



Chapter 17.2

The impact on service quality

Outline

- Problem and model assumptions
- Ability in incorporated investment banks
- Ability in partnerships
- Comparing skills of employees
- Attractiveness of partnerships
- Summary

■ Problem and model assumptions

- Ability in incorporated investment banks
- Ability in partnerships
- Comparing skills of employees
- Attractiveness of partnerships
- Summary

Hiring employees of different abilities

Hiring employees of different abilities

- ▶ Investment banks hire employees of **differing ability**

Hiring employees of different abilities

- ▶ Investment banks hire employees of differing ability, but the quality is **difficult to assess** for clients

Hiring employees of different abilities

- ▶ Investment banks hire employees of differing ability, but the quality is difficult to assess for clients
- ▶ Value to clients will impact the **price** they can charge

Hiring employees of different abilities

- ▶ Investment banks hire employees of differing ability, but the quality is difficult to assess for clients
- ▶ Value to clients will impact the price they can charge
- ▶ **Partnerships** share the profits they generate

Hiring employees of different abilities

- ▶ Investment banks hire employees of differing ability, but the quality is difficult to assess for clients
- ▶ Value to clients will impact the price they can charge
- ▶ Partnerships share the profits they generate, while **incorporated investment banks** first pay their employees

Hiring employees of different abilities

- ▶ Investment banks hire employees of differing ability, but the quality is difficult to assess for clients
- ▶ Value to clients will impact the price they can charge
- ▶ Partnerships share the profits they generate, while incorporated investment banks first pay their employees

Ability of employees

Ability of employees

- ▶ Investment banks have employees with **different abilities**

Ability of employees

- ▶ Investment banks have employees with different abilities, generating a **surplus** V for clients

Ability of employees

- ▶ Investment banks have employees with different abilities, generating a surplus V for clients, which has **distribution** $F(V)$

Ability of employees

- ▶ Investment banks have employees with different abilities, generating a surplus V for clients, which has distribution $F(V)$
- ▶ Investment banks can **identify** the ability of employees

Ability of employees

- ▶ Investment banks have employees with different abilities, generating a surplus V for clients, which has distribution $F(V)$
- ▶ Investment banks can identify the ability of employees and hire employees of **minimum ability** V^* for incorporated investment banks and V^{**} for partnerships

Ability of employees

- ▶ Investment banks have employees with different abilities, generating a surplus V for clients, which has distribution $F(V)$
- ▶ Investment banks can identify the ability of employees and hire employees of minimum ability V^* for incorporated investment banks and V^{**} for partnerships
- ▶ Clients can assess the quality of a service with **probability** p

Ability of employees

- ▶ Investment banks have employees with different abilities, generating a surplus V for clients, which has distribution $F(V)$
- ▶ Investment banks can identify the ability of employees and hire employees of minimum ability V^* for incorporated investment banks and V^{**} for partnerships
- ▶ Clients can assess the quality of a service with probability p

Price of services

Price of services

- ▶ Generating **surplus** V , the price an investment bank can charge will be the average surplus of all those they hire

Price of services

- ▶ Generating surplus V , the price an investment bank can charge will be the **average surplus** of all those they **hire**
- ▶ Price incorporated banks charge: $P^* = E[V|V > V^*] = \frac{1}{1-F(V^*)} \int_{V^*}^{+\infty} V dF(V)$

Price of services

- ▶ Generating surplus V , the price an investment bank can charge will be the **average surplus** of all those they **hire**
- ▶ Price incorporated banks charge: $P^* = E[V|V > V^*] = \frac{1}{1-F(V^*)} \int_{V^*}^{+\infty} V dF(V)$
- ▶ Price partnerships charge: $P^{**} = E[V|V > V^{**}] = \frac{1}{1-F(V^{**})} \int_{V^{**}}^{+\infty} V dF(V)$

Price of services

- ▶ Generating surplus V , the price an investment bank can charge will be the average surplus of all those they hire
- ▶ Price incorporated banks charge: $P^* = E[V|V > V^*] = \frac{1}{1-F(V^*)} \int_{V^*}^{+\infty} V dF(V)$
- ▶ Price partnerships charge: $P^{**} = E[V|V > V^{**}] = \frac{1}{1-F(V^{**})} \int_{V^{**}}^{+\infty} V dF(V)$

■ Problem and model assumptions

■ Ability in incorporated investment banks

■ Ability in partnerships

■ Comparing skills of employees

■ Attractiveness of partnerships

■ Summary

Investment bank profits

Investment bank profits

- ▶ A fraction p of clients **know the quality** of service and will pay P^*
- ▶ Profits: $\Pi_C = \left(pP^* \right)$

Investment bank profits

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

Investment bank profits

- ▶ 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
- ▶ Investment banks pay **wages** w

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

Investment bank profits

- ▶ 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
- ▶ Investment banks pay **wages** w
- ▶ Investment banks hold **equity** E
- ▶ Profits: $\Pi_C = \left(pP^* + (1-p)\hat{P}^* - w \right) - E$

Investment bank profits

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

Investment bank profits

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

Optimal ability threshold

Optimal ability threshold

- ▶ Investment banks choose the **optimal ability threshold** for hiring, V^*

Optimal ability threshold

- ▶ Investment banks choose the optimal ability threshold for hiring, V^* , by solving
$$\frac{\partial \Pi_C}{\partial V^*} = 0$$

Optimal ability threshold

- ▶ Investment banks choose the optimal ability threshold for hiring, V^* , by solving $\frac{\partial \Pi_C}{\partial V^*} = 0$
- ▶ This gives $w = pV^* + (1 - p)P^*$

Optimal ability threshold

- ▶ Investment banks choose the optimal ability threshold for hiring, V^* , by solving $\frac{\partial \Pi_C}{\partial V^*} = 0$
- ▶ This gives $w = pV^* + (1 - p)P^*$, assuming clients infer the threshold correctly and $P^* = \hat{P}^*$

Optimal ability threshold

- ▶ Investment banks choose the optimal ability threshold for hiring, V^* , by solving $\frac{\partial \Pi_C}{\partial V^*} = 0$
- ▶ This gives $w = pV^* + (1 - p)P^*$, assuming clients infer the threshold correctly and $P^* = \hat{P}^*$
- ▶ Profits of investment banks then are $\Pi_C = p(1 - F(V^*)) (P^* - V^*) - E$

Optimal ability threshold

- ▶ Investment banks choose the optimal ability threshold for hiring, V^* , by solving $\frac{\partial \Pi_C}{\partial V^*} = 0$
- ▶ This gives $w = pV^* + (1 - p)P^*$, assuming clients infer the threshold correctly and $P^* = \hat{P}^*$
- ▶ Profits of investment banks then are $\Pi_C = p(1 - F(V^*)) (P^* - V^*) - E$

- Problem and model assumptions
- Ability in incorporated investment banks
- Ability in partnerships
- Comparing skills of employees
- Attractiveness of partnerships
- Summary

Profits of each partner

Profits of each partner

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

Profits of each partner

- ▶ In a partnership only the partners joining are providing equity, with $1 - F(V^{**})$ employed, each bring **equity** $\frac{E}{1-F(V^{**})}$
- ▶ As partners, each obtains the full revenue of those **knowing the ability**, paying P^{**}
- ▶ Profits: $\Pi_P = pP^{**} - \frac{E}{1-F(V^{**})}$

Profits of each partner

- ▶ In a partnership only the partners joining are providing equity, with $1 - F(V^{**})$ employed, each bring **equity** $\frac{E}{1-F(V^{**})}$
- ▶ As partners, each obtains the full revenue of those **knowing the ability**, paying P^{**} and **the others** \hat{P}^{**}
- ▶ Profits: $\Pi_P = pP^{**} + (1 - p) \hat{P}^{**} - \frac{E}{1-F(V^{**})}$

Profits of each partner

- ▶ In a partnership only the partners joining are providing equity, with $1 - F(V^{**})$ employed, each bring **equity** $\frac{E}{1-F(V^{**})}$
- ▶ As partners, each obtains the full revenue of those **knowing the ability**, paying P^{**} and **the others** \hat{P}^{**}
- ▶ Partners are paid no wages
- ▶ Profits: $\Pi_P = pP^{**} + (1-p)\hat{P}^{**} - \frac{E}{1-F(V^{**})}$

Profits of each partner

- ▶ In a partnership only the partners joining are providing equity, with $1 - F(V^{**})$ employed, each bring equity $\frac{E}{1-F(V^{**})}$
- ▶ As partners, each obtains the full revenue of those knowing the ability, paying P^{**} and the others \hat{P}^{**}
- ▶ Partners are paid no wages
- ▶ Profits: $\Pi_P = pP^{**} + (1 - p)\hat{P}^{**} - \frac{E}{1-F(V^{**})}$

Optimal ability threshold

Optimal ability threshold

- ▶ Partnerships choose the **optimal ability threshold** for hiring, V^{**}

Optimal ability threshold

- ▶ Partnerships choose the optimal ability threshold for hiring, V^{**} , by solving
$$\frac{\partial \Pi_P}{\partial V^{**}} = 0$$

Optimal ability threshold

- ▶ Partnerships choose the optimal ability threshold for hiring, V^{**} , by solving
$$\frac{\partial \Pi_P}{\partial V^{**}} = 0$$
- ▶ This gives $pP^{**} + (1 - p) P^{**} - \frac{E}{1 - F(V^{**})} = pV^{**} + (1 - p) P^{**}$

Optimal ability threshold

- ▶ Partnerships choose the optimal ability threshold for hiring, V^{**} , by solving $\frac{\partial \Pi_P}{\partial V^{**}} = 0$
- ▶ This gives $pP^{**} + (1 - p) P^{**} - \frac{E}{1 - F(V^{**})} = pV^{**} + (1 - p) P^{**}$, assuming clients infer the threshold correctly and $P^{**} = \hat{P}^{**}$

Optimal ability threshold

- ▶ Partnerships choose the optimal ability threshold for hiring, V^{**} , by solving $\frac{\partial \Pi_P}{\partial V^{**}} = 0$
- ▶ This gives $pP^{**} + (1 - p) P^{**} - \frac{E}{1 - F(V^{**})} = pV^{**} + (1 - p) P^{**}$, assuming clients infer the threshold correctly and $P^{**} = \hat{P}^{**}$
- ▶ Profits of partnerships then are $\Pi_P = P^{**} - \frac{E}{1 - F(V^{**})} = pV^{**} + (1 - p) P^{**}$

Optimal ability threshold

- ▶ Partnerships choose the optimal ability threshold for hiring, V^{**} , by solving $\frac{\partial \Pi_P}{\partial V^{**}} = 0$
- ▶ This gives $pP^{**} + (1 - p) P^{**} - \frac{E}{1 - F(V^{**})} = pV^{**} + (1 - p) P^{**}$, assuming clients infer the threshold correctly and $P^{**} = \hat{P}^{**}$
- ▶ Profits of partnerships then are $\Pi_P = P^{**} - \frac{E}{1 - F(V^{**})} = pV^{**} + (1 - p) P^{**}$

- Problem and model assumptions
- Ability in incorporated investment banks
- Ability in partnerships
- Comparing skills of employees
- Attractiveness of partnerships
- Summary

Comparing optimal skill levels

Comparing optimal skill levels

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

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 $P^* = P^{**}$

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 $\Pi_P = \frac{\Pi_C}{1 - F(V^*)} + w$

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 $\frac{\partial \Pi_C}{\partial V^*} = 0$

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 $\frac{\partial \Pi_C}{\partial V^*} = 0$
- ▶ $\frac{\partial \Pi_P}{\partial V^*} = \frac{\partial \Pi_C}{\partial V^*} \frac{1}{1 - F(V^*)} + \frac{\Pi_C f(V^*)}{(1 - F(V^*))^2} = \frac{\Pi_C f(V^*)}{(1 - F(V^*))^2} > 0$

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 $\frac{\partial \Pi_C}{\partial V^*} = 0$
- ▶ $\frac{\partial \Pi_P}{\partial V^*} = \frac{\partial \Pi_C}{\partial V^*} \frac{1}{1 - F(V^*)} + \frac{\Pi_C f(V^*)}{(1 - F(V^*))^2} = \frac{\Pi_C f(V^*)}{(1 - F(V^*))^2} > 0$
- ▶ If $\Pi_C > 0$, this derivative is positive and V^* cannot be optimal for 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 $\frac{\partial \Pi_C}{\partial V^*} = 0$
- ▶ $\frac{\partial \Pi_P}{\partial V^*} = \frac{\partial \Pi_C}{\partial V^*} \frac{1}{1 - F(V^*)} + \frac{\Pi_C f(V^*)}{(1 - F(V^*))^2} = \frac{\Pi_C f(V^*)}{(1 - F(V^*))^2} > 0$
- ▶ If $\Pi_C > 0$, this derivative is positive and V^* cannot be optimal for the partnership

Partnerships have higher skills

Partnerships have higher skills

- ▶ This implies that $V^{**} > V^*$

Partnerships have higher skills

- ▶ This implies that $V^{**} > V^*$ and partnership employees are **more able**

Partnerships have higher skills

- ▶ This implies that $V^{**} > V^*$ and partnership employees are more able
- ▶ Partnerships hold more equity per employee, *E* for incorporated investment banks

Partnerships have higher skills

- ▶ This implies that $V^{**} > V^*$ and partnership employees are more able
- ▶ Partnerships hold more equity per employee, E for incorporated investment banks and $\frac{E}{1-F(V^{**})}$ for partnerships

Partnerships have higher skills

- ▶ This implies that $V^{**} > V^*$ and partnership employees are more able
- ▶ Partnerships hold more equity per employee, E for incorporated investment banks and $\frac{E}{1-F(V^{**})}$ for partnerships
- ▶ This increases the incentive to be able to charge **high prices**

Partnerships have higher skills

- ▶ This implies that $V^{**} > V^*$ and partnership employees are more able
- ▶ Partnerships hold more equity per employee, E for incorporated investment banks and $\frac{E}{1-F(V^{**})}$ for partnerships
- ▶ This increases the incentive to be able to charge high prices, which requires **high ability**

Partnerships have higher skills

- ▶ This implies that $V^{**} > V^*$ and partnership employees are more able
- ▶ Partnerships hold more equity per employee, E for incorporated investment banks and $\frac{E}{1-F(V^{**})}$ for partnerships
- ▶ This increases the incentive to be able to charge high prices, which requires high ability

- Problem and model assumptions
- Ability in incorporated investment banks
- Ability in partnerships
- Comparing skills of employees
- Attractiveness of partnerships
- Summary

Partnerships are preferred over employment

Partnerships are preferred over employment

- ▶ Partners will only join if they can earn more than as an employee: $\Pi_P > w$

Partnerships are preferred over employment

- ▶ Partners will only join if they can earn more than as an employee: $\Pi_P > w$
- ▶ This gives $pV^{**} + (1 - p) P^{**} \geq pV^* + (1 - p) P^*$

Partnerships are preferred over employment

- ▶ Partners will only join if they can earn more than as an employee: $\Pi_P > w$
- ▶ This gives $pV^{**} + (1 - p) P^{**} \geq pV^* + (1 - p) P^*$
- ▶ Differentiating the right-hand side gives

$$\begin{aligned} & p + \frac{(1-p)f(V^*)}{(1-F(V^*))^2} \int_{V^*}^{+\infty} V dF(V) - \frac{(1-p)V^*f(V^*)}{1-F(V^*)} \\ & > p + \frac{(1-p)f(V^*)}{(1-F(V^*))^2} \int_{V^*}^{+\infty} V^* dF(V) - \frac{(1-p)V^*f(V^*)}{1-F(V^*)} \\ & = p > 0 \end{aligned}$$

Partnerships are preferred over employment

- ▶ Partners will only join if they can earn more than as an employee: $\Pi_P > w$
- ▶ This gives $pV^{**} + (1 - p)P^{**} \geq pV^* + (1 - p)P^*$
- ▶ Differentiating the right-hand side gives
$$\begin{aligned} p + \frac{(1-p)f(V^*)}{(1-F(V^*))^2} \int_{V^*}^{+\infty} V dF(V) - \frac{(1-p)V^*f(V^*)}{1-F(V^*)} \\ > p + \frac{(1-p)f(V^*)}{(1-F(V^*))^2} \int_{V^*}^{+\infty} V^* dF(V) - \frac{(1-p)V^*f(V^*)}{1-F(V^*)} \\ = p > 0 \end{aligned}$$
- ▶ If $V^* = V^{**}$, then $P^* = P^{**}$ and thus $\Pi_P = w$

Partnerships are preferred over employment

- ▶ Partners will only join if they can earn more than as an employee: $\Pi_P > w$
- ▶ This gives $pV^{**} + (1 - p)P^{**} \geq pV^* + (1 - p)P^*$
- ▶ Differentiating the right-hand side gives
$$\begin{aligned} p + \frac{(1-p)f(V^*)}{(1-F(V^*))^2} \int_{V^*}^{+\infty} V dF(V) - \frac{(1-p)V^*f(V^*)}{1-F(V^*)} \\ > p + \frac{(1-p)f(V^*)}{(1-F(V^*))^2} \int_{V^*}^{+\infty} V^* dF(V) - \frac{(1-p)V^*f(V^*)}{1-F(V^*)} \\ = p > 0 \end{aligned}$$
- ▶ If $V^* = V^{**}$, then $P^* = P^{**}$ and thus $\Pi_P = w$
- ▶ As $V^{**} > V^*$, then $P^{**} > P^*$, hence $\Pi_P > w$

Partnerships are preferred over employment

- ▶ Partners will only join if they can earn more than as an employee: $\Pi_P > w$
- ▶ This gives $pV^{**} + (1 - p)P^{**} \geq pV^* + (1 - p)P^*$
- ▶ Differentiating the right-hand side gives
$$\begin{aligned} p + \frac{(1-p)f(V^*)}{(1-F(V^*))^2} \int_{V^*}^{+\infty} V dF(V) - \frac{(1-p)V^*f(V^*)}{1-F(V^*)} \\ > p + \frac{(1-p)f(V^*)}{(1-F(V^*))^2} \int_{V^*}^{+\infty} V^* dF(V) - \frac{(1-p)V^*f(V^*)}{1-F(V^*)} \\ = p > 0 \end{aligned}$$
- ▶ If $V^* = V^{**}$, then $P^* = P^{**}$ and thus $\Pi_P = w$
- ▶ As $V^{**} > V^*$, then $P^{**} > P^*$, hence $\Pi_P > w$
- ▶ Being a partner is **more attractive** than being an employee

Partnerships are preferred over employment

- ▶ Partners will only join if they can earn more than as an employee: $\Pi_P > w$
- ▶ This gives $pV^{**} + (1 - p)P^{**} \geq pV^* + (1 - p)P^*$
- ▶ Differentiating the right-hand side gives
$$\begin{aligned} p + \frac{(1-p)f(V^*)}{(1-F(V^*))^2} \int_{V^*}^{+\infty} V dF(V) - \frac{(1-p)V^*f(V^*)}{1-F(V^*)} \\ > p + \frac{(1-p)f(V^*)}{(1-F(V^*))^2} \int_{V^*}^{+\infty} V^* dF(V) - \frac{(1-p)V^*f(V^*)}{1-F(V^*)} \\ = p > 0 \end{aligned}$$
- ▶ If $V^* = V^{**}$, then $P^* = P^{**}$ and thus $\Pi_P = w$
- ▶ As $V^{**} > V^*$, then $P^{**} > P^*$, hence $\Pi_P > w$
- ▶ Being a partner is more attractive than being an employee

Incorporated investment banks are viable

Incorporated investment banks are viable

- We can use the first order condition of partnerships to obtain

$$\Pi_C = p ((1 - F(V^*)) (P^* - V^*) - (1 - F(V^{**})) (P^{**} - V^{**}))$$

Incorporated investment banks are viable

- ▶ We can use the first order condition of partnerships to obtain
$$\Pi_C = p((1 - F(V^*)) (P^* - V^*) - (1 - F(V^{**})) (P^{**} - V^{**}))$$
- ▶ $\frac{\partial \Pi_C}{\partial V^{**}} = p(1 - F(V^{**})) > 0$

Incorporated investment banks are viable

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

Incorporated investment banks are viable

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

Incorporated investment banks are viable

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

Incorporated investment banks are profitable

Incorporated investment banks are profitable

- ▶ If clients are unable to identify the ability of investment banks, $p = 0$

Incorporated investment banks are profitable

- ▶ If clients are unable to identify the ability of investment banks, $p = 0$, then
 $\Pi_C = -E < 0$

Incorporated investment banks are profitable

- ▶ If clients are unable to identify the ability of investment banks, $p = 0$, then $\Pi_C = -E < 0$
- ▶ Assume that for if all clients are able to identify the ability, $p = 1$

Incorporated investment banks are profitable

- ▶ If clients are unable to identify the ability of investment banks, $p = 0$, then $\Pi_C = -E < 0$
- ▶ Assume that for if all clients are able to identify the ability, $p = 1$, then $\Pi_C > 0$

Incorporated investment banks are profitable

- ▶ If clients are unable to identify the ability of investment banks, $p = 0$, then $\Pi_C = -E < 0$
- ▶ Assume that for if all clients are able to identify the ability, $p = 1$, then $\Pi_C > 0$
- ▶ There exists a \hat{p} such that for $p > \hat{p}$ incorporated investment banks are viable

Incorporated investment banks are profitable

- ▶ If clients are unable to identify the ability of investment banks, $p = 0$, then $\Pi_C = -E < 0$
- ▶ Assume that for if all clients are able to identify the ability, $p = 1$, then $\Pi_C > 0$
- ▶ There exists a \hat{p} such that for $p > \hat{p}$ incorporated investment banks are viable

Partnerships are more profitable

Partnerships are more profitable

- ▶ If partners were paid wages w , then their excess profits are $\Pi_P - w$

Partnerships are more profitable

- ▶ If partners were paid wages w , then their excess profits are $\Pi_P - w$
- ▶ Holding shares in the incorporated investment bank would give Π_C

Partnerships are more profitable

- ▶ If partners were paid wages w , then their excess profits are $\Pi_P - w$
- ▶ Holding shares in the incorporated investment bank would give Π_C
- ▶ Partnerships are more profitable if $\Pi_P - w \geq \Pi_C$

Partnerships are more profitable

- ▶ If partners were paid wages w , then their excess profits are $\Pi_P - w$
- ▶ Holding shares in the incorporated investment bank would give Π_C
- ▶ Partnerships are more profitable if $\Pi_P - w \geq \Pi_C$
- ▶ This requires $p \leq \hat{p} = \frac{P^{**} - P^*}{F(V^{**})(P^{**} - V^{**}) - F(V^*)(P^* - V^*)}$

Partnerships are more profitable

- ▶ If partners were paid wages w , then their excess profits are $\Pi_P - w$
- ▶ Holding shares in the incorporated investment bank would give Π_C
- ▶ Partnerships are more profitable if $\Pi_P - w \geq \Pi_C$
- ▶ This requires $p \leq \hat{p} = \frac{P^{**} - P^*}{F(V^{**})(P^{**} - V^{**}) - F(V^*)(P^* - V^*)}$
- ▶ If the ability of investment bankers is difficult to assess, partnerships are more profitable

Partnerships are more profitable

- ▶ If partners were paid wages w , then their excess profits are $\Pi_P - w$
- ▶ Holding shares in the incorporated investment bank would give Π_C
- ▶ Partnerships are more profitable if $\Pi_P - w \geq \Pi_C$
- ▶ This requires $p \leq \hat{p} = \frac{P^{**} - P^*}{F(V^{**})(P^{**} - V^{**}) - F(V^*)(P^* - V^*)}$
- ▶ If the ability of investment bankers is difficult to assess, partnerships are more profitable

- Problem and model assumptions
- Ability in incorporated investment banks
- Ability in partnerships
- Comparing skills of employees
- Attractiveness of partnerships
- Summary

Benefits of partnerships

Benefits of partnerships

- ▶ Partnerships are **more attractive** than being an employee

Benefits of partnerships

- ▶ Partnerships are more attractive than being an employee
- ▶ Partnerships are **more profitable** than incorporated investment banks if clients are unlikely to identify the ability of investment banks

Benefits of partnerships

- ▶ Partnerships are more attractive than being an employee
- ▶ Partnerships are more profitable than incorporated investment banks if clients are unlikely to identify the ability of investment banks
- ▶ Partnerships have **higher abilities** than incorporated investment banks

Benefits of partnerships

- ▶ Partnerships are more attractive than being an employee
- ▶ Partnerships are more profitable than incorporated investment banks if clients are unlikely to identify the ability of investment banks
- ▶ Partnerships have higher abilities than incorporated investment banks

Dominance of partnerships

Dominance of partnerships

- ▶ Partnerships should dominate in markets where service quality is **difficult to assess**

Dominance of partnerships

- ▶ Partnerships should dominate in markets where service quality is difficult to assess
- ▶ This can be in markets for **complex** products or services

Dominance of partnerships

- ▶ Partnerships should dominate in markets where service quality is difficult to assess
- ▶ This can be in markets for complex products or services, or **new** products and services

Dominance of partnerships

- ▶ Partnerships should dominate in markets where service quality is difficult to assess
- ▶ This can be in markets for complex products or services, or new products and services
- ▶ It can include markets that are generally **difficult to analyse**

Dominance of partnerships

- ▶ Partnerships should dominate in markets where service quality is difficult to assess
- ▶ This can be in markets for complex products or services, or new products and services
- ▶ It can include markets that are generally difficult to analyse



This presentation is based on
Andreas Krause: Theoretical Foundations of Investment Banking, Springer Verlag 2024
Copyright © 2024 by Andreas Krause

Picture credits:

Cover: The wub, CC BY-SA 4.0 <https://creativecommons.org/licenses/by-sa/4.0/>, via Wikimedia Commons, https://commons.wikimedia.org/wiki/File:Canary_Wharf_from_Greenwich_riverside.2022-03-18.jpg
Back: Seb Tyler, CC BY 3.0 <https://creativecommons.org/licenses/by/3.0/>, via Wikimedia Commons, https://commons.wikimedia.org/wiki/File:Canary_Wharf_Panorama_Night.jpg

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

E-mail: mnsak@bath.ac.uk