LABOR AS A QUASI-FIXED COSTS:
APPLICATION TO FRINGE BENEFITS

INVESTMENT PROPERTIES OF FRINGE BENEFITS

Definition of Fringe Benefits:
» Compensation in some form other than currently spendable cash
» Because benefits not given in current period, some uncertainty about future receipt, i.e., investment

FACTS ABOUT FRINGES

Brief History:
» 1910-20: WC laws
» 1935: Soc. Sec.
» 1950s: Pensions
» 1960s: Health ins.
» 1980s: IRAs, savings plans, annuities
» 1990s: continued trends of 1980s, family policies

Who gets benefits
» Manu > Non-Manu
» Blue collar > White collar
» Union > Non-Union
» Office < nonoffice
» Larger firms > smaller firms
3 KINDS OF FRINGE BENEFITS

1. Payment in-kind
   Current payment in some form other than cash; e.g., insurance
   » Payment for time not worked; e.g., vacation, sick leave, holiday
2. Deferred Compensation
   » Promise to pay e.g., pensions
3. Misc. Perks

Two Frameworks for Understanding Benefits

1. Constrained Maximization
   » Wage-Benefit trade-off
   » Trends and implications of Cost-shifting
2. Benefits as a quasi-fixed cost
   » Employees versus hours
   » Behavioral implications of benefit structure

Constrained Maximization Framework: Employee Preferences

« Trade-off: Wages vs non-wage comp.
« Differing attractiveness:
   » Payments in-kind: Ceteris paribus, individuals prefer cash
     » Other things rarely equal: tax advantage
   » Deferred Compensation: Individuals prefer cash now to cash later
     » Again tax advantage
Employee Trade-off Between Wage and Non-wage Compensation

Employees Differ in their Preferences

Differences across workers

» Value of tax shelter \( = f(\text{HH income, tax bracket, age}) \)
» Differing preferences for forced savings
» Different present orientedness
» Economies of scale & insurer preference for groups other than adverse selection
» Preferences for different benefits
CONSTRAINT ON TOTAL COMPENSATION: EMPLOYER ISOPROFIT CURVE

Basic Employer Isoprofit Curve
- Trade-off b/n wage & non-wage comp.
- Equal total comp. on all points of curve
- Slope negative: For non-wage comp. to increase, wages must decrease
- Operating at 0 profits
- Market curve = Firm curve

DIFFERENCES IN HOW FIRMS VALUE BENEFITS

Isoprofit curve can rotate because:
- Reduced payroll taxes can rotate curve (required benefits)
- To attract more stable workers
- Induce desired retirement date
- Group discounts in benefit purchases
Match between Employees and Employers

<table>
<thead>
<tr>
<th>Wages</th>
<th>Benefits</th>
</tr>
</thead>
</table>

**JOINT DETERMINATION OF WAGES & BENEFITS**

- Employees match selves to firms according to own preferences
- Those gaining more from current wages choose firms with high wages/low bens.
- Employer indifferent: Workers effectively pay for own benefits in form of foregone wages

**Two Major Forms of Cost Shifting**

- Retirement Plans
  - Defined Benefit versus Defined Contribution
- Health Insurance Plans
  - Coverage
  - Employee Contribution
  - Defined Benefit versus Defined Contribution
Defined Benefit versus Defined Contribution Retirement Plans

→ Defined Benefit
  » Established so that amount of employee's retirement income is fixed and defined in advance by the plan's benefit formula
  » Employer contribution determined actuarially to be sufficient to enable fund to meet future liabilities

→ Defined Contribution
  » Individual account for each participant; benefits based on amount contributed and employer match

Pros and Cons of shifting from Defined Benefit to Defined Contribution

→ Employer side:  → Employee side
  → Pluses:
    » predictable costs, easy admin; lower costs: shift risk.
  → Minus:
    » Difficult to manipulate retirement age
  → Pluses:
    » Rapid vesting, portable
    » Control
  → Minuses:
    » Risk of insufficient savings
    » Risk of low ROI

Move to Defined Contribution Health Insurance

→ Cafeteria: Employer provides certain $$ ("credits") for employee to disburse
  » Difficult to communicate and administer

→ Defined Contribution: Employer provides funds to employee to purchase benefits. Employee can spend all, some, or subsidize. Unspent benefits go into savings account that can be spent into the future.
## Benefits as a Quasi-Fixed Labor Cost

- **Affecting Structure of Demand for Labor**
- **Feature to Manipulate in Structuring Benefits**

## Employer Perspective: Hours v. Employees

- **Staffing Decision**
  - To increase use of labor
    - Increase the hours of current workforce or increase size of current workforce.
  - **Decision rule or efficiency condition**
    - (usual relative cost-relative productivity relationship)
    - \( \frac{MC_M}{MP_M} = \frac{MC_H}{MP_H} \)

## Resulting Logic

- **Increase in fixed cost -> increase in \( MC_M \)**
- **Starting with employment where**
  - \( \frac{MC_M}{MP_M} = \frac{MC_H}{MP_H} \)
  - Marginal productivity of new employee must be great enough to maintain efficiency condition, or
  - Employers increase number of hours
PUBLIC VERSUS PRIVATE GOODS:
Doing Some Things Differently

Two Types of Goods:
Private versus Public Goods

<table>
<thead>
<tr>
<th>Private Goods</th>
<th>Public Goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traded in Markets</td>
<td>Consumers and producers do not meet at an exchange</td>
</tr>
<tr>
<td>Buyers and sellers meet through pricing</td>
<td>Difficult to make excludable</td>
</tr>
<tr>
<td>Ownership can be transferred</td>
<td>Ownership not necessarily discernable</td>
</tr>
<tr>
<td>Tend to be excludable</td>
<td></td>
</tr>
</tbody>
</table>

WHEN DEMAND FOR PUBLIC GOODS ARISES

- Public Goods typically arise when market does not allocate costs, that is, pricing mechanism is not working properly
- Need significant difference b/n what is produced individually and what can be produced collectively and a demand for the difference
3 TYPES OF PUBLIC GOODS

- Goods arising from nonmarketability:
  » Externality: Product of economic activity leading to benefit for which beneficiary does not pay or a cost for which victim is not compensated.
- Goods arising from market imperfections:
  » Failure of key market assumptions
- Goods arising from Social Welfare concerns

Some Goods Can be Provided Either Way

- Classic Public Goods
  » Clean Environment
  » National Defense
  » Roads, street signs
- Goods that can be provided either way but in the US tend to be public
  » Parks
  » K-12 Schooling
- Goods that can be provided either way but in US tend to be private
  » Health Care
  » College Level Education

Examples of the 3 Types of Public Goods

- Goods arising from nonmarketability:
  » Pollution Regulations: Polluter gets benefit of being able to pollute but community bears cost of pollution. Pollution regulations place cost on polluter.
- Goods arising from market imperfections:
  » FDA Product Approvals: Cost of individuals finding out what drugs are safe, what side effects exist, etc. too high for individuals to each do, so do collectively
- Goods arising from Social Welfare concerns:
  » School Breakfast Programs: Society wants children not to go hungry.
Factors in Considering Whether a Good Should be Provided Publicly or Privately

- Can significant externalities be avoided:
  - Benefit for which beneficiary did not have to pay and/or cost for which victim is not compensated
  - Is no exchange based on an agreed on price possible?
- Are information costs too high to be borne privately?
- Is there no mechanism for a societal value to be brought to market?
- Will public provision without the discipline of the market be too inefficient?

HOW PROVISION OF BENEFITS AFFECTS LABOR SUPPLY

- Depends on whether benefits are provided on a fixed or variable basis
  - Income (fixed) vs substitution (variable) effect
  - Basic question:
    - Does Benefit Coverage Change the Price of Leisure?

Income and Substitution Effects

- Variable benefits => increase cost of leisure:
  - Both Substitution & Income effect
- Fixed benefits => No change in price of leisure but may change wealth:
  - Income effect only
EXAMPLE 1 OF FIXED VS VARIABLE

» Choice b/n wage & Health Insurance
   » Raise wages, no medical insurance
      > Substitution effect => more work
      > Income effect => less work
      > Net effect => ?
   » No wage change, offer medical insurance
      > Subst. effect => no change
      > Income effect => less work
      > Net effect => less work

 EXAMPLE 2 OF FIXED VS VARIABLE

» Choice b/n 12 sick days & wage:
   » Raise wages, no sick pay:
      > Subst. effect =>
      > Income effect =>
      > Net effect =>
   » No wage increase, offer sick pay:
      > Subst. effect =>
      > Income effect =>
      > Net effect =>

FIRM PERSPECTIVE ON FIXED VS VARIABLE

» The more the benefit pkg. is structured as a fixed cost:
   » The more firms will try to substitute away from part-time workers
   » Greater effort to reduce labor share
» The more the benefit pkg. is structured as a variable cost:
   » Will not affect part-time/full-time choice
   » Will affect overall demand for labor
Defined Benefit versus Defined Contribution Retirement

→ **Defined Benefit**
  > Substitution effect: Reduces price of leisure (at a certain point) -> work less
  > Income effect: Increases wealth -> work less
  > Net effect: Work less (i.e., retire)

→ **Defined Contribution**:
  > Substitution effect: Increases price of leisure (or match) -> work more
  > Income effect: Increases wealth -> Work less
  > Net effect -> ?? (Depends on size of wealth effect)