



Chapter 17.1  
Viability of partnerships

# Outline

- Problem and model assumptions
- Associates joining the partnership
- Taking up partnership offers
- Not appointing unskilled partners
- Mentoring of associates
- Summary

- Problem and model assumptions
- Associates joining the partnership
- Taking up partnership offers
- Not appointing unskilled partners
- Mentoring of associates
- Summary

# Characteristics of partnerships

# Characteristics of partnerships

- ▶ Investment banks were traditionally organised as **partnerships**

# Characteristics of partnerships

- ▶ Investment banks were traditionally organised as partnerships
- ▶ The owners are **actively engaged** in the business

# Characteristics of partnerships

- ▶ Investment banks were traditionally organised as partnerships
- ▶ The owners are actively engaged in the business, they are called **partners**

# Characteristics of partnerships

- ▶ Investment banks were traditionally organised as partnerships
- ▶ The owners are actively engaged in the business, they are called partners
- ▶ New partners are appointed from **existing** employees



# Characteristics of partnerships

- ▶ Investment banks were traditionally organised as partnerships
- ▶ The owners are actively engaged in the business, they are called partners
- ▶ New partners are appointed from existing employees, called **associates**

# Characteristics of partnerships

- ▶ Investment banks were traditionally organised as partnerships
- ▶ The owners are actively engaged in the business, they are called partners
- ▶ New partners are appointed from existing employees, called associates
- ▶ New partner **buy** a stake in the company

# Characteristics of partnerships

- ▶ Investment banks were traditionally organised as partnerships
- ▶ The owners are actively engaged in the business, they are called partners
- ▶ New partners are appointed from existing employees, called associates
- ▶ New partner buy a stake in the company and if they leave, **sell** it to a newly appointed partner

# Characteristics of partnerships

- ▶ Investment banks were traditionally organised as partnerships
- ▶ The owners are actively engaged in the business, they are called partners
- ▶ New partners are appointed from existing employees, called associates
- ▶ New partner buy a stake in the company and if they leave, sell it to a newly appointed partner

# Mentoring associates

# Mentoring associates

- ▶ Partners can be either **highly-skilled**, generating surplus  $V_H$

# Mentoring associates

- ▶ Partners can be either highly-skilled, generating surplus  $V_H$ , or **low-skilled**, generating surplus  $V_L$

# Mentoring associates

- ▶ Partners can be either highly-skilled, generating surplus  $V_H$ , or low-skilled, generating surplus  $V_L$
- ▶ A partnership has  $M$  partners



# Mentoring associates

- ▶ Partners can be either highly-skilled, generating surplus  $V_H$ , or low-skilled, generating surplus  $V_L$
- ▶ A partnership has  $M$  partners
- ▶ Each partner mentors  $N$  associates, who might become partners

# Mentoring associates

- ▶ Partners can be either highly-skilled, generating surplus  $V_H$ , or low-skilled, generating surplus  $V_L$
- ▶ A partnership has  $M$  partners
- ▶ Each partner mentors  $N$  associates, who might become partners, but **until then** only generate surplus  $V_L$

# Mentoring associates

- ▶ Partners can be either highly-skilled, generating surplus  $V_H$ , or low-skilled, generating surplus  $V_L$
- ▶ A partnership has  $M$  partners
- ▶ Each partner mentors  $N$  associates, who might become partners, but until then only generate surplus  $V_L$
- ▶ Mentoring costs  $C$

# Mentoring associates

- ▶ Partners can be either highly-skilled, generating surplus  $V_H$ , or low-skilled, generating surplus  $V_L$
- ▶ A partnership has  $M$  partners
- ▶ Each partner mentors  $N$  associates, who might become partners, but until then only generate surplus  $V_L$
- ▶ Mentoring costs  $C$  and partners do **not know** the type of partner an associate will be without mentoring

# Mentoring associates

- ▶ Partners can be either highly-skilled, generating surplus  $V_H$ , or low-skilled, generating surplus  $V_L$
- ▶ A partnership has  $M$  partners
- ▶ Each partner mentors  $N$  associates, who might become partners, but until then only generate surplus  $V_L$
- ▶ Mentoring costs  $C$  and partners do not know the type of partner an associate will be without mentoring
- ▶ Profits to a partner consists of his own surplus  $V_H$
- ▶  $\Pi_P = V_H$

# Mentoring associates

- ▶ Partners can be either highly-skilled, generating surplus  $V_H$ , or low-skilled, generating surplus  $V_L$
- ▶ A partnership has  $M$  partners
- ▶ Each partner mentors  $N$  associates, who might become partners, but until then only generate surplus  $V_L$
- ▶ Mentoring costs  $C$  and partners do not know the type of partner an associate will be without mentoring
- ▶ Profits to a partner consists of his own surplus  $V_H$  and the surplus  $V_L$  of all associates he mentors, less the wages they are paid
- ▶  $\Pi_P = V_H + N(V_L - w_A)$

# Mentoring associates

- ▶ Partners can be either highly-skilled, generating surplus  $V_H$ , or low-skilled, generating surplus  $V_L$
- ▶ A partnership has  $M$  partners
- ▶ Each partner mentors  $N$  associates, who might become partners, but until then only generate surplus  $V_L$
- ▶ Mentoring costs  $C$  and partners do not know the type of partner an associate will be without mentoring
- ▶ Profits to a partner consists of his own surplus  $V_H$  and the surplus  $V_L$  of all associates he mentors, less the wages they are paid
- ▶  $\Pi_P = V_H + N(V_L - w_A)$

- Problem and model assumptions
- Associates joining the partnership
- Taking up partnership offers
- Not appointing unskilled partners
- Mentoring of associates
- Summary



# Profits of joining a partnership

# Profits of joining a partnership

- ▶ Associates do not know if they are highly skilled and chosen as partners

# Profits of joining a partnership

- ▶ Associates do not know if they are highly skilled and chosen as partners, they assign probability  $\frac{1}{N}$  to this

# Profits of joining a partnership

- ▶ Associates do not know if they are highly skilled and chosen as partners, they assign probability  $\frac{1}{N}$  to this
- ▶ If appointed as partner
- ▶  $\frac{1}{N}$

# Profits of joining a partnership

- ▶ Associates do not know if they are highly skilled and chosen as partners, they assign probability  $\frac{1}{N}$  to this
- ▶ If appointed as partner, they obtain their initial wage

- ▶  $\frac{1}{N} \left( w_A \right)$

# Profits of joining a partnership

- ▶ Associates do not know if they are highly skilled and chosen as partners, they assign probability  $\frac{1}{N}$  to this
- ▶ If appointed as partner, they obtain their initial wage and in the next time period the profits of being a partner

- ▶  $\frac{1}{N} \left( w_A + \frac{\Pi_P}{\rho} \right)$

# Profits of joining a partnership

- ▶ Associates do not know if they are highly skilled and chosen as partners, they assign probability  $\frac{1}{N}$  to this
- ▶ If appointed as partner, they obtain their initial wage and in the next time period the profits of being a partner, less the mentoring costs

- ▶  $\frac{1}{N} \left( w_A + \frac{\Pi_P - C}{\rho} \right)$

# Profits of joining a partnership

- ▶ Associates do not know if they are highly skilled and chosen as partners, they assign probability  $\frac{1}{N}$  to this
- ▶ If appointed as partner, they obtain their initial wage and in the next time period the profits of being a partner, less the mentoring costs
- ▶ If **not appointed as partner**
- ▶  $\frac{1}{N} \left( w_A + \frac{\Pi_P - C}{\rho} \right) + \left( 1 - \frac{1}{N} \right)$



# Profits of joining a partnership

- ▶ Associates do not know if they are highly skilled and chosen as partners, they assign probability  $\frac{1}{N}$  to this
- ▶ If appointed as partner, they obtain their initial wage and in the next time period the profits of being a partner, less the mentoring costs
- ▶ If **not appointed as partner**, they obtain their **initial wage**
- ▶  $\frac{1}{N} \left( w_A + \frac{\Pi_P - C}{\rho} \right) + \left( 1 - \frac{1}{N} \right) \left( w_A \right)$

# Profits of joining a partnership

- ▶ Associates do not know if they are highly skilled and chosen as partners, they assign probability  $\frac{1}{N}$  to this
- ▶ If appointed as partner, they obtain their initial wage and in the next time period the profits of being a partner, less the mentoring costs
- ▶ If **not appointed as partner**, they obtain their **initial wage** and in the **next time period** gets paid his **contribution**
- ▶  $\frac{1}{N} \left( w_A + \frac{\Pi_P - C}{\rho} \right) + \left( 1 - \frac{1}{N} \right) \left( w_A + \frac{V_L}{\rho} \right)$

# Profits of joining a partnership

- ▶ Associates do not know if they are highly skilled and chosen as partners, they assign probability  $\frac{1}{N}$  to this
- ▶ If appointed as partner, they obtain their initial wage and in the next time period the profits of being a partner, less the mentoring costs
- ▶ If not appointed as partner, they obtain their initial wage and in the next time period gets paid his contribution
- ▶  $V_L + \frac{V_L}{\rho}$
- ▶ If not joining the partnership, they obtain their **contribution** in the current and **next time period**

# Profits of joining a partnership

- ▶ Associates do not know if they are highly skilled and chosen as partners, they assign probability  $\frac{1}{N}$  to this
- ▶ If appointed as partner, they obtain their initial wage and in the next time period the profits of being a partner, less the mentoring costs
- ▶ If not appointed as partner, they obtain their initial wage and in the next time period gets paid his contribution
- ▶  $\frac{1}{N} \left( w_A + \frac{\Pi_P - C}{\rho} \right) + \left( 1 - \frac{1}{N} \right) \left( w_A + \frac{V_L}{\rho} \right) \geq V_L + \frac{V_L}{\rho}$
- ▶ If not joining the partnership, they obtain their contribution in the current and next time period
- ▶ They **join** the partnership if this is more profitable

# Profits of joining a partnership

- ▶ Associates do not know if they are highly skilled and chosen as partners, they assign probability  $\frac{1}{N}$  to this
- ▶ If appointed as partner, they obtain their initial wage and in the next time period the profits of being a partner, less the mentoring costs
- ▶ If not appointed as partner, they obtain their initial wage and in the next time period gets paid his contribution
- ▶  $\frac{1}{N} \left( w_A + \frac{\Pi_P - C}{\rho} \right) + \left( 1 - \frac{1}{N} \right) \left( w_A + \frac{V_L}{\rho} \right) \geq V_L + \frac{V_L}{\rho}$
- ▶ If not joining the partnership, they obtain their contribution in the current and next time period
- ▶ They join the partnership if this is more profitable

# Decision to join

# Decision to join

- ▶ Associates join the partnership if  $w_A \geq V_L - \frac{(V_H - V_L) - C}{N(\rho - 1)}$

# Decision to join

- ▶ Associates join the partnership if  $w_A \geq V_L - \frac{(V_H - V_L) - C}{N(\rho - 1)}$
- ▶ If  $C \leq C^* = V_H - V_L (1 + (\rho - 1) N)$ , we can set  $w_A = 0$



# Decision to join

- ▶ Associates join the partnership if  $w_A \geq V_L - \frac{(V_H - V_L) - C}{N(\rho - 1)}$
- ▶ If  $C \leq C^* = V_H - V_L (1 + (\rho - 1) N)$ , we can set  $w_A = 0$
- ▶ If mentoring costs are not too high, the benefits from being a **future partner** are sufficiently high for associates to forego any remuneration

# Decision to join

- ▶ Associates join the partnership if  $w_A \geq V_L - \frac{(V_H - V_L) - C}{N(\rho - 1)}$
- ▶ If  $C \leq C^* = V_H - V_L (1 + (\rho - 1) N)$ , we can set  $w_A = 0$
- ▶ If mentoring costs are not too high, the benefits from being a future partner are sufficiently high for associates to forego any remuneration
- ▶ This is feasible if  $C^* \geq 0$

# Decision to join

- ▶ Associates join the partnership if  $w_A \geq V_L - \frac{(V_H - V_L) - C}{N(\rho - 1)}$
- ▶ If  $C \leq C^* = V_H - V_L (1 + (\rho - 1) N)$ , we can set  $w_A = 0$
- ▶ If mentoring costs are not too high, the benefits from being a future partner are sufficiently high for associates to forego any remuneration
- ▶ This is feasible if  $C^* \geq 0$ , or  $\frac{V_H}{V_L} \geq 1 + (\rho - 1) N$

# Decision to join

- ▶ Associates join the partnership if  $w_A \geq V_L - \frac{(V_H - V_L) - C}{N(\rho - 1)}$
- ▶ If  $C \leq C^* = V_H - V_L (1 + (\rho - 1) N)$ , we can set  $w_A = 0$
- ▶ If mentoring costs are not too high, the benefits from being a future partner are sufficiently high for associates to forego any remuneration
- ▶ This is feasible if  $C^* \geq 0$ , or  $\frac{V_H}{V_L} \geq 1 + (\rho - 1) N$
- ▶ The surplus generated by highly-skilled partners have to be sufficiently high

# Decision to join

- ▶ Associates join the partnership if  $w_A \geq V_L - \frac{(V_H - V_L) - C}{N(\rho - 1)}$
- ▶ If  $C \leq C^* = V_H - V_L (1 + (\rho - 1) N)$ , we can set  $w_A = 0$
- ▶ If mentoring costs are not too high, the benefits from being a future partner are sufficiently high for associates to forego any remuneration
- ▶ This is feasible if  $C^* \geq 0$ , or  $\frac{V_H}{V_L} \geq 1 + (\rho - 1) N$
- ▶ The surplus generated by highly-skilled partners have to be sufficiently high

- Problem and model assumptions
- Associates joining the partnership
- Taking up partnership offers
- Not appointing unskilled partners
- Mentoring of associates
- Summary

# Value of partnership

# Value of partnership

- ▶ Partners are paid wages  $w_P$



# Value of partnership

- ▶ Partners are paid wages  $w_P$ , reducing the profits of the partnership

# Value of partnership

- ▶ Partners are paid wages  $w_P$ , reducing the profits of the partnership
- ▶ Associates are paid  $w_A = 0$

# Value of partnership

- ▶ Partners are paid wages  $w_P$ , reducing the profits of the partnership
- ▶ Associates are paid  $w_A = 0$
- ▶ Profits of the partnership is then  $\hat{\Pi}_B = \Pi_B - w_P = V_H + NV_L - w_P$

# Value of partnership

- ▶ Partners are paid wages  $w_P$ , reducing the profits of the partnership
- ▶ Associates are paid  $w_A = 0$
- ▶ Profits of the partnership is then  $\hat{\Pi}_B = \Pi_B - w_P = V_H + NV_L - w_P$
- ▶ These profits accrue in **perpetuity**

# Value of partnership

- ▶ Partners are paid wages  $w_P$ , reducing the profits of the partnership
- ▶ Associates are paid  $w_A = 0$
- ▶ Profits of the partnership is then  $\hat{\Pi}_B = \Pi_B - w_P = V_H + NV_L - w_P$
- ▶ These profits accrue in perpetuity, hence the value of the partnership is
$$P^* = \frac{V_H + NV_L - w_P}{\rho - 1}$$

# Value of partnership

- ▶ Partners are paid wages  $w_P$ , reducing the profits of the partnership
- ▶ Associates are paid  $w_A = 0$
- ▶ Profits of the partnership is then  $\hat{\Pi}_B = \Pi_B - w_P = V_H + NV_L - w_P$
- ▶ These profits accrue in perpetuity, hence the value of the partnership is
$$P^* = \frac{V_H + NV_L - w_P}{\rho - 1}$$

# Payment if partnership is refused

## Payment if partnership is refused

- ▶ Associates **not** appointed partners join the job market



## Payment if partnership is refused

- ▶ Associates not appointed partners join the job market, there will be  $M(N - 1)$  unskilled associates generating  $V_L$  each

## Payment if partnership is refused

- ▶ Associates not appointed partners join the job market, there will be  $M(N - 1)$  unskilled associates generating  $V_L$  each
- ▶ If a highly-skilled associate **rejects** the partnership, he will generate  $V_H$

## Payment if partnership is refused

- ▶ Associates not appointed partners join the job market, there will be  $M(N - 1)$  unskilled associates generating  $V_L$  each
- ▶ If a highly-skilled associate rejects the partnership, he will generate  $V_H$  and the number of former associates in the market is  $M(N - 1) + 1$

## Payment if partnership is refused

- ▶ Associates not appointed partners join the job market, there will be  $M(N - 1)$  unskilled associates generating  $V_L$  each
- ▶ If a highly-skilled associate rejects the partnership, he will generate  $V_H$  and the number of former associates in the market is  $M(N - 1) + 1$
- ▶ Average surplus is then  $\frac{M(N-1)V_L + V_H}{M(N-1)+1}$

## Payment if partnership is refused

- ▶ Associates not appointed partners join the job market, there will be  $M(N-1)$  unskilled associates generating  $V_L$  each
- ▶ If a highly-skilled associate rejects the partnership, he will generate  $V_H$  and the number of former associates in the market is  $M(N-1) + 1$
- ▶ Average surplus is then  $\frac{M(N-1)V_L + V_H}{M(N-1) + 1}$ , former associates can earn this wage **outside** the partnership

## Payment if partnership is refused

- ▶ Associates not appointed partners join the job market, there will be  $M(N - 1)$  unskilled associates generating  $V_L$  each
- ▶ If a highly-skilled associate rejects the partnership, he will generate  $V_H$  and the number of former associates in the market is  $M(N - 1) + 1$
- ▶ Average surplus is then  $\frac{M(N-1)V_L + V_H}{M(N-1)+1}$ , former associates can earn this wage outside the partnership

# Condition to accept a partnership

## Condition to accept a partnership

- ▶ If joining the partnership they get  $\Pi_P - C$



## Condition to accept a partnership

- ▶ If joining the partnership they get  $\Pi_P - C$
- ▶ Highly skilled associates join the partnership if
$$\Pi_P - C = V_H + NV_L - C \geq \frac{M(N-1)V_L + V_H}{M(N-1)+1}$$

## Condition to accept a partnership

- ▶ If joining the partnership they get  $\Pi_P - C$
- ▶ Highly skilled associates join the partnership if
$$\Pi_P - C = V_H + NV_L - C \geq \frac{M(N-1)V_L + V_H}{M(N-1)+1}$$
- ▶ This requires  $C \leq C^{**} = \frac{M(N-1)V_H + (M(N-1)^2 + 1)V_L}{M(N-1)+1}$

# Condition to accept a partnership

- ▶ If joining the partnership they get  $\Pi_P - C$
- ▶ Highly skilled associates join the partnership if
$$\Pi_P - C = V_H + NV_L - C \geq \frac{M(N-1)V_L + V_H}{M(N-1)+1}$$
- ▶ This requires  $C \leq C^{**} = \frac{M(N-1)V_H + (M(N-1)^2 + 1)V_L}{M(N-1)+1}$
- ▶ If mentoring costs are **not too high**, accepting a partnership is optimal

## Condition to accept a partnership

- ▶ If joining the partnership they get  $\Pi_P - C$
- ▶ Highly skilled associates join the partnership if
$$\Pi_P - C = V_H + NV_L - C \geq \frac{M(N-1)V_L + V_H}{M(N-1)+1}$$
- ▶ This requires  $C \leq C^{**} = \frac{M(N-1)V_H + (M(N-1)^2 + 1)V_L}{M(N-1)+1}$
- ▶ If mentoring costs are not too high, accepting a partnership is optimal

- Problem and model assumptions
- Associates joining the partnership
- Taking up partnership offers
- **Not appointing unskilled partners**
- Mentoring of associates
- Summary

# Unskilled associate accepting the partnership

## Unskilled associate accepting the partnership

- ▶ If an unskilled partner is appointed the investment bank loses reputation

## Unskilled associate accepting the partnership

- ▶ If an unskilled partner is appointed the investment bank loses reputation and it **cannot** be sold



# Unskilled associate accepting the partnership

- ▶ If an unskilled partner is appointed the investment bank loses reputation and it cannot be sold
- ▶ Unskilled partners will generate surplus  $V_L$

$V_L$

# Unskilled associate accepting the partnership

- ▶ If an unskilled partner is appointed the investment bank loses reputation and it cannot be sold
- ▶ Unskilled partners will generate surplus  $V_L$  and obtain surplus  $V_L$  from each associate

$$V_L + NV_L$$

# Unskilled associate accepting the partnership

- ▶ If an unskilled partner is appointed the investment bank loses reputation and it cannot be sold
- ▶ Unskilled partners will generate surplus  $V_L$  and obtain surplus  $V_L$  from each associate and they have previously spent  $P$  to purchase the partnership

$$V_L + NV_L - \rho P$$

# Unskilled associate accepting the partnership

- ▶ If an unskilled partner is appointed the investment bank loses reputation and it cannot be sold
- ▶ Unskilled partners will generate surplus  $V_L$  and obtain surplus  $V_L$  from each associate and they have previously spent  $P$  to purchase the partnership, which cannot be recovered

$$V_L + NV_L - \rho P$$

## Unskilled associate accepting the partnership

- ▶ If an unskilled partner is appointed the investment bank loses reputation and it cannot be sold
- ▶ Unskilled partners will generate surplus  $V_L$  and obtain surplus  $V_L$  from each associate and they have previously spent  $P$  to purchase the partnership, which cannot be recovered
- ▶ If **not a partner**, the unskilled associate would obtain  $V_L$

$V_L$

## Unskilled associate accepting the partnership

- ▶ If an unskilled partner is appointed the investment bank loses reputation and it cannot be sold
- ▶ Unskilled partners will generate surplus  $V_L$  and obtain surplus  $V_L$  from each associate and they have previously spent  $P$  to purchase the partnership, which cannot be recovered
- ▶ If not a partner, the unskilled associate would obtain  $V_L$
- ▶ Accept the partnership if  $V_L + NV_L - \rho P \geq V_L$

## Unskilled associate accepting the partnership

- ▶ If an unskilled partner is appointed the investment bank loses reputation and it cannot be sold
- ▶ Unskilled partners will generate surplus  $V_L$  and obtain surplus  $V_L$  from each associate and they have previously spent  $P$  to purchase the partnership, which cannot be recovered
- ▶ If not a partner, the unskilled associate would obtain  $V_L$
- ▶ Accept the partnership if  $V_L + NV_L - \rho P \geq V_L$
- ▶ This requires  $P \leq P^{**} = \frac{NV_L}{\rho}$

# Unskilled associate accepting the partnership

- ▶ If an unskilled partner is appointed the investment bank loses reputation and it cannot be sold
- ▶ Unskilled partners will generate surplus  $V_L$  and obtain surplus  $V_L$  from each associate and they have previously spent  $P$  to purchase the partnership, which cannot be recovered
- ▶ If not a partner, the unskilled associate would obtain  $V_L$
- ▶ Accept the partnership if  $V_L + NV_L - \rho P \geq V_L$
- ▶ This requires  $P \leq P^{**} = \frac{NV_L}{\rho}$



# Avoiding appointing unskilled partners

## Avoiding appointing unskilled partners

- ▶ If no highly skilled associate is available,  $M - 1$  partners remain

# Avoiding appointing unskilled partners

- ▶ If no highly skilled associate is available,  $M - 1$  partners remain, the total value of the partnership is then  $(M - 1) P^*$

# Avoiding appointing unskilled partners

- ▶ If no highly skilled associate is available,  $M - 1$  partners remain, the total value of the partnership is then  $(M - 1) P^*$
- ▶ If an unskilled associate is available, we retain  $M$  partners

# Avoiding appointing unskilled partners

- ▶ If no highly skilled associate is available,  $M - 1$  partners remain, the total value of the partnership is then  $(M - 1) P^*$
- ▶ If an unskilled associate is available, we retain  $M$  partners, the total value if the partnership is  $MP^{**}$

## Avoiding appointing unskilled partners

- ▶ If no highly skilled associate is available,  $M - 1$  partners remain, the total value of the partnership is then  $(M - 1) P^*$
- ▶ If an unskilled associate is available, we retain  $M$  partners, the total value if the partnership is  $MP^{**}$
- ▶ Unskilled associates are not appointed if  $(M - 1) P^* \geq MP^{**}$

## Avoiding appointing unskilled partners

- ▶ If no highly skilled associate is available,  $M - 1$  partners remain, the total value of the partnership is then  $(M - 1) P^*$
- ▶ If an unskilled associate is available, we retain  $M$  partners, the total value if the partnership is  $MP^{**}$
- ▶ Unskilled associates are not appointed if  $(M - 1) P^* \geq MP^{**}$
- ▶ This requires  $w_P \leq w_P^* = V_H + \left(1 - \frac{\rho-1}{\rho} \frac{M}{M-1}\right) NV_L$

## Avoiding appointing unskilled partners

- ▶ If no highly skilled associate is available,  $M - 1$  partners remain, the total value of the partnership is then  $(M - 1) P^*$
- ▶ If an unskilled associate is available, we retain  $M$  partners, the total value if the partnership is  $MP^{**}$
- ▶ Unskilled associates are not appointed if  $(M - 1) P^* \geq MP^{**}$
- ▶ This requires  $w_P \leq w_P^* = V_H + \left(1 - \frac{\rho-1}{\rho} \frac{M}{M-1}\right) NV_L$
- ▶ For  $w_P^* \geq 0$ , we need  $\frac{V_H}{V_L} \geq N \left( \frac{\rho-1}{\rho} \frac{M}{M-1} - 1 \right)$



## Avoiding appointing unskilled partners

- ▶ If no highly skilled associate is available,  $M - 1$  partners remain, the total value of the partnership is then  $(M - 1) P^*$
- ▶ If an unskilled associate is available, we retain  $M$  partners, the total value if the partnership is  $MP^{**}$
- ▶ Unskilled associates are not appointed if  $(M - 1) P^* \geq MP^{**}$
- ▶ This requires  $w_P \leq w_P^* = V_H + \left(1 - \frac{\rho-1}{\rho} \frac{M}{M-1}\right) NV_L$
- ▶ For  $w_P^* \geq 0$ , we need  $\frac{V_H}{V_L} \geq N \left(\frac{\rho-1}{\rho} \frac{M}{M-1} - 1\right)$
- ▶ The benefits generated by highly-skilled partners have to be sufficiently high

## Avoiding appointing unskilled partners

- ▶ If no highly skilled associate is available,  $M - 1$  partners remain, the total value of the partnership is then  $(M - 1) P^*$
- ▶ If an unskilled associate is available, we retain  $M$  partners, the total value if the partnership is  $MP^{**}$
- ▶ Unskilled associates are not appointed if  $(M - 1) P^* \geq MP^{**}$
- ▶ This requires  $w_P \leq w_P^* = V_H + \left(1 - \frac{\rho-1}{\rho} \frac{M}{M-1}\right) NV_L$
- ▶ For  $w_P^* \geq 0$ , we need  $\frac{V_H}{V_L} \geq N \left(\frac{\rho-1}{\rho} \frac{M}{M-1} - 1\right)$
- ▶ The benefits generated by highly-skilled partners have to be sufficiently high

- Problem and model assumptions
- Associates joining the partnership
- Taking up partnership offers
- Not appointing unskilled partners
- Mentoring of associates**
- Summary

# Not appointing new partners

# Not appointing new partners

- ▶ Partners must have incentives to **mentor** associates

# Not appointing new partners

- ▶ Partners must have incentives to mentor associates
- ▶ If a partner does **not mentor** and does **not appoint** an unskilled associate, there are only  $M - 1$  partners left

# Not appointing new partners

- ▶ Partners must have incentives to mentor associates
- ▶ If a partner does not mentor and does not appoint an unskilled associate, there are only  $M - 1$  partners left
- ▶ These  $M - 1$  partners generate future profits, but this is **shared by  $M$  partners**

# Not appointing new partners

- ▶ Partners must have incentives to mentor associates
- ▶ If a partner does not mentor and does not appoint an unskilled associate, there are only  $M - 1$  partners left
- ▶ These  $M - 1$  partners generate future profits, but this is shared by  $M$  partners, the value becomes  $\frac{M-1}{M} P^*$



# Not appointing new partners

- ▶ Partners must have incentives to mentor associates
- ▶ If a partner does not mentor and does not appoint an unskilled associate, there are only  $M - 1$  partners left
- ▶ These  $M - 1$  partners generate future profits, but this is shared by  $M$  partners, the value becomes  $\frac{M-1}{M}P^*$
- ▶ If mentoring associates, the value of the partnership is  $P^*$

# Not appointing new partners

- ▶ Partners must have incentives to mentor associates
- ▶ If a partner does not mentor and does not appoint an unskilled associate, there are only  $M - 1$  partners left
- ▶ These  $M - 1$  partners generate future profits, but this is shared by  $M$  partners, the value becomes  $\frac{M-1}{M}P^*$
- ▶ If mentoring associates, the value of the partnership is  $P^*$  and the partner faces costs  $C$

# Not appointing new partners

- ▶ Partners must have incentives to mentor associates
- ▶ If a partner does not mentor and does not appoint an unskilled associate, there are only  $M - 1$  partners left
- ▶ These  $M - 1$  partners generate future profits, but this is shared by  $M$  partners, the value becomes  $\frac{M-1}{M}P^*$
- ▶ If mentoring associates, the value of the partnership is  $P^*$  and the partner faces costs  $C$ , he receives  $P^* - C$

# Not appointing new partners

- ▶ Partners must have incentives to mentor associates
- ▶ If a partner does not mentor and does not appoint an unskilled associate, there are only  $M - 1$  partners left
- ▶ These  $M - 1$  partners generate future profits, but this is shared by  $M$  partners, the value becomes  $\frac{M-1}{M}P^*$
- ▶ If mentoring associates, the value of the partnership is  $P^*$  and the partner faces costs  $C$ , he receives  $P^* - C$

# Conditions to mentor associates

# Conditions to mentor associates

- ▶ A partner will mentor if  $P^* - C \geq \frac{M-1}{M} P^*$

# Conditions to mentor associates

- ▶ A partner will mentor if  $P^* - C \geq \frac{M-1}{M} P^*$
- ▶ This requires  $C \leq C^{***} = \frac{V_H + NV_L - w_P}{M(\rho-1)}$

# Conditions to mentor associates

- ▶ A partner will mentor if  $P^* - C \geq \frac{M-1}{M} P^*$
- ▶ This requires  $C \leq C^{***} = \frac{V_H + NV_L - w_P}{M(\rho-1)}$
- ▶ If we set  $w_P = 0$  this is **least** restrictive



# Conditions to mentor associates

- ▶ A partner will mentor if  $P^* - C \geq \frac{M-1}{M} P^*$
- ▶ This requires  $C \leq C^{***} = \frac{V_H + NV_L - w_P}{M(\rho-1)}$
- ▶ If we set  $w_P = 0$  this is least restrictive
- ▶ If mentoring costs are sufficiently **low**, partners are mentoring associates

# Conditions to mentor associates

- ▶ A partner will mentor if  $P^* - C \geq \frac{M-1}{M} P^*$
- ▶ This requires  $C \leq C^{***} = \frac{V_H + NV_L - w_P}{M(\rho-1)}$
- ▶ If we set  $w_P = 0$  this is least restrictive
- ▶ If mentoring costs are sufficiently low, partners are mentoring associates

# Conditions for partnerships to exist

# Conditions for partnerships to exist

$$\blacktriangleright C \leq C^* = V_H - V_L (1 + (\rho - 1) N)$$

# Conditions for partnerships to exist

$$\blacktriangleright C \leq C^* = V_H - V_L (1 + (\rho - 1) N)$$

$$C \leq C^{**} = \frac{M(N-1)V_H + (M(N-1)^2 + 1)V_L}{M(N-1) + 1}$$

# Conditions for partnerships to exist

$$\blacktriangleright C \leq C^* = V_H - V_L (1 + (\rho - 1) N)$$

$$C \leq C^{**} = \frac{M(N-1)V_H + (M(N-1)^2 + 1)V_L}{M(N-1) + 1}$$

$$C \leq C^{***} = \frac{V_H + NV_L}{M(\rho - 1)}$$

# Conditions for partnerships to exist

$$\begin{aligned} \blacktriangleright C &\leq C^* = V_H - V_L (1 + (\rho - 1) N) \\ C &\leq C^{**} = \frac{M(N-1)V_H + (M(N-1)^2 + 1)V_L}{M(N-1) + 1} \\ C &\leq C^{***} = \frac{V_H + NV_L}{M(\rho - 1)} \\ \frac{V_H}{V_L} &\geq 1 + (\rho - 1) N \end{aligned}$$

# Conditions for partnerships to exist

$$\begin{aligned} \blacktriangleright \quad C &\leq C^* = V_H - V_L (1 + (\rho - 1) N) \\ C &\leq C^{**} = \frac{M(N-1)V_H + (M(N-1)^2 + 1)V_L}{M(N-1) + 1} \\ C &\leq C^{***} = \frac{V_H + NV_L}{M(\rho - 1)} \\ \frac{V_H}{V_L} &\geq 1 + (\rho - 1) N \\ \frac{V_H}{V_L} &\geq N \left( \frac{\rho - 1}{\rho} \frac{M}{M - 1} - 1 \right) \end{aligned}$$



# Conditions for partnerships to exist

- ▶  $C \leq C^* = V_H - V_L (1 + (\rho - 1) N)$
- $$C \leq C^{**} = \frac{M(N-1)V_H + (M(N-1)^2 + 1)V_L}{M(N-1) + 1}$$
- $$C \leq C^{***} = \frac{V_H + NV_L}{M(\rho - 1)}$$
- $$\frac{V_H}{V_L} \geq 1 + (\rho - 1) N$$
- $$\frac{V_H}{V_L} \geq N \left( \frac{\rho - 1}{\rho} \frac{M}{M - 1} - 1 \right)$$
- ▶ **Mentoring costs** must be sufficiently low

# Conditions for partnerships to exist

$$\blacktriangleright C \leq C^* = V_H - V_L (1 + (\rho - 1) N)$$

$$C \leq C^{**} = \frac{M(N-1)V_H + (M(N-1)^2 + 1)V_L}{M(N-1) + 1}$$

$$C \leq C^{***} = \frac{V_H + NV_L}{M(\rho - 1)}$$

$$\frac{V_H}{V_L} \geq 1 + (\rho - 1) N$$

$$\frac{V_H}{V_L} \geq N \left( \frac{\rho - 1}{\rho} \frac{M}{M - 1} - 1 \right)$$

▶ Mentoring costs must be sufficiently low

▶ Surplus of highly-skilled partners must be sufficiently high

# Conditions for partnerships to exist

$$\blacktriangleright C \leq C^* = V_H - V_L (1 + (\rho - 1) N)$$

$$C \leq C^{**} = \frac{M(N-1)V_H + (M(N-1)^2 + 1)V_L}{M(N-1) + 1}$$

$$C \leq C^{***} = \frac{V_H + NV_L}{M(\rho - 1)}$$

$$\frac{V_H}{V_L} \geq 1 + (\rho - 1) N$$

$$\frac{V_H}{V_L} \geq N \left( \frac{\rho - 1}{\rho} \frac{M}{M - 1} - 1 \right)$$

▶ Mentoring costs must be sufficiently low

▶ Surplus of highly-skilled partners must be sufficiently high

- Problem and model assumptions
- Associates joining the partnership
- Taking up partnership offers
- Not appointing unskilled partners
- Mentoring of associates
- **Summary**

# Remuneration differentials with partnerships

# Remuneration differentials with partnerships

- ▶ Partnerships are viable if the **cost of mentoring** associates is not too high

# Remuneration differentials with partnerships

- ▶ Partnerships are viable if the cost of mentoring associates is not too high and the **differential** between high-skilled and low-skilled associates is sufficiently high

# Remuneration differentials with partnerships

- ▶ Partnerships are viable if the cost of mentoring associates is not too high and the differential between high-skilled and low-skilled associates is sufficiently high
- ▶ Associates accept low wages as the **prospect of future income** as a partner compensates them



# Remuneration differentials with partnerships

- ▶ Partnerships are viable if the cost of mentoring associates is not too high and the differential between high-skilled and low-skilled associates is sufficiently high
- ▶ Associates accept low wages as the prospect of future income as a partner compensates them
- ▶ This leads to large **income discrepancies** within partnerships

# Remuneration differentials with partnerships

- ▶ Partnerships are viable if the cost of mentoring associates is not too high and the differential between high-skilled and low-skilled associates is sufficiently high
- ▶ Associates accept low wages as the prospect of future income as a partner compensates them
- ▶ This leads to large income discrepancies within partnerships

# Demise of partnerships

# Demise of partnerships

- ▶ The demands on partners have **increased** over time

# Demise of partnerships

- ▶ The demands on partners have increased over time, more involvement in **client work** left less time for mentoring

# Demise of partnerships

- ▶ The demands on partners have increased over time, more involvement in client work left less time for mentoring
- ▶ The **size of partnerships** had to increase as business expanded

# Demise of partnerships

- ▶ The demands on partners have increased over time, more involvement in client work left less time for mentoring
- ▶ The size of partnerships had to increase as business expanded, making identifying suitable associates **more difficult**

# Demise of partnerships

- ▶ The demands on partners have increased over time, more involvement in client work left less time for mentoring
- ▶ The size of partnerships had to increase as business expanded, making identifying suitable associates more difficult
- ▶ The costs of mentoring in terms of **lost opportunities** for business became too high



# Demise of partnerships

- ▶ The demands on partners have increased over time, more involvement in client work left less time for mentoring
- ▶ The size of partnerships had to increase as business expanded, making identifying suitable associates more difficult
- ▶ The costs of mentoring in terms of lost opportunities for business became too high and partnerships became **unviable**

# Demise of partnerships

- ▶ The demands on partners have increased over time, more involvement in client work left less time for mentoring
- ▶ The size of partnerships had to increase as business expanded, making identifying suitable associates more difficult
- ▶ The costs of mentoring in terms of lost opportunities for business became too high and partnerships became unviable
- ▶ Low pay as associate makes joining partnerships **less attractive** as other investment banks offer higher salaries to attract highly-skilled associates

# Demise of partnerships

- ▶ The demands on partners have increased over time, more involvement in client work left less time for mentoring
- ▶ The size of partnerships had to increase as business expanded, making identifying suitable associates more difficult
- ▶ The costs of mentoring in terms of lost opportunities for business became too high and partnerships became unviable
- ▶ Low pay as associate makes joining partnerships less attractive as other investment banks offer higher salaries to attract highly-skilled associates



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](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](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](mailto:mnsak@bath.ac.uk)