





Choice 1: Send only  $m_r$

Then investor infers

$$r = m_r$$

$$\sigma = m_r/a$$

So utility is  $U = m_r (1-1/a)$

Choice 2: Send only  $m_\sigma$

Then investor infers

$$r = a m_\sigma$$

$$\sigma = m_\sigma$$

So utility is  $U = a m_\sigma (1 - 1/a)$

Choice 3: Send  $(m_\sigma, m_r)$

Cannot take message at face value. Assume  $b$

$$r = b m_r + (1-b) a m_\sigma$$

$$\sigma = b m_r/a + (1-b) m_\sigma$$

Note:  $r = a \sigma$  holds

Note 2: If  $m_r = a m_\sigma$  then  $b$  does not matter

Proposition 1: Never pays to send a joint message

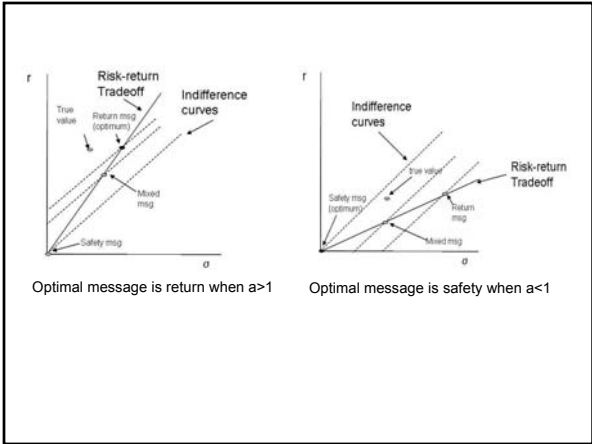
$$U(m_r, m_\sigma) = bU(m_r, *) + (1-b)U(*, m_\sigma)$$

So always pick a pure message

Assumption: Suppose can send  $m_\sigma = 0$

Proposition 2: If  $a < 1$  the best message is  $m_\sigma = 0$

If  $a > 1$  the best message is  $m_r$



Implications

Suppose:  $a$  is high when past returns are high  
 $a$  is low when past returns are low

Implication 1: Use returns (or other indicators of performance) after market returns have been high.

Implication 2: What matters for choice of message is past *market* returns, not past *own* returns.

