Andreas Krause

The process of underwriting

- Underwriting securities encompasses the process in which investment banks help the issuer of the security to sell it to investors.
- The procedures by which investment banks do so support issuers are rather complex, but we will see how they help solving conflicts of interest between issuers, investment banks, and investors.
- We will look some key aspects of the underwriting process, the dominance of book-building and the formation of syndicates in which investment bank cooperate to issue the security.
- We will see how their use benefits issuers by reducing moral hazard and asymmetric information.

The role of underwriters

- Investment banks advise clients on the issue of securities
- They also engage with potential investors to assess the demand for these securities
- Based on this assessment a price range is determined and formal bids by investors invited
- Investment banks then also administer the offer and the allocation of securities to investors

The role of underwriters

→ Investment banks are involved in the issuing of securities by more than merely providing advice; they are also in contact with investors and actively try to sell the securities to them.

- The role of the underwriter, the investment bank, is to advise their clients, the issuer of the security, on this issue of their securities. This advice will include the price at which the security should be issued, but also which investors to target, and how to market the issue.
- Investment banks go further than merely provide advice by identifying potential investors and discussing the security with them and thereby determining the demand for the security in the market.
- Their advice on an appropriate price is then based on their discussion with potential investors, thus from information the investment bank has gathered. To get an accurate picture of market demand, investment banks use book-building where selected investors can submit indicative bids for the security. These bids can then be used to determine at which price the issue can be sold.
- In addition to providing advice, investment banks also administer the offer by collecting the bids of investors for the security and allocating securities to investors once the offer price has been determined. In case of underpricing, that is setting an offer price below the market clearing price, investment banks have discretion which investors obtain the security and the decision who to allocate securities will be done in cooperation with their client.

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Complex underwriting practices

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- Book-building involves investment banks to ascertain tentative bids by selected investors to gauge interest in the issue before the securities are offered more widely
- We will look at the reason for such practices and how they allow issuers to maximize the proceeds from their issue

Complex underwriting practices

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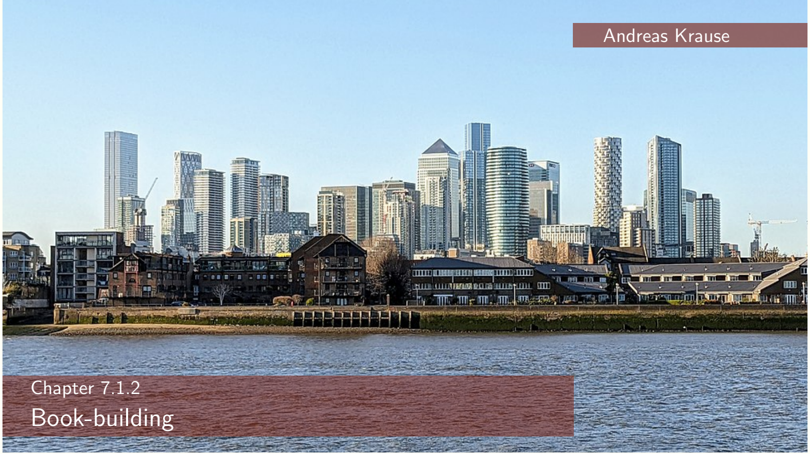

Andreas Krause

Chapter 7.1.2

Book-building

→ The model we are going to discuss is based on Chapter 7.1.2 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

- The book-building process is designed such that investors reveal their true information, increasing the offer price
- It also reduces the uncertainty about the proceeds the issuer will receive
- ? Does book-building benefit only selected investors?
- ! Issuers also benefit as overall the offer price obtained will be higher compared to other mechanisms, despite any discounts applied

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 book-building gives incentives to investors to reveal their true information by allocating them more shares if they reveal positive information about the security.
  - This gives incentives for investors to reveal positive information, rather than only negative information, which will increase the offer price.
- As the offer price is known after the indicative bids are made, the issuers knows the proceeds the issue will raise, reducing the uncertainty. In particular, after the book-building process adjustments can be made, for example the number of securities can be changed in light of the information received. Other mechanisms would not easily allow such adjustments.
- [?] Book building gives larger allocation to those investors revealing positive information by giving them larger allocations of securities, allowing them to make higher profits. Are these the only beneficiaries?
- [!] As the offer price will be higher than in other mechanisms, at least on average, the issuer will also benefit. The offer price will be higher, despite the underpricing that is applied to reward investors revealing information; thus the extraction of information through book-building benefits those investors revealing information, but also the issuer itself. The higher offer price also benefits the investment bank as the underwriting spread is charged as a fraction of the total proceeds raised.

→ We have seen how book-building incentivises investors to reveal their true information, which has the effect of increasing the offer price. It is thus that issuers, and investment banks, benefit from book-building, explaining why it is such a common mechanism to use by investment banks.

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Appointing multiple underwriters

- Investment banks need to be able to identify investors willing to purchase the security
- If more investment banks are involved, the more investors can be reached
- This leads to a moral hazard in that incentives for investment banks to exert effort in a large group are low
- We will discuss how these two aspects can be balanced by appointing a syndicate

Appointing multiple underwriters

→ In addition to book-building, investment banks also cooperate when underwriting securities by forming a syndicate. We will look at the reason for employing such multiple underwriters and how the structure of the syndicate balances its benefits with the costs arising from moral hazard.

- A key part in the book-building process is that investment banks identify and contact potential investors. For this, investment banks need to use their contacts with investors, for example contacts from brokerage, asset management, but also personal contacts with senior managers of companies they have advised previously.
- If more investment banks use their contacts, more investors can be identified and hence the demand for the security would increase.
- However, if investment banks work together to identify potential investors, a moral hazard problem arises as investment banks might put less effort in by relying on the effort of other investment banks. This would lower the number of potential investors identified, limiting the benefits of appointing multiple investment banks.
- We will look at how a syndicate addresses the moral hazard problem and how the benefits and costs are balanced such the the benefits of appointing a syndicate are maximized.

→ The model we will discuss allows us to determine the optimal size of the syndicate and that appointing a lead underwriter is optimal.

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Andreas Krause
Chapter 7.2.2
Underwriting syndicates

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Discussion of the model results

- To limit free-riding among syndicate members, the size of a syndicate will be limited
- Appointing a lead underwriter allows the fee income to be distributed within the syndicate to provide additional incentives for investment banks to exert effort

? How would you select syndicate members?

! You need group of investment banks with contacts reaching different types of investors and different geographical foci

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.
- ▶ Limiting the size of the syndicate limits the benefits of not exerting efforts, as the value realised in the underwriting process will reduce more with fewer investment banks involved. In order to limit moral hazard, the size of any syndicate will be relatively small.
- ▶ If we have a lead underwriter taking a larger fraction of the fee income, the incentives for not exerting effort can be reduced further. The higher fee income for the lead underwriter reduces his incentive to not exert effort and by effectively reducing the number of ordinary underwriters (co-underwriters) by one, the moral hazard is further reduced and the syndicate size can be increased, benefitting issuers by increasing the offer price.
- ▶ Investment banks identify potential investors, is there a good way to determine the combination of investment banks that should form a syndicate, or can this be any investment banks?
- ▶ The benefits of having multiple investment banks is limited if their contacts are overlapping a lot as the number of investors contacted will be contacted by multiple investment banks. Ideally investment banks' networks are complementary in that they can reach different investors, either in different region,s different types of investors, or just investors in different markets.
- → Syndicates are designed to maximize the benefits to issuers by allowing investment banks to approach more investors than a single investment bank could, and they balance these benefits against the moral hazard arising if investment banks collaborate in a group.

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→ 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.

- Limiting the size of the syndicate limits the benefits of not exerting efforts, as the value realised in the underwriting process will reduce more with fewer investment banks involved. In order to limit moral hazard, the size of any syndicate will be relatively small.
- If we have a lead underwriter taking a larger fraction of the fee income, the incentives for not exerting effort can be reduced further. The higher fee income for the lead underwriter reduces his incentive to not exert effort and by effectively reducing the number of ordinary underwriters (co-underwriters) by one, the moral hazard is further reduced and the syndicate size can be increased, benefitting issuers by increasing the offer price.
- Investment banks identify potential investors, is there a good way to determine the combination of investment banks that should form a syndicate, or can this be any investment banks?
- The benefits of having multiple investment banks is limited if their contacts are overlapping a lot as the number of investors contacted will be contacted by multiple investment banks. Ideally investment banks' networks are complementary in that they can reach different investors, either in different region,s different types of investors, or just investors in different markets.

→ Syndicates are designed to maximize the benefits to issuers by allowing investment banks to approach more investors than a single investment bank could, and they balance these benefits against the moral hazard arising if investment banks collaborate in a group.

Discussion of the model results

- To limit free-riding among syndicate members, the size of a syndicate will be limited
- Appointing a lead underwriter allows the fee income to be distributed within the syndicate to provide additional incentives for investment banks to exert effort

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Summary of key results

- Book-building and syndicate formation benefit issuers in that they receive higher proceeds for their securities
- Book-building requires investors to reveal their information truthfully, increasing the price that can be achieved
- Syndicates allow more such investors to be contacted and hence indirectly will increase the offer price
- These underwriting practices have been developed to maximize the proceeds the issuer obtains

Summary of key results

→ We can now summarize the key results we have obtained about the way investment banks provide support for issuers of securities.

- Book-building and syndicates complicate the underwriting process and will increase the costs to investment banks, which will be reflected in a higher underwriting spread being charged. These additional costs are compensated for by a higher offer price to the issuer.
- The higher offer price is achieved through book-building by investors more readily revealing the information they hold rather than seeking to conceal positive information.
- Attracting more investors to an issue will increase the offer price as well as the demand increases, something that can be achieved by investment banks forming a syndicate.
- While the arrangements in underwriting are complex and costly, the benefits to issuers are substantial and outweigh these costs. These practices have developed by investment banks competing for clients and by being able to increase the proceeds for issuers, these practices prevailed.

→ We have seen how complex, and potentially costly, arrangements in underwriting are benefitting investment banks and their clients and for this reason are dominating. Using such arrangements provides a competitive advantage over other investment banks using different mechanisms and for this reason these complex arrangements will be adopted by all investment banks.

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