Andreas Krause

Chapter 17.2

The impact on service quality

Outline

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- In partnerships the managers are the also the owners of the investment bank and thus all profits accrue to them rather than they being paid a wage and the remainder accruing to separate equity holders.
- We will want to investigate whether this different ownership structure will have any implications for the quality of services investment banks offer.
- The back grown is that the few investment banks that are still a partnership are often seen as providing very high-quality services, although they are often highly specialised in the areas they provide advice on and types of clients they provide advice to.

Outline

- We will discuss a model in which we compare the ability of employees in incorporated investment banks and then in partnerships and we will compare these results of these two organisational forms.

- We will first look at the implications for the value of services when investment banks hire employees of different abilities.

Hiring employees of different abilities

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→ The quality of advice clients receive, will depend on the ability and skills of the employees developing this advice.

- Investment banks will have minimum standards for the ability of employees they seek to hire and they have developed a large range of recruitment strategies to assess this ability.
- It is, however, difficult for their clients to assess the ability of the employees of an investment bank as they do not have access to the same information as the investment bank had when making job offers.

- The value of the advice for the client will depend on the ability of their employees and hence the ability of their employees will affect the price an investment bank can charge for its services; the investment bank will not be able to charge more than the value of the advice.

- If we assume that we only consider partners in partnerships, then these 'employees' will share the profits they generate,
- while in incorporated investment banks, employees will be paid a wage and the remainder of the revenue distributed to equity holders (shareholders).

→ We will thus want to explore how these two different ways of rewarding employees affects the quality of service investment banks offer.

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Ability of employees

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→ We now look at the implication the ability of employees has on the quality of service and advice the investment bank provides.

- We assume that all investment banks have employees with different abilities, this will be the result of a recruitment process where they have to accept as employees those that apply.
  - Each employee will generate a surplus for the investment bank; this surplus will depend on its ability.
  - We assume that the ability of employees in the population from which investment banks recruit them has some distribution, which will result ina distribution of surplus they generate.
- We assume that the recruitment process allows banks to identify the ability of potential employees and thus they can determine the surplus they will be generating.
  - Having identified the surplus they can generate, the investment bank then sets a minimum threshold and it will only recruit employees that are able to generate a surplus of at least this threshold.
- Finally we assume that clients can assess the quality of the advice they receive only with some probability, but otherwise will not able to identify whether the advice receive was oh high quality.

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- We assume that incorporated banks only hire employees which are able to generate a minimum level of surplus. The average value of the service provided, and hence the average price the investment bank charges, would be the expected value generated, provided the value is above this threshold. This conditional expectation can then be rewritten using is definition in statistics.
- The same applies to a partnership, although we allow for a different threshold to be applied by these.

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- We will first determine the ability of employees in incorporated investment banks, that is those investment banks that have separated ownership and management.

Investment bank profits

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→ We can now determine the profits an investment bank makes.

- Some clients are able to identify the quality of services they receive and they will only pay a price that reflects this quality.
- The other clients cannot identify the quality of services they receive and will have to consider the incentives of the investment bank in hiring employees to make inferences about the quality of service they receive.

- We assume that investment banks pay wages to their employees.
- Investment banks also hold some equity which they have invested into their business.
- WE surmise that investment banks will only hire employees who have a minimum ability, represented by the surplus they generate. Therefore, given the distribution of abilities in the piopulation, they will only be able to employ a fraction of all potential employees and will therefore be limited in the amount of advice that is given.
- *Formula*

→ We can now seek to determine the threshold at which they are hiring employees, V^*, that maximizes the profits of the investment bank.

Investment bank profits

- A fraction p of clients know the quality of service and will pay P^*

- Profits: $\Pi_C =$ $\left(pP^* \right.$

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- A fraction p of clients know the quality of service and will pay P^*, the remainder can only infer the quality and will pay $\hat{P}^*$, following their inference of the quality

- Profits: $\Pi_C =$ $\left(pP^* + (1-p)\,\hat{P}^* \right.$

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- Investment banks pay wages w
- Investment banks hold equity E

- Profits: $\Pi_C = \left(pP^* + (1-p)\,\hat{P}^* - w\right) - E$

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- Investment banks pay wages w
- Investment banks hold equity E
- Their employees have ability of at least V^*, hence they employ only a fraction $1 - F(V^*)$ of the possible market
- Profits: $\Pi_C = (1 - F(V^*)) \left(pP^* + (1-p)\hat{P}^* - w \right) - E$

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- We can now complete the same steps as before, but for investment banks that are partnerships and thus have no employees to pay wages to, but only profits to distribute.

Profits of each partner

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→ We will determine the profits that each partner obtains.

- A fraction of the population will be 'employed' by the investment bank, that is they are partners in the investment bank. As partners, they have to provide the equity of the bank and we assume that the size of the bank is identical, that is the same equity is held overall. With a fraction $1 - F\left(V^{**}\right)$ of the population being partners, the equity will be divided amongst this part of the population.
- 3
- The partners are paid no wages but instead obtain the revenue that is generated.
- *Formula*

→ We can now seek to determine the threshold at which they are hiring partners (employees), V^{**}. that maximizes the profits of the investment bank.

Profits of each partner

- In a partnership only the partners joining are providing equity, with $1 - F\left(V^{**}\right)$ employed, each bring equity $\frac{E}{1-F(V^{**})}$

- Profits: $\Pi_P =$ $- \frac{E}{1-F(V^{**})}$

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- Given that we are looking at a partnership, the partners will receive the revenue the investment bank generates, which consists of the price paid by those knowing the quality of service that is provided,
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- As partners, each obtains the full revenue of those knowing the ability, paying P^{**}

- Profits: $\Pi_P = pP^{**} - \frac{E}{1-F(V^{**})}$

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Comparing optimal skill levels

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→ We will now seek to compare the minimum skill levels, and hence indirectly the average sill levels as all the skill levels above, of the two types of investment banks.

- By solving the optimal profits of the incorporated investment bank for V^* and inserting this into the first order condition, the optimal price can be written as in the *formula*.
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  - We now assume that the thresholds of the two types of investment banks are identical; then the above equation implies that the price the incorporated investment bank should charge will also be identical.
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→ We can now infer the quality of the partners (employees) in the partnership.

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- Using the first order conditions we can get that $P^* = \frac{\Pi_C + E}{1 - F(V^*)} + w$

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- F $\Pi_C > 0$, this derivative is positive and V^* cannot be optimal for the partnership

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- By solving the optimal profits of the incorporated investment bank for V^* and inserting this into the first order condition, the optimal price can be written as in the *formula*.
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  - We now assume that the thresholds of the two types of investment banks are identical; then the above equation implies that the price the incorporated investment bank should charge will also be identical.
  - We can insert this price into the profits of the partnership and obtain the expression in the *formula*.
- We know that at the optimal threshold V^*, the first derivative of the profits for the incorporated investment bank was zero, as this was the optimum.
- We can now differentiate the profits of the partnership and obtain the expression shown in the *formula*.
- We see that as long as the incorporated investment bank makes a profit, the marginal profits of the partnership will be positive. The first order condition for an optimum requires that the marginal profits are zero, hence having the same threshold for both types of banks is not optimal.

→ We can now infer the quality of the partners (employees) in the partnership.

Comparing optimal skill levels

- Using the first order conditions we can get that $P^* = \frac{\Pi_C + E}{1 - F(V^*)} + w$
- Assume $V^* = V^{**}$, then $P^* = P^{**}$, then $\Pi_P = \frac{\Pi_C}{1 - F(V^*)} + w$
- As V^* is optimal for the incorporated investment bank we have $\frac{\partial \Pi_C}{\partial V^*} = 0$
- $\frac{\partial \Pi_P}{\partial V^*} = \frac{\partial \Pi_C}{\partial V^*} \frac{1}{1 - F(V^*)} + \frac{\Pi_C f(V^*)}{(1 - F(V^*))^2} = \frac{\Pi_C f(V^*)}{(1 - F(V^*))^2} > 0$
- F $\Pi_C > 0$, this derivative is positive and V^* cannot be optimal for the partnership

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Partnerships have higher skills

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→ Given that the marginal profits for partnerships at the optimal threshold for incorporated investment banks is positive, partnerships will choose a different threshold; one where the marginal profits are zero.

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- With marginal profits being positive, the profits are increasing at the threshold of the incorporated investment bank and the optimal solution will be a higher threshold for partnerships.
- If we select a higher threshold, the ability of partners is higher than that of employees in incorporated investment banks. This follows from the fact that in partnerships all employees between V^* and V^{**} are not employed, but both employ those above V^{**}.

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- The reason for this result is that partnerships hold more equity per employee. Incorporated investment banks hold equity of E,
- but in partnerships the same equity is now used by less partners as the threshold is higher.

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- The higher equity results in the desire to increase the profits to recover the initial investment.
- Higher profits are only possible if the quality of services is higher.

→ We thus find that partnerships provide a higher quality of service compared to incorporated investment banks.

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- While partnerships provide services of better quality, it must be profitable to set such partnerships up and for partners to join them, rather than obtaining a wage from an incorporated investment bank.
- We will now investigate the feasibility of partnerships.

Partnerships are preferred over employment

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- We can insert from the expressions above to obtain the expression in the *formula*.
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- We know that the optimal threshold in partnerships is larger than in incorporated investment banks and hence it is straightforward to show that the profits of partnerships will be higher than the wages in incorporated investment banks.
- It is therefore that being a partners is more attractive than being an employee in an incorporated investment bank.

→ We have thus shown that partnership can ce-exist with incorporated investment banks, they are even more attractive.

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→ We now show that incorporated investment banks are profitable, even if employees would prefer to be in a partnership.

- The profits of the incorporated investment bank can be written as in the *formula* if we make use of the first order conditions.
- At the threshold ability of the partnership, the marginal profits of the incorporated investment bank will be positive.
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- The threshold of the partnership is higher and as the marginal profits are positive at that point, the profits are increasing from the point of equal threshold, hence they are positive at the optimal threshold of the partnership.
- Even though partnerships are preferred by employees, incorporated investment banks are profitable.

→ Here we allow both types if investment banks to co-exist as we do not model their direct competition with each other, neither for employees nor for clients. The justification for this might be that although partnership are preferred, there are other factors, such as the size of investment banks to serve some clients, that make the full reliance on partnerships not feasible. Too many partners may make partnerships unviable, leaving a market for incorporated investment bank.

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- We can use the first order condition of partnerships to obtain $\Pi_C = p\left(\left(1 - F\left(V^*\right)\right)\left(P^* - V^*\right) - \left(1 - F\left(V^{**}\right)\right)\left(P^{**} - V^{**}\right)\right)$

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- We can use the first order condition of partnerships to obtain $\Pi_C = p\left(\left(1 - F\left(V^*\right)\right)\left(P^* - V^*\right) - \left(1 - F\left(V^{**}\right)\right)\left(P^{**} - V^{**}\right)\right)$
- $\frac{\partial \Pi_C}{\partial V^{**}} = p\left(1 - F\left(V^{**}\right)\right) > 0$
- If $V^* = V^{**}$, then $P^* = P^{**}$ and thus $\Pi_C = 0$
- As $V^{**} > V^*$, we have $\Pi_C > 0$

Incorporated investment banks are viable

→ We now show that incorporated investment banks are profitable, even if employees would prefer to be in a partnership.

- The profits of the incorporated investment bank can be written as in the *formula* if we make use of the first order conditions.
- At the threshold ability of the partnership, the marginal profits of the incorporated investment bank will be positive.
- We see from the profits easily that is the thresholds were identical, and t=hence prices identical, the incorporated investment bank would make zero profits.
- The threshold of the partnership is higher and as the marginal profits are positive at that point, the profits are increasing from the point of equal threshold, hence they are positive at the optimal threshold of the partnership.
- Even though partnerships are preferred by employees, incorporated investment banks are profitable.

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→ We will now see that incorporated investment banks are profitable, provided the service quality they provide can be assessed sufficiently well.

- We consider the case that clients are unable to identify the ability of investment banks..
  - In this case, we can show that the profits of incorporated investment banks are negative.
- We consider the case where all clients are able to identify the ability of incorporated investment banks.
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- It follows, as marginal profits are positive in clients ability assess the quality of services received, that there is some threshold such that incorporated investment banks are profitable.

→ Hence, if the service quality is sufficiently easy to assess, incorporated investment banks are profitable and can operate.

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Partnerships are more profitable

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→ We can now compare the profitability of i=the two types of investment banks.

- In order to compare the profitability of investment banks, we exclude the effect of paying wages to employees by assuming that partners are paid the same wages as employees in incorporated investment banks. This reduces the profits of investment banks, but ensures a level playing field when comparing the profits generated.
- If an investor holds all equity in an incorporated investment bank, he would obtain the entire profits generated.
- Thus a partnership is more profitable if the surplus, after paying comparable wages, are higher than in incorporated investment banks.
- Inserting from the expressions above, we obtain the result in the *formula*.
- It is therefore in situations where the quality of the service obtained, the ability of the partners or employees, is difficult to assess, that partnerships are more profitable.

→ We see that partnerships and incorporated investment banks can co-exist in different markets. Partnerships are more profitable and could therefore offer more competitive prices than incorporated investment banks in opaque markets where the quality of advice is difficult to assess, while incorporated investment banks are more profitable and hence can be more competitive in more transparent markets.

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- We can now summarize the key results from our model.

Benefits of partnerships

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→ We can now summarize the advantages that partnerships have over incorporated investment banks.

- We have seen that in the same market employees would prefer becoming partners as the profits are higher, ensuring that partnerships attract employees.
- If the market is opaque and the quality of service difficult to assess by clients, then partnerships are more profitable.
- Finally we obtained that in the same market, partnership offer services of higher quality as the average ability of partners is higher than that of employees in incorporated investment banks.

→ These results have some direct implications for the structure of the investment banking market.

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Dominance of partnerships

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→ Although the number of investment banks organised as partnerships is reducing, we can now determine markets in which they have a competitive advantage over incorporated investment banks.

- Given that they are providing better services and are more profitable, investment banks should dominate the market where the quality of services can only be assessed with difficulty by clients.
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  - This would most likely be the case in markets or for advice on deals that are particularly complex, such as transactions across multiple jurisdictions with different regulatory constraints, or transactions involving very heterogenous decision makers with opposing interests.
  - Service quality will also be difficult to assess when new securities are offered or a new type of service, such that no or only very limited experience has been accumulated by clients.
- It could also include markets that are generally very difficult to understand and analyse, such as companies in innovative sector or those involved in areas where very little expertise generally has been accumulated by either investment banks or clients.

→ As we often observe in actual markets, partnerships are ,ore likely to operate in niche markets that are not only too small for larger investment banks to built up expertise, but also generally difficult to assess; the incentives of partners to provide better-quality service to clients will make partnerships more attractive.

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

E-mail: mnsak@bath.ac.uk