

# Lecture 24

## Econ 4821: Public Economics

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# Course Information

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# Lecture Topics

- ① Other Social Insurance Programs
  - ① Unemployment Insurance
  - ② Disability Insurance
  - ③ Workers's Compensation
- ② Consumption Smoothing and Social Insurance Programs
- ③ Moral Hazard and Social Insurance Programs
- ④ Firms and Social Insurance Programs
- ⑤ Social Insurance Program Reform

# Social insurance schemes

- In this lecture we shall discuss the issues that arise with the following social insurance programs:
  - Unemployment insurance.
  - Disability insurance.
  - Workers' compensation.
- We will only give an overview of each program's structure.
- More information may be found in the Green Book (US House of Representatives Committee on Ways and Means).

# Social insurance schemes

- For each of the above programs we wish to answer the follow basic questions:
  - Who runs the program and when was it established?
  - Who is eligible for the program?
  - How is the program funded?
  - How are payments calculated?
- After giving a brief overview of each program, we will analyze their structure and look at empirical evidence of their effects.

# Overview of Unemployment Insurance

- **Unemployment insurance** : Federally mandated, state-run program in which payroll taxes are used to pay benefits to laid-off workers.
- Launched in the Social Security Act of 1935.
- Benefits usually last for 26 weeks, but may be extended during times of high unemployment.

## Unemployment insurance: eligibility

- To be eligible for unemployment insurance, workers must reach three criteria:
  - Minimum amount earned over previous year.
  - Cannot quit or be fired for cause (only available to those that are laid off from their jobs due to economic reasons).
  - Must be looking for work and willing to take a job comparable to the one they lost.

## Unemployment insurance: eligibility

- Even if eligible, individuals do not receive benefits automatically.
- They must go to the UI office and enroll in the program, as well as showing evidence that they are looking for a new job.
- Historically, only about one third of unemployed workers actually receive benefits.
- In fact, only two-thirds of those *eligible* claim benefits.



# Unemployment insurance: eligibility

- There are two possible reasons why an eligible individual may fail to claim payments:
  - Lack of information: individuals may be unaware that they qualify for unemployment insurance.
  - Stigma: individuals may not wish to claim what they may regard as a 'handout', especially if doing so requires applying in person.

# Unemployment insurance: funding and payments

- Unemployment insurance is financed by payroll taxes on employers.
  - Average tax rates across states is 1.71%.
  - As with Social Security, this tax is paid only on earnings up to a certain level (fairly low level in most states).
- The payroll tax is a partially experience-rated
  - **Partially experience rated** : The payroll tax on firms rises as firms have more layoffs, but not in a one-for-one basis.
- States are free to set benefit levels for the program and there is great variation across states in payments.

# Unemployment insurance: funding and payments

- Payments are increasing functions of pre-employment earnings.
- Typically, benefits require a minimum amount of weekly earnings before they may be claimed and are capped at some maximum amount.

**Unemployment Benefit Schedule for Michigan**



# Unemployment insurance: funding and payments

- As with social security, a key measure of the generosity of the UI program is the replacement rate, the extent to which benefits replace pre-layoff earnings.
- The replacement earning is high for lowest-paid workers, but can be low for higher earning workers because their benefits are capped at the maximum benefit level.
- Replacement rates vary greatly across states:
  - Average replacement rate in Alaska is 33%.
  - Average replacement rate in Rhode Island is 56%.

# Overview of disability insurance

- **Disability insurance** : Federal program in which a portion of the Social Security payroll tax is used to pay benefits to workers who have suffered medical impairment leaving them unable to work.
- Established in 1957 to provide benefits from those suffering career-ending injuries.
- Extended to include benefits for dependents in 1958 amendment.
- Financed using portion of the Social Security payroll tax.
- Administered federally but qualification decision made at state level.

## Disability insurance: eligibility

- To qualify for DI, individuals must have a medical impairment that leaves them unable to work.
- Qualification standards are fairly stringent:
  - An applicant cannot receive benefits until 5 months have elapsed from the time of injury to demonstrate that they are truly disabled.
  - DI applications go to state medical determination boards for decisions.
  - Only one-third of applicants are awarded benefits.

## Disability insurance: eligibility

- While disability evaluations are made by trained professionals, it is nevertheless difficult to perfectly assess disability.
- Parsons (1991), reported on a study in which a set of disability claims were initially reviewed by a state panel and then, one year later, resubmitted to the same panel, but as anonymous new claims.
- He found that the panel switched its decision quite frequently.
  - 22% of those who had initially qualified for DI, were rejected one year later.
  - 22% of those who had been rejected initially, qualified for DI one year later.

## Disability insurance: payments

- If awarded benefits, workers receive payments equal to those they would receive under Social Security.
  - They receive the same amount as if they had retired at FBA of 66.
- Benefits are therefore uniform across the country and take the form of annuity payments (last until death).
- Two years after approval of benefits, workers also receive access to healthcare under Medicare.
- Once receiving DI, most individuals are very unlikely to leave the program, claiming benefits until old age.



# Overview of workers' compensation

- **Workers' compensation** : State-mandated insurance, generally bought from private insurers, that pays for medical costs and lost wages from on-the-job injuries.
- Differs from both disability and unemployment insurance in that it is not publicly provided and relates solely to on-the-job injuries.

## Workers' Compensation: payments

- The nature of this program, including benefits determination, varies greatly across states.
- Two components to benefits:
  - Medical care for costs associated with injury.
  - Cash payments to compensate for lost wages.
- In most states, WC systems are designed to replace two-thirds of the workers wages, but since WC payments are not taxed by the federal income tax system, after-tax replacement wages can be considerably higher.

# Workers' Compensation: payments

- Workers' compensation benefits vary significantly across states.
- For instance, losing an arm at work entitles one to \$346,784 in Illinois but only \$75,284 in Mississippi.

## Maximum Indemnity Benefits Paid to Selected Types of Work Injuries in 2012

State	Type of permanent impairment					Temporary Injury (10 weeks)
	Arm	Hand	Eye	Leg	Foot	
Georgia	\$102,510	\$72,896	\$68,340	\$102,510	\$61,506	\$ 5,000
Hawaii	218,739	171,065	112,174	201,913	143,723	6,960
Illinois	346,784	120,531	95,157	317,886	98,328	11,780
Indiana	92,728	67,000	54,136	79,864	54,136	6,200
Michigan	203,588	162,719	122,607	162,719	122,607	7,390
Mississippi	75,284	56,463	37,642	65,874	47,053	7,399
Missouri	90,797	68,480	54,791	81,013	60,661	7,427
New Jersey	179,003	108,733	69,037	170,866	90,734	7,420
New York	133,786	104,627	68,608	123,494	87,904	5,000
Washington, DC	256,367	200,492	131,470	236,646	168,720	12,880

Source: [http://www.workerscompresources.com/Statutes/DOL\\_Tables\\_Jan2006/Table9A.pdf](http://www.workerscompresources.com/Statutes/DOL_Tables_Jan2006/Table9A.pdf).

# Workers' compensation

- A key feature of Workers' Compensation is that it provides *no fault* insurance.
  - **No fault insurance** : Benefits are paid out by the insurer regardless of whether the injury was the worker's or the firm's fault.
- At the beginning of the twentieth century, if workers were injured on the job, they had to sue their employers for compensation. This system had the following caveats:
  - It was unfair since injured low-income workers may not have had the resources to bring suit against their employers.
  - These law suits were inefficient in the sense that it used courts to settle injury claims, and all that was at stake was a transfer of money.

# Comparison of schemes

- The following table summarizes the main features of the various schemes:

**Comparing UI, DI and WC**

Characteristic	UI	DI	WC
Qualifying event	Unemployment and job search	Disability	On-the-job injury
Duration	26–65 weeks	Indefinite	Indefinite (with medical verification)
Difficulty of verification	Unemployment: Easy Job search: Nearly impossible	Somewhat difficult	Very difficult
Average after-tax replacement rate	47%	60%	89%
Variation across states	Benefits and other rules	Only disability determination	Benefits and other rules

Source: U.S. Department of Labor (2004), Chart A.17; National Academy of Social Insurance (2005); Hunt (2004).

# Comparison of schemes

- From the table we can conjecture the following:
  - UI provides benefits that are at least as generous and have the shortest durations.
  - The benefits under DI are somewhat more generous and are of indefinite length.
  - WC has the most generous benefits of all and the duration of the benefits is as long as the physician is willing to say that the worker is not recovered.
- **Question** : Are the above differences justified?

# Trade-offs of social insurance programs

- To answer this question we must estimate and trade off the following effects:
  - The welfare benefits that arise from consumption smoothing over time and states of the world.
  - The moral hazard effects on individual behavior.

## Consumption smoothing: Unemployment insurance

- In an earlier lecture we noted that the benefits of consumption smoothing are greatest when the adverse outcome was *unexpected* and *large*.
- Also in an earlier lecture we explained that individuals could smooth consumption through self insurance.
  - **Self – insurance** : The private means of smoothing consumption over adverse events, such as through ones savings, labor supply of family members or borrowing from friends.
- The main conclusion was that if people have extensive self-insurance against adverse risk, the benefits of any social insurance program will be reduced.
- Lets analyze the interaction in between self-insurance and unemployment insurance.



## Consumption smoothing: Unemployment insurance

- During unemployment spells, individuals can smooth their consumption using the following self-insurance mechanisms:
  - Draw from their own savings.
  - Borrow in collateralized (mortgages) or uncollateralized (credit cards) forms.
  - Other family members can increase their labor earnings.
  - Receive transfers from family, friends, or local organizations.

## Consumption smoothing: Unemployment insurance

- The importance of UI for consumption smoothing depends on the availability of self-insurance.
- If there is no self-insurance, then UI will provide an important source for consumption smoothing.
- If there is self-insurance, we may face a crowding out problem.
  - UI benefits simply crowd out self-insurance, and there may be no net consumption-smoothing gain to UI.
- We can illustrate this graphically using the UI replacement rate.
  - **UI replacement rate** : The ratio of unemployment insurance benefits to pre-unemployment earnings.

# Consumption smoothing: Unemployment insurance

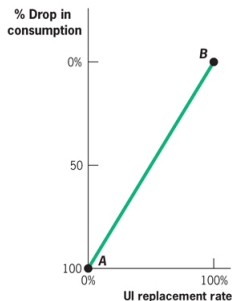
- In the graphs below, we consider possible relationships between the UI replacement rate and the percentage drop in consumption smoothing when an individual loses his job.
  - A large drop in consumption means less consumption smoothing.
  - Ideally, an individual wants consumption to be equal in both employment and unemployment states.

# Consumption smoothing: Unemployment insurance

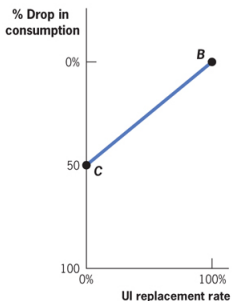
- Panel a) shows the scenario in which there is no self-insurance.
  - Without UI, when unemployed, the individual's consumption falls towards 0.
  - Each percentage of wages replaced by UI reduces a fall in consumption by 1%.
  - When UI replaces previous income fully, then consumption does not fall at all.
  - In this case, UI plays full-consumption smoothing role, and there is no crowding out.

# Consumption smoothing: Unemployment insurance

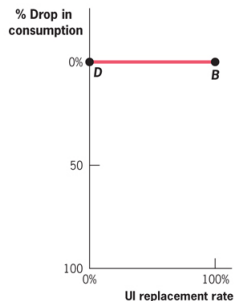
## Consumption Smoothing and UI Replacement Rate



(a) No self-insurance;  
full consumption  
smoothing by UI



(b) Partial self-insurance;  
partial consumption  
smoothing and partial  
crowding out by UI



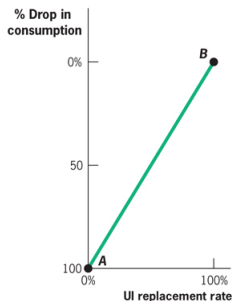
(c) Full self-insurance;  
full crowding out  
by UI

## Consumption smoothing: Unemployment insurance

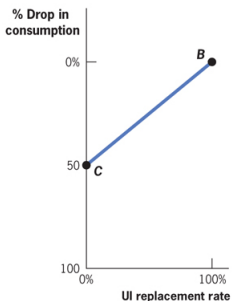
- Panel b) shows the case where there is partial but not complete self insurance.
  - Without UI, the drop in consumption is only 50% as the individual can partially self-insure (50% partial self-insurance).
  - As the UI replacement rate becomes more generous, then the individual needs less self insurance. For every extra dollar of UI, the individual reduces her self-insurance in 50 cents.
  - If UI replaces all lost earnings, then the individual would not self-insure at all.
  - Hence, UI plays a partial consumption-smoothing role as it is both smoothing consumption but crowding out the use of self-insurance.

# Consumption smoothing: Unemployment insurance

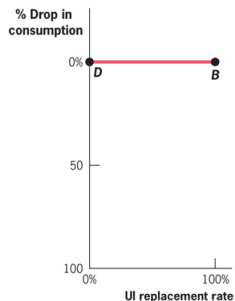
## Consumption Smoothing and UI Replacement Rate



(a) No self-insurance;  
full consumption  
smoothing by UI



(b) Partial self-insurance;  
partial consumption  
smoothing and partial  
crowding out by UI



(c) Full self-insurance;  
full crowding out  
by UI

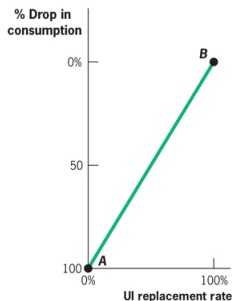
## Consumption smoothing: Unemployment insurance

- Panel c) shows the case in which there is full self insurance:
  - We know from earlier lectures, that under full-insurance, the individual will choose the same level of consumption under all states of the world (employed vs. unemployed).
  - With 0% replacement rate or 100% replacement rate, the individuals consumption will remain the same.
  - Self-insurance allows the individual to maintain her consumption fully.
  - As the replacement rate increases from 0%, there is no change in consumption smoothing, since consumption is already at the desired level.
  - Here UI plays no consumption smoothing role, and plays only a crowd-out role: each dollar of UI simply means that there is one less dollar of self-insurance.

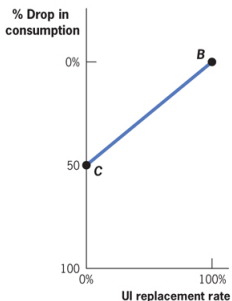


# Consumption smoothing: Unemployment insurance

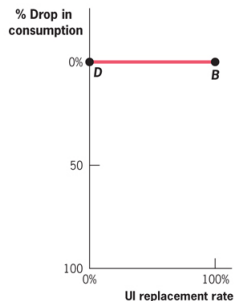
## Consumption Smoothing and UI Replacement Rate



(a) No self-insurance;  
full consumption  
smoothing by UI



(b) Partial self-insurance;  
partial consumption  
smoothing and partial  
crowding out by UI

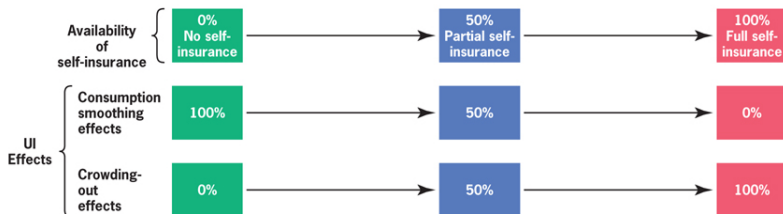


(c) Full self-insurance;  
full crowding out  
by UI

# Consumption smoothing: Unemployment insurance

- To summarize the above findings:

## Summary of Consumption Smoothing and UI Replacement Rate



## Evidence on consumption smoothing: UI

- Gruber (1997, AER) analyses the consumption smoothing effects of unemployment insurance.
- He exploits variation across states to obtain estimates for the effect of unemployment insurance on the fall in consumption caused by unemployment.
  - He regresses fall in consumption on individual characteristics and eligibility. This is a common approach, because actual take-up of UI seems to be endogenous.
- Specifically, of each dollar of UI, \$0.30 goes to increase consumption, and \$0.70 crowds out other forms of insurance that individuals were using for their unemployment spells.
- The fact that this is significantly less than 1 suggests that unemployment insurance is partially crowding-out self-insurance (panel b of the above example).

## Evidence on consumption smoothing: DI and WC

- Recent evidence of consumption smoothing generated by disability insurance is provided by Autor et. al. (2015).
- They examined the case of Norway, and looked at the impacts on consumption of being denied disability insurance.
- They found that about 60% of the reduced income from being denied DI benefits was translated into lower consumption.
  - 40% of DI benefits were crowded out.
- Meyer and Mok (2013) find similar results which claimed that disabled see a sizeable drop in consumption, particularly if disability is severe.
- These findings indicate that there is some crowd-out for DI but it is much less than for UI.
- There is no parallel evidence on the consumption-smoothing properties of WC.

## Moral hazard in social insurance programs

- For the social insurance schemes under consideration, the possible moral hazard effects are as follows:
  - Unemployment insurance: workers might not actively search for work if receiving benefits.
  - Disability insurance and workers' compensation: workers may fraudulently claim benefits to which they are not entitled.
- We now look at the empirical evidence regarding moral hazard and social insurance programs.

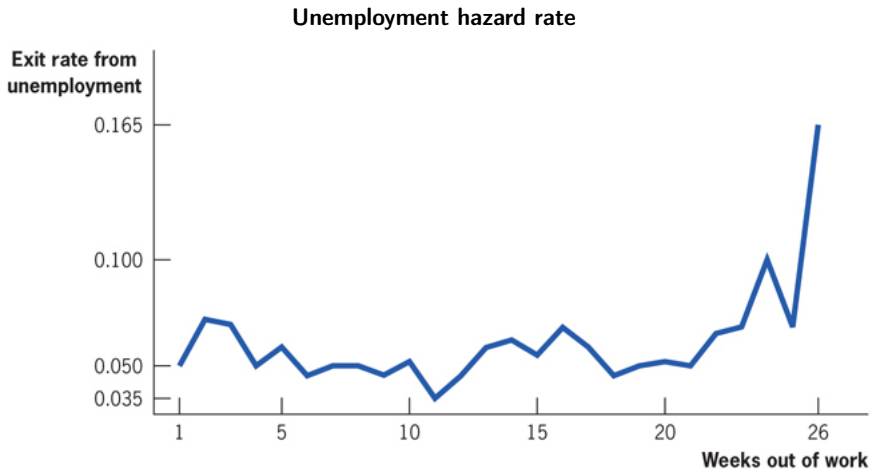
# Moral hazard effects of unemployment insurance

- Two possible ways in which UI may affect private behavior:
  - Effects on laid-off workers seeking re-employment.
  - Effects on contemplating hiring and firing decisions.
- For now we consider the effect on workers.
- Two characteristics of UI are relevant here:
  - Level of benefits.
  - Duration of benefits.

## Moral hazard effects of unemployment insurance

- Preliminary evidence for moral hazard are given in the graph below, which plots hazard rates (probability of finding a job) as a function of duration of unemployment.
- The probability of finding a job is between 5% and 7% for the first 25 weeks and jumps to 16.5% in week 26.
- However, this does not necessarily imply that workers are not actively searching in the early stages of unemployment.
- It might be the case that workers who know that their benefits are running out settle for a substandard job.

# Moral hazard effects of unemployment insurance





# Moral hazard effects of unemployment insurance

- Suppose that the unemployed workers can find jobs relatively easily, but that when benefits are high enough, they delay taking those jobs while they take an extra few weeks of leisure.
- This outcome is inefficient due to two reasons:
  - 1 Workers are being unproductive
  - 2 Higher taxes are being levied on productive workers to finance these benefits.

## Moral hazard effects of unemployment insurance

- The productivity of any worker in any job depends on how well the worker is suited for that particular job.
  - **Job match quality** : The marginal product associated with the match of particular worker in a particular job.
- Now suppose that workers have longer durations of unemployment because they are spending more time looking for a better job match.
  - In this case, longer durations might be efficient.
  - In other words, if UI is increasing unemployment duration by subsidizing effective job searches, there may be welfare gains from improved job match quality.

## Moral hazard effects of unemployment insurance

- To determine whether longer durations are generating better job matches we need to determine measure of the quality of job matches.
  - Post-unemployment wage rates can be a proxy for quality of job matches.
  - A finding that UI leads to higher post-unemployment wage wages would indicate that job matches are better.
- We review some of the evidence on the effect of unemployment insurance to test the mechanisms highlighted above.
  - In particular, because UI programs differ so much across states, researchers can use differences in benefits across states UI systems to measure the response of unemployment durations to benefit levels.

## Evidence for moral hazard: unemployment insurance

- Meyer (1989) is a classic study on the effect of UI on worker behavior.
- Note that one cannot simply look at different states with different benefits and worker behavior and presume a causal relationship between the two.
- Different states may be dominated by different demographics and industries and so subject to different dynamics of employment.
- Like other studies discussed in this course, Meyer (1989) addressed this problem by exploiting *quasi*-experimental data.

## Evidence for moral hazard: unemployment insurance

- Between 1979 and 1984 five states enacted 16 different unemployment benefit increases.
- One cannot simply regress duration of employment on benefits because the benefits depend on earnings, which might affect the likelihood of unemployment.
- Meyer instead focused on increases in the *maximum* weekly benefits and compared the behavior of workers who applied immediately before and after the changes.
- Since those affected by the change had similar earnings, this approach controlled for the above selection problem.

## Evidence for moral hazard: unemployment insurance

- There were some remaining subtleties, but the two principle findings were as follows:
  - A elasticity of duration increase with respect to benefits was found to be between 0.8 and 1.0.
  - No evidence that higher benefits lead to higher wages upon re-employment.
  - No evidence for increase in layoffs.
- This suggests that the moral hazard effects were substantial and that there was no offsetting effect of better job matches.

## Moral hazard effects of disability insurance

- Moral hazard arises in DI because of the difficulty in verifying whether the individual is truly disabled.
- At least three pieces of relevant empirical evidence:
  - Change in labor force participation since introduction of DI.
  - Role of the business cycle.
  - Effect of changes in acceptance standards on levels of application.

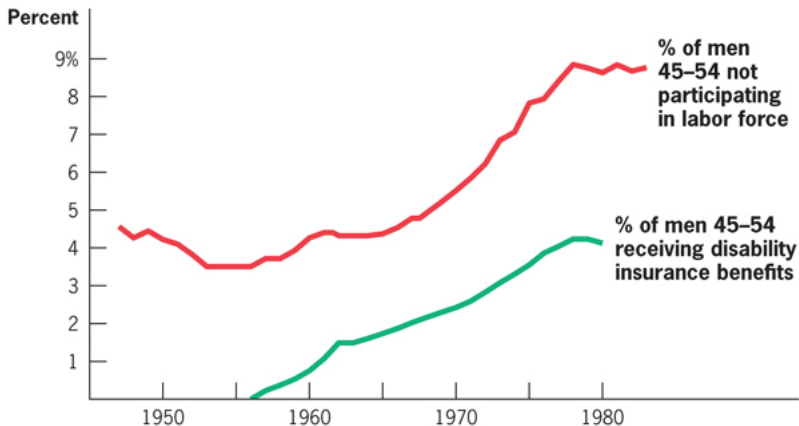
## DI and Labor Force Participation

- Most empirical studies try to assess whether higher levels of DI benefits lead to more use of the program and/or less labor force participation.
  - If there were no fraud (moral hazard effects), then changes in DI benefits would have no effect on labor force participation.
- When DI was introduced there was a tremendous expansion in the number of males age 45-54 receiving DI benefits and a number of men in that age group dropping out of the labor force.
- This striking correspondence suggests that DI plays a large role in reducing labor force participation, which is consistent with moral hazard.
  - But it is hard to draw conclusion because many other changes were occurring such as the aging of WWII veterans as well as the growth of other social programs that encouraged retirement.



# DI and Labor Force Participation

## Labor Force Non-participation of Older Men and Growth in DI



## DI and Labor Force Participation

- Studies of the effect of disability insurance on labor supply are subject to the same problems as similar studies of Social Security.
- Namely, since disability insurance is a federal program it can be hard to find appropriate treatment and control groups.
- In light of this, Gruber (2000) studied a natural experiment in Canada, exploiting differences in the structure of disability insurance between Quebec and the rest of the country.
- He found that the elasticity of labor supply with respect to benefits was roughly 0.3.
- This is much smaller than Meyer's estimates for unemployment insurance, which is unsurprising given the nature of the scheme.

# DI and the Business Cycle

- A number of studies have documented that applications to DI rise sharply during recessions.
- It is seemingly unlikely that more individuals become more disabled in recessions than in other times, finding that is consistent with moral hazard effects:
  - Workers are out of work anyway due to the recession, so the five-month waiting period for DI is less of a barrier.
  - Also, they are willing to take the chance of applying even if they are not “truly” disabled.

## Effects of DI acceptance standards

- Individual labor supply and DI application decision depend on the stringency of the screening in the DI program.
- If individuals applied only when truly disabled, then the stringency of screening should affect the rate of DI acceptance, but not the decision to leave the labor force and apply.
- A number of studies present evidence of moral hazard effects generated by DI
  - Parsons (1991) shows that when screening is more lenient the rates of application rise.
  - Gruber and Kubik (1997) show that the rate of labor force exit increases when screening is more lenient.
  - van der Klaauw (2006) carries out a large scale experiment which finds that when screening is more intense, there is a reduction of long-term absenteeism and DI applications.

## Moral hazard effects of workers' compensation

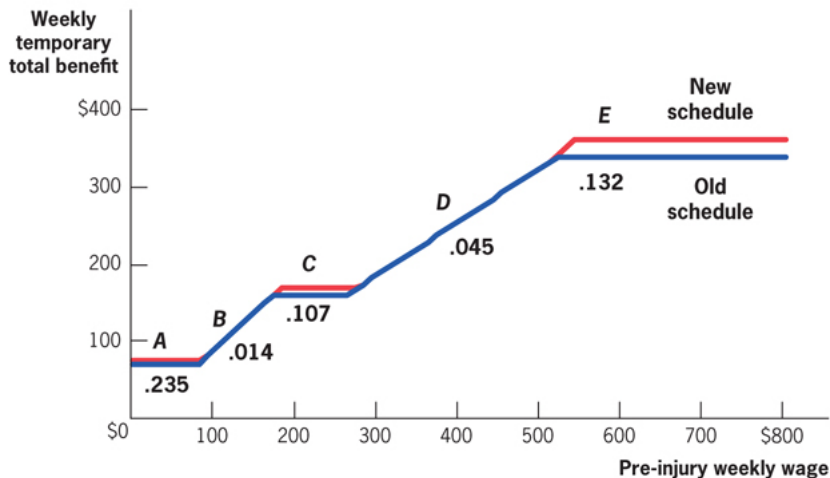
- If there were no fraud, then changes in workers' compensation benefits would have no effect on consumer behavior.
- Two possible effects of WC benefits:
  - Changes in *rate* of reported injuries.
  - Changes in *duration* of reported injuries.
- The first of these is considered in Krueger (1990), who finds an elasticity of injury reporting with respect to benefits of 0.7.

## Moral hazard effects of workers' compensation

- The second point is considered in Krueger (1991), which makes use of a quasi-experiment for the state of Minnesota.
- The WC program had three flat rates along with two sloped segments connecting these flat rates.
- In October 1986, the state increased the benefits along each of the flat-rate portions but left the slopes unchanged.
- This policy set up three treatment groups on each of the flat-rate portions and two control groups.
- The main result of this study was that the elasticity of injury duration with respect to benefits of 1.7.

# Moral hazard effects of workers' compensation

## WC Benefits Changes and Injury Duration



## Moral hazard effects of workers' compensation

- Another piece of evidence for moral hazard and WC comes from the types of injuries reported.
- Since the moral hazard problem is unobservability of true injury status, unobservability implies that moral hazard would be worse for injuries that are hard to verify (sprains and strains).
- Krueger (1991) found that the response of injury durations to benefits increases is much stronger in hard-to-verify injuries than easier-to-verify injuries.
  - Rise of benefits causes a very large increase in reported back strains, but a smaller increase for lacerations.
- A last piece of evidence regarding moral hazard effects of WC is the “Monday Effect”.
  - Many reported injuries on Monday may actually arise from injuries incurred over the weekend, and claimed on Monday.



## Response of labor supply to benefits

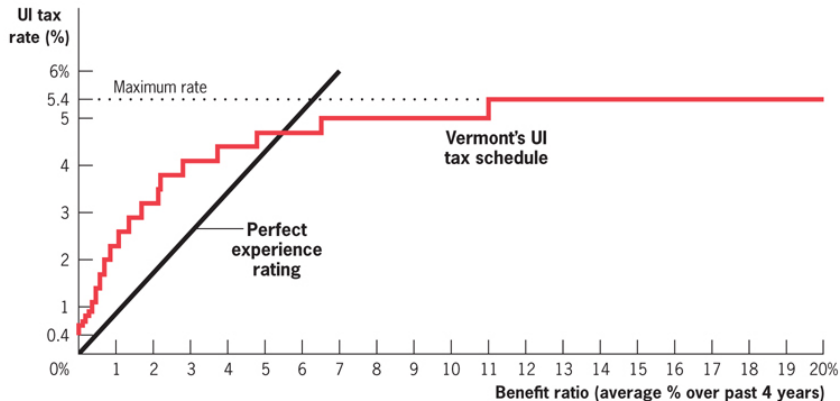
- The following summarizes the above findings on elasticities of labor supply with respect to benefits:
  - Unemployment insurance: between 0.8 and 1.0 (Meyer (1989)).
  - Disability insurance: roughly 0.3 (Gruber (2000)).
  - Worker's compensation: roughly 1.7 (Krueger (1991)).
- Since the benefits of insurance are highest when the adverse outcome is unpredictable and moral hazard costs are low, this suggests that disability insurance ought to have the highest replacement rate.

## UI and firms' behavior

- Thus far we have only considered worker behavior.
- Unemployment insurance can also affect firm behavior, because it is partially *experience-rated*.
- This means that firms that lay off more workers pay higher payroll taxes, but the increase is not one-for-one.
- Specifically, the unemployment insurance tax is an increasing concave function of the *benefit ratio*, and is ultimately capped at some maximum level.
  - **Benefit ratio** : The ratio of UI payments made to laid off workers relative to the firm's payroll averaged over the past four years.

# UI and firms' behavior

## Experience-Rating Schedule for Vermont



## UI and firms' behavior

- Most nations finance their unemployment insurance programs with a flat payroll tax unrelated to layoffs.
- In the graph above, the 45-degree line corresponds to a fully experience-rated system, so that a one-for-one increase in tax payments for each increase in benefits payouts.
- We see that for the case of Vermont, firms with very low lay-offs pay too much and firms with many lay-offs pay too little.
- **Question** : What is the point of having an experience-rated system?
- Note that relative to full experience-rating, a system with partial or no experience rating subsidizes firms with high layoffs.

## UI and firms' behavior

- **Question** : How is this a subsidy?
- Think of the firm and the worker making a joint decision about whether to place the worker on temporary layoff, where the worker spends some time laid off but with a promise to be hired back after the layoff is over.
  - From the perspective of the worker a temporary layoff at a smaller wage is beneficial because it is a partially paid vacation.
  - From the perspective of the firm, the attractiveness of the layoff depends on the experience rating.
  - If there is no experience rating, the firm pays nothing when the worker is temporarily laid off, which is an attractive deal to the firm.
  - With full experience rating, then the benefits paid to the worker by the government would be exactly canceled out by the taxes paid by the firm, so that on net, there is no money flowing from the government to the worker-firm pair.

## UI and firms' behavior

- **Question** : Is there any evidence that firms lay off more workers when experience-rating is more partial?
- Topel (1983) finds that partial experience rating account for an increase of approximately 30% of temporary layoffs relative to a full experience-rated system.
- **Question** : Why not have a full experience-rated system?
- Gruber argues that the above effect must be weighed against the benefits of consumption smoothing.
- Levying high taxes on firms laying off workers will hurt struggling firms the most, forcing them to go out of business.
  - But others have argued that this in fact may be welfare improving since the struggling firms would be the more inefficient firms.

## WC and firms' behavior

- A similar set of issues arises in the context of workers' compensation.
- With WC, firms and workers can get together to increase “injuries” if the insurance is less than fully-experienced rated.
- There is an additional moral hazard problem. Firms have less incentive to invest in safety when there is no-fault insurance for injuries.
- Krueger (1991) compared injury durations of employees of firms that self-insure their WC costs (fully experience-rated) versus those of firms that buy their WC in a partially experience-rated insurance market.
  - The study found that workers of firms that self-insure come back to work more quickly than workers of firms that did not self-insure.

# Implications for Program Reform

- We have presented evidence on the costs (moral-hazard effects) and benefits (consumption-smoothing incentives) for UI, DI and WC.
- We use this evidence along with the theory developed in earlier lectures to draw lessons from program reform along the following aspects:
  - Benefits Generosity
  - Targeting
  - Experience Rating
  - Worker Self-Insurance



## Benefits Generosity

- The optimal level of benefits generosity reflects the trade-off between moral hazard and consumption-smoothing benefits.
- It is clear from all three programs studied that the replacement rate should be less than 100%, because there is significant moral hazard associated with each type of insurance.
- Literature shows that there are large negative behavioral responses for WC and UI, and smaller for DI.
- However consumption smoothing benefits are larger for DI and smaller for WC and UI.
- Hence, higher benefits should be paid for DI and lower for WC and UI, which contradicts the current structure as WC has the highest benefits.

# Targeting

- Another issue is the need to better target program benefits towards those who benefit the most from consumption smoothing and to those who have the smallest moral hazard problems.
- For example, consider those who regularly have temporary unemployment spells and receive implicit promises from their employers that they can return to their old jobs.
  - For this group, there is little consumption-smoothing benefit of UI because the predictability and regularity of such layoffs should allow them to use self-insurance to smooth consumption.
  - Evidence has shown that this group is most responsive to UI benefit levels in terms of extending unemployment durations.
  - Hence, the costs of high UI benefits appear to outweigh the benefits for this group.
- Efficiency could be improved by targeting away from this group towards those who have been permanently laid-off.

## Experience Rating

- Partial experience rating at the firm level has been shown to increase both the number of layoffs and the duration of workers' compensation claims.
- It also allows inefficient firms to continue to exist at the expense of more productive firms.
- Once again we confront the trade-off between insurance and incentives:
  - We want to insure firms against downturns but by doing so we subsidize inefficient firms to stay in business.
- In this case, the argument for insurance is somewhat weak, since in comparison to unemployed workers, firms should be able to have higher access to capital markets.

## Worker Self-Insurance

- A more radical reform of the three social insurance systems would be to move toward a worker self-insurance against adverse events.
  - For example the government could replace payroll taxes and mandated WC insurance with individual “social insurance savings accounts”, to which workers contribute some fixed amount.
  - If workers qualified for social insurance because they experienced an adverse event, they could draw money from this savings account.
  - Furthermore, if there are positive balances in these accounts at retirement, workers could use this to finance retirement consumption.
- This approach is very similar to the private accounts approach of the Social Security system.