

2 contractors vs. employer/employee

Simon: Authority is a key feature of intrafirm transactions

Buyer B, Seller S

$B(x, \theta)$  benefit,  $\theta$  uncertain,  $x$  is an action

$C(x, \theta)$  cost

$t=0$ : B, S meet

$t=1$ :  $x$  is chosen after  $\theta$  is realized

1] Sales contract: fix  $x = x^*$ ,  $p = p^*$   
 $x^*$  solves  $\max_{x \in X} E[B(x, \theta) - C(x, \theta)]$

2] Employment contract: B chooses  $x \in \hat{X}$  after  $\theta$  is realized. Fix some subset of  $\hat{X} \subseteq X$  and  $p = \hat{p}$ .

Self-interested B will choose  $x^E \in \hat{X}$  to  $\max_{x \in \hat{X}} B(x, \theta)$

$$\Rightarrow x = x^E(\theta)$$

• optimal employment contract solves  $\max_{\hat{X}} E[B(x(\theta), \theta) - C(x(\theta), \theta)]$   
 s.t.  $x(\theta) \in \arg \max_{x \in \hat{X}} B(x, \theta)$

• set  $\hat{X} = \{x^*\} \Rightarrow$  employment contract does at least as well as sales contract.

When does employment contract strictly dominate?

• sufficient condition: (i) maximizer of  $B(x, \theta) - C(x, \theta)$  varies with  $\theta$ , and  
 (ii)  $C(x, \theta)$  doesn't vary with  $x$ .

Symmetric information? Probably yes

Is  $x$  contractible? Yes, ex ante and ex post.

• if so, why not some kind of schedule? Is  $\theta$  verifiable?

If yes, set  $x = x(\theta)$ ,  $p^*$  fixed.

14-282

4/7/08

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Otherwise, can have some sort of mechanism. eg  $(p, x) \in A$   
B chooses

Why not just wait and Coasian bargain?