

## Overview: Incentives & employment

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- Case discussion : 'Outsourcing Sales'
- Specialization & Comparative Advantage
- Principal-Agent Problems
  - Pay for performance
  - Promotion Tournaments
- Moral Hazard

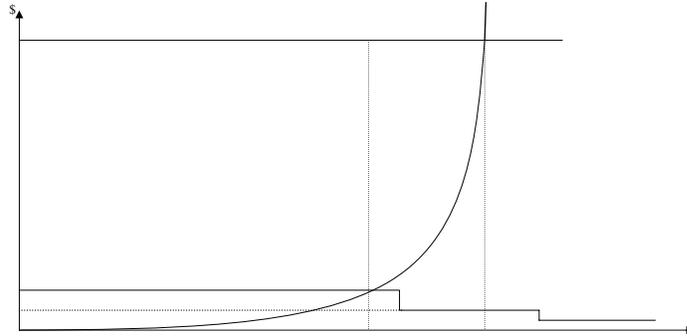
## Set-up : “Outsourcing Sales?”

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- TV station considers outsourcing sales
- Sales company asks variable compensation:
  - 10% on first \$400 million
  - 5% on part between \$400 and \$600 million
  - 2% on sales above \$600 million
- Sales costs are all variable
- TV Station has
  - \$500 million advertising revenue
  - \$450 million fixed costs
  - \$50 million variable cost from sales

## Outsourcing Sales?

Assume first that sales company has same MC as TV station



## Conclusion: “Outsourcing Sales?”

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- Proposed deal has very poor incentives for sales firm
  - MR of sales firm is much lower than MR of TV station
    - => it will typically sell many fewer ads, costing TV station revenues
- Deal can make sense
  - If sales firm is much more efficient than TV station, or
  - If compensation scheme is changed (to increasing)

## Specialization

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- Specialization on individual and firm level
- Advantages
  - Scale effects
  - Learning effects
  - Less change-over costs
  - Comparative advantage
- Disadvantages
  - Causes motivation (incentives) and coordination problems
  - Dependency fears may lead to duplication and under-investment

## Comparative Advantage: Example

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- To produce a line of code, it needs to be programmed and debugged
- Productivity (lines per day)

	Program	Debug
Anna	3	2
Barry	2	1

- Optimal solution:
  - Specialize: Anna debugs and Barry programs
  - This gives 2 lines per day (vs. 1.87 if they work on their own)

## Comparative Advantage

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- Key Insight : Relative productivity (lines programmed / line debugged) : 1.5 for A vs. 2 for B  
=> B should do the programming and A the debugging
- Principle of Comparative Advantage :
  1. What matters in allocation of tasks is comparative advantage, *not* absolute advantage.
  2. Whenever there are differences in relative productivity, there are gains from specialization and trade.
- Note: CA is also important in international trade

## The Principal-Agent Problem

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- Arises when one person or organization hires another person or organization to act on its behalf (e.g. employment)
- *Principal* is party doing the hiring
- *Agent* is the person hired to act on behalf of the principal

## What's the Problem?

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- Agent may have different objectives than the principal. Contracts and monitoring are imperfect.
- Examples:
  - Sales Agents
  - Managers and shareholders
  - HMO's and doctors
  - Administrators, faculty, TAs
  - Others

## Solutions

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- **Monitoring**
  - Requires carrot & stick: efficiency wage, bonuses, employee's reputation
  - More effective in repeated relationship
- **Incentive schemes (i.e. method of compensation)**
  - Pay for performance
    - Commissions, piece rates
    - Lawyers: fixed fee, hourly rate, or contingency
    - Doctors: fee for service
  - Promotion tournaments
- **Intrinsic motivation via selection and socialization**
- **Integration (for firms) ... but same issues remain**

## Pay for Performance

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- Output per worker typically goes up
- Sorting: most productive workers stay
  - Also causes productivity to go up.
  - Average wage may increase.
  - Note : sorting is a leading source of misinterpreted analyses.
    - Productivity goes up after pay for performance is introduced : money makes people work harder?
    - Do MBA's earn more than others in professional firms?

## Issues with Pay for Performance

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- Difficult to get correct incentives
  - 'Outsourcing sales' issue applies broadly :  
 $\alpha$  MR = MC instead of MR = MC
- You get what you pay for
  - Caesarean sections
  - Evaluating teachers by test performance
  - Stock options for executives
  - Typist at Lincoln Electric
  - Multi-tasking problems
- Agent bears part of risk and requires risk premium

## Promotion Tournaments

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- Have employees compete on output & promote the winner
- Implications
  - Flattening of hierarchy increases wage differential
  - Up-or-out policy (and tenure)
- Issues
  - Competence for next level
  - Sabotage

## Backloaded wages and rewards

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- To prevent employees from shirking, make it very costly to get fired.
- Efficiency wages (i.e. paying more than market wage) are costly.
- Solution: pay part of the wage at the end of career
  - Pensions
  - Backloaded wages (underpay when young, overpay when old) in form of increasing wage profile
  - Note: increasing wage profile might also reflect increase in skills

## Moral Hazard

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- Principal-Agent problem is part of larger problem: unobservability of actions or hidden behavior.
- Imperfect information can encourage people to behave in "incorrect" ways.
- Moral Hazard in Insurance Markets
  - Car Insurance - would you drive differently if you didn't have insurance?
  - Health Insurance - would you behave differently if you didn't have health insurance?

## Moral Hazard: The RAND Health Insurance Experiment

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<u>Copayment Rate</u>	<u>Expenditures on Medical Care</u>
95%	100%
50	142
25	300
0% (free)	417

## Take Away Points

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- Comparative Advantage is an important reason for specialization and trade.
- The Principal Agent problem is fundamental to understanding many aspects of employment relationship.
- Potential solutions include monitoring, pay for performance, and promotion tournaments.
- With any incentive plan, it is important to take the other's perspective, to understand their real incentives.