks they took, in the client's view.

→ Investment banks increase the risks of investments they make on their clients' behalf, but it is very difficult for clients to be aware of this as they lack information on the precision of information that investment banks have.

Summary of key results

- Investment banks will seek to exploit any informational advantage they have, especially if the information they hold cannot be verified
- When developing new securities, they will seek to exploit their temporary monopoly optimally by extracting surplus from clients and cooperating with other banks if beneficial
- General concerns about their long-term reputation will limit the degree with which they can exploit their advantages

Summary of key results

→ We can now summarize the key results we have obtained about financial innovation and asset management in investment banks.

- - Investment banks have an informational advantage over their clients and they will seek to exploit this.
  - In the case of asset management, it is very difficult to verify the precision of information that investment banks have, such that this conflict of interest is difficult to prove, even in hindsight.
- - Developing financial innovations gives investment bank a temporary monopoly until other investment banks have acquired the knowledge to replicate the innovation. This allows investment banks to extract surplus from their clients using their financial innovation.
  - In order to maximize their profits, investment banks might cooperate with other investment banks.
- While investment banks have advantages over their clients, either an informational advantage or a temporal monopoly, the degree to which they can exploit their advantage will always be limited by concerns about their reputation. The heightened risk of losses or the emergence of evidence that clients are overcharged will cause clients to be more reluctant to trust an investment bank and they might lose future revenue from clients seeking alternative investment banks for advice.

→ While conflicts of interest between investment banks and their clients are present in many interactions, there are not only contractual arrangements to limit their impact, it will also be reputational concerns that will limit the extent to which the investment bank can exploit any informational advantages or conflicts of interests.

Andreas Krause
Department of Economics
University of Bath
Claverton Down
Bath BA2 7AY
United Kingdom

E-mail: mnsak@bath.ac.uk