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 markets
- 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

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- 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.

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- 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.

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- 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.

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

- → 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.
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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.

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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
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  - 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. However, 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

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- Within this general agreement, the investment bank then makes decision on which securities to hold in the portfolio and how much to invest.
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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

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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.

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  - 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.

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- 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.

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