Unemployment Insurance

Unemployment Insurance

I. Purpose

The Unemployment Insurance Program, commonly referred to as UI, provides weekly unemployment insurance payments for workers who lose their job through no fault of their own. The UI program is funded by employers who pay taxes on wages paid to employees

Provisions

In general, the Federal-State Unemployment Insurance Program provides unemployment benefits to eligible workers (as determined under State law), and meet other eligibility requirements of State law.

- Unemployment insurance payments (benefits) are intended to provide temporary financial assistance to unemployed workers who meet the requirements of State law.
- Each State administers a separate unemployment insurance program within guidelines established by Federal law.
- Eligibility for unemployment insurance, benefit amounts and the length of time benefits are available are determined by the State law under which unemployment insurance claims are established.
- In the majority of States, benefit funding is based solely on a tax imposed on **employers**. (Alaska, New Jersey, and Pennsylvania require minimal employee contributions.)

Eligibility

1. Applicants must meet the State requirements for wages earned or time worked during an established period of time referred to as a "base period". (In most States, this is usually the first four out of the last five completed calendar quarters prior to the time that the claim is filed.)

2. Applicants must be determined to be unemployed through no fault of their own (determined under State law), and meet other eligibility requirements of State law.

Filing a Claim

- Applicants should contact the State Unemployment Insurance agency as soon as possible after becoming unemployed. In some States, individuals can now file a claim by telephone or over the Internet.
- When a claim is filed applicants will be asked for certain information, such as addresses and dates of former employers. To make sure the claim is not delayed, complete and correct information should be given.
- Generally, applicants should file claims with the state where they worked. If someone worked in a state other than the one where they now live or if an individual worked in multiple states, the state UI agency where the applicant now lives can provide information about how to file the claim with other states. The

applicant may access information on the Internet to find contact information for all states.
- It generally takes two to three weeks after a claim is filed for the applicant to receive his or her first benefit check. Some States require a one-week waiting period; therefore, the second week claimed is the first week of payment, if otherwise eligible.

Continued Eligibility

- UI recipients must file weekly or biweekly claims (after the week(s) has ended), and respond to questions concerning their continued eligibility. Applicants must report any earnings received from work during the week(s). Applicants must also report any job offers or refusal of work during the week. These claims are usually filed by mail or telephone; the State will provide filing instructions.
- When directed, UI recipients must report to their local Unemployment Insurance Claims Office or One-Stop/Employment Service Office on the day and at the time scheduled to do so. If the recipient fails to report as scheduled for any interview, benefits may be denied.
- UI recipients must continue to meet the eligibility requirements stated in the previous section.

Registering For Work

- Claimants who file for unemployment benefits may be directed to register for work with the State Employment Service, so it can assist them in finding employment. If claimants are not required to register, they still may seek help in finding a job from the Employment Service.
- The One-Stop/Employment Service Office has current labor market information and provides a wide array of re-employment services free of charge.
- Employment Service staff can refer clients to job openings in the area, or in other parts of the State or country if the client is willing to relocate.
- They can refer clients to various training programs.
- If job openings in an applicant’s field are limited, they can offer testing and counseling to determine other jobs for which the applicant might be suitable.
- If a claimant believes he or she has special needs or considerations, such as physical needs or other considerations, which may prevent him or her from getting a job, they can refer claimant to other agencies for help with those needs.

Disqualification from Eligibility

- If claimant’s reason for separation from his or her last job is due to some reason other than a "lack of work" - a determination will be made about whether claimant is eligible for benefits.
- Generally all determinations of whether or not a person is eligible for benefits are made by the appropriate State under its law or applicable federal laws.
- If applicant is disqualified/denied benefits, he or she has the right to file an appeal. The State will advise the claimant of appeal rights. Claimant must file the appeal within an established time frame. The claimant’s employer may also appeal a determination if he or she does not agree with the State's determination regarding unemployment eligibility.

Benefits

- In general, benefits are based on a percentage of an individual's earnings over a recent 52-week period - up to a State maximum amount.
- Benefits can be paid for a maximum of 26 weeks in most States.
- Additional weeks of benefits may be available during times of **high unemployment**. Some States provide additional benefits for specific purposes.
- Benefits are subject to Federal income taxes and must be reported on the recipient’s Federal income tax return. UI benefit recipients may elect to have the tax withheld by the State Unemployment Insurance agency.

Unemployment Insurance Extended Benefits

Purpose

Extended Benefits are available to workers who have exhausted regular unemployment insurance benefits during periods of high unemployment. The basic Extended Benefits program provides up to 13 additional weeks of benefits when a State is experiencing high unemployment. Some States have also enacted a voluntary program to pay up to 7 additional weeks (20 weeks maximum) of Extended Benefits during periods of extremely high unemployment.

Eligibility

Extended Benefits may start after an individual exhausts other unemployment insurance benefits.
Not everyone who qualified for regular benefits qualifies for Extended Benefits. The State agency will advise UI recipients of their eligibility for Extended Benefits.

Benefits

The weekly benefit amount of Extended Benefits is the same as the individual received for regular unemployment compensation.
The total amount of Extended Benefits that an individual could receive may be fewer than 13 weeks (or fewer than 20 weeks).

Filing A Claim

When a State begins an Extended Benefit period, it notifies those who have received all of their regular benefits that they may be eligible for Extended Benefits.

Unemployment Causes

The causes of unemployment are disputed. Keynesian economics emphasizes unemployment resulting from insufficient effective demand for goods and services in the economy (cyclical unemployment). Others point to structural problems and inefficiencies inherent in labor markets; structural unemployment involves mismatches between demand and supply of laborers with the necessary skill set, sometimes induced by the application of new technologies. Classical or neoclassical economics tends to reject these explanations, and focuses more on rigidities imposed on the labor market from the outside, such as unionization, minimum wage laws, taxes, and other regulations that

may discourage the hiring of workers (classical unemployment). Yet others see unemployment as largely due to voluntary choices based on how much someone values their own work and how that compares to current wage rates and the time it takes to find a new job (frictional unemployment). Behavioral economics highlights phenomena such as sticky wages (a situation in which a variable- wages -is resistant to change) and efficiency wages (wages, at least in some markets, are determined by more than simply supply and demand) which may lead to unemployment.

There are limited historical records on unemployment because it has not always been acknowledged or measured systematically. Industrialization involves economies of scale that often prevent individuals from having the capital to create their own jobs to be self-employed. An individual who cannot either join an enterprise or create a job is unemployed. As individual farmers, ranchers, spinners, doctors and merchants are organized into large enterprises; those who cannot join or compete become unemployed. Recognition of unemployment occurred slowly. For example, in 16th century England no distinction was made between vagrants and the jobless; both were simply categorized as “sturdy beggars.” In 1535, a bill was drawn up calling for the creation of a system of public works to deal with the problem of unemployment, to be funded by a tax on income and capital.

An economy with high unemployment is not using all of the resources, specifically labor, available to it. Since it is operating below its production possibility frontier, it could have higher output if the entire workforce were usefully employed. However, there is a trade-off between economic efficiency and unemployment: if the frictionally unemployed accepted the first job they were offered, they would be likely to be operating at below their skill level, reducing the economy's efficiency.

Advantages

Unemployment may have advantages as well as disadvantages for the overall economy. Notably, it may help avert inflation, which is argued to have damaging effects, by providing a reserve army of labor, which keeps wages in check. However the historical assumption that full local employment must lead directly to local inflation has been attenuated, as recently expanded international trade has shown itself able to continue to supply low-priced goods even as local employment rates rise closer to full employment.

The inflation-fighting benefits to the *entire economy* arising from a presumed optimum level of unemployment have been studied extensively. It is relatively easy to seek a new job without losing one's current one. And when more jobs are available for fewer workers (lower unemployment), it may allow workers to find the jobs that better fit their tastes, talents, and needs.

Controlling or reducing unemployment

Societies try a number of different measures to get as many people as possible into work, and various societies have experienced close to full employment for extended periods, particularly during the Post-World War II economic expansion. Since 1947, the United States has seen unemployment rates ranging from 2.5% (May-June of 1953) to 10.8% (November-December 1982) and all points in between as of this writing.

Mainstream economic discussions of full employment since the 1970s suggest that attempts to reduce the level of unemployment below the natural rate of unemployment will fail, resulting only in less output and more inflation. The natural rate of unemployment is the level of unemployment that prevails when all markets in the economy are in equilibrium. The natural rate is equivalent to the voluntary unemployment rate; there is neither excess supply nor excess demand on the labor market. It represents the hypothetical unemployment rate consistent with aggregate production being at the "long-run" level. This level is consistent with aggregate production in the absence of various temporary frictions such as incomplete price adjustment in labor and goods markets. The natural rate of unemployment therefore corresponds to the unemployment rate prevailing under a classical view of determination of activity. It is mainly determined by the economy's supply side, and hence production possibilities and economic institutions. If these institutional features involve permanent mismatches in the labor market or real wage rigidities, the natural rate of unemployment may feature involuntary unemployment.

COVID-19

Federal Pandemic Unemployment Compensation (FPUC) is an emergency program designed to increase unemployment benefits for millions of Americans affected by the 2020 novel coronavirus pandemic. FPUC was established by the CARES (Coronavirus Aid, Relief, and Economic Security) Act.

- Federal Pandemic Unemployment Compensation (FPUC) is an emergency program established by the CARES Act to increase unemployment benefits for Americans who are out of work because of the COVID-19 pandemic.
- Under FPUC, eligible people who collect certain unemployment insurance benefits—including regular unemployment compensation—will get an extra $600 in federal benefits each week through July 31, 2020.
- The CARES Act also established the Pandemic Emergency Unemployment Compensation (PEUC) program, which extends unemployment benefits for an extra 13 weeks, and the Pandemic Unemployment Assistance (PUA) program, which expands unemployment insurance eligibility to self-employed workers, freelancers, independent contractors, and part-time workers impacted by the coronavirus.
- Most states recommend applying for unemployment insurance benefits online.

The COVID-19 pandemic forced states to shut down and businesses to button up. The U.S. looks at months of double-digit unemployment rates. Some economists have predicted 20 million Americans jobless; the most dire unemployment situation since the Great Depression. Millions of out-of-work Americans will depend on unemployment insurance to help cover rent, groceries, and other expenses. Federal Pandemic Unemployment Compensation (FPUC) was one of several programs established by the CARES Act to help alleviate some of the economic pain caused by COVID-19. FPUC is a flat amount given to people who receive unemployment insurance, including those who get a partial unemployment benefit check. This program also applies to people who receive benefits under the Pandemic Unemployment Assistance program—which covers freelancers, independent contractors, and gig workers—and the Pandemic Emergency Unemployment Compensation program, which extends 13 additional weeks of UI to people who have exhausted their benefits.

II. Actuarial Perspective

In general, actuarial soundness implies an orderly arrangement for financing obligations under a benefit program. Without ascribing regularity or periodicity to the so-called "cyclical" fluctuations in the economy, it is essential in planning an unemployment insurance system to recognize that unemployment will rise and fall. If benefits are to be financed on a level-premium basis, surplus funds must be accumulated during favorable years when unemployment benefit expenditures are low, and used during periods of rising unemployment to supplement the regular contributions. The actuarial problem in unemployment insurance is to determine the rate of contribution which will provide adequate funds over periods of low and high unemployment.

Cost Determinants

Benefit expenditures are dependent both upon the benefit provisions contained in the unemployment insurance plan and economic conditions.[1] The benefit provisions specify the amount of benefits payable for each week of insured unemployment, the number of weeks of entitlement to benefits, and the conditions necessary to qualify for benefits in the event of unemployment. Regardless of potential benefit entitlement, however, benefits are payable only upon the incidence of insured unemployment; the number of claimants applying for benefits and the number of weeks for which they apply under a given program vary with economic conditions. Assuming rigid benefit provisions, two crucial items in the preparation of actuarial estimates in unemployment insurance are;
(1) the man-weeks of compensable unemployment per man-week of insured employment, and
(2) the weekly payment per man-week of compensable unemployment.

If values for the above items are known, costs can be calculated as follows:

B = total benefits disbursements

C = man-weeks of compensable unemployment

E = man-weeks of insured or covered employment

H = number of hours worked per man-week of insured or covered employment

R = weekly benefit payment per man-week of compensable unemployment

W = wages or earnings per man-week of covered employment

$\frac{B}{E}$	= benefit cost per man-week of covered employment
$\frac{B}{HE}$	= benefit cost per man-hour of covered employment
$\frac{B}{WE}$	= the ratio of benefit costs to covered earnings

[1] *Actuarial Aspects of Unemployment Insurance*, N Gaines CAS

If contributions for financing benefits under the plan are to be so many cents per hour worked, it would clearly be desirable to calculate-

$$\frac{B}{HE}$$

The ratio-

$$\frac{B}{WE}$$

would be convenient in cases where contributions are a percent of earnings.

The following equations follow from the definitions:

$$B = RC$$

$$\frac{B}{HE} = \frac{R}{H} \times \frac{C}{E}$$

$$\frac{B}{WE} = \frac{R}{W} \times \frac{C}{E}$$

Unusual technical problems are not encountered in determining the size of the average weekly benefit payment R, or the ratio of the average weekly benefit payment to the average number of hours per week R/H, or the ratio of the average weekly benefit amount to average weekly considered earnings, R/W. The problem of estimating C/E, man-weeks of compensable unemployment per man-week of covered employment, is peculiar to unemployment insurance and presents the basic difficulty in the preparation of actuarial estimates for this type of program. The difficulty in estimating the value of C/E, man-weeks of compensable unemployment per man-week of covered employment, stems from the lack of stability in the incidence of the unemployment risk.

Limited Duration

As stated, an unemployment insurance program provides benefit entitlement for limited duration, and may also contain a waiting period requirement before benefits become payable. Hence, an otherwise eligible unemployed worker will receive the weekly unemployment benefit payments only if he has been unemployed long enough to have fulfilled the waiting-period requirements but not for so long as to have exhausted his entitlement to benefits. If there were no labor turnover over prolonged periods and no change in the level of unemployment, the unemployed group would be composed of the same persons in a continuing state of unemployment. This is assuming no withdrawals of unemployed workers from the labor force and no deaths among the unemployed.

Under such conditions, all unemployed would have exhausted their benefit rights because of the length of their unemployment and there would be no benefit disbursements. Regardless of the level of unemployment-whether it be high or low-benefit disbursements for a static unemployed group would ultimately be zero.

It is possible for compensable unemployment and consequently benefits expenditures to be higher during periods of low unemployment than during high unemployment. This can occur if during periods of high unemployment, for example, unemployment is heavily concentrated in the longer duration-of-unemployment intervals, with only a small proportion of the total entitled to benefits; on the other hand, a high proportion of the

unemployed may be receiving benefits during periods of low unemployment because of the high rates of labor turnover frequently experienced during such periods. In the U. S. economy, persons are continually shifting from employment to unemployment status and back again, even when there is no change in the level of unemployment. Employed workers are continually being laid off and unemployed are being hired. Hence, even during stable periods of extremely low levels of unemployment, workers are exercising benefit entitlement and receiving benefits. If the incidence of unemployment were relatively stable, subject only to gradual change because of secular factors in the economy, the preparation of actuarial estimates in unemployment insurance would not involve special problems. Estimates could be prepared from data on loss ratios, adjusted for changes in wage levels and benefit formulas. However, unemployment varies with business conditions, Because of lack of stability in the incidence of the unemployment risk, special problems are encountered in the preparation of actuarial estimates in unemployment insurance.

Actuarial Characteristics of Unemployment Insurance

Generally accepted actuarial principles and practices traditionally have given actuaries wide latitude in setting assumptions and choosing and applying the methods by which they derive their results. Because of this, it generally is not possible to specify the expected width for a rate range that would be considered actuarially sound- the concept of actuarial soundness can be stretched to fit almost any rate range.
Determining actuarial soundness requires, at a minimum, measuring the fund’s ability to withstand certain worse-than-expected conditions.

The main problem in deriving level cost rates in unemployment insurance is to determine the additional cost to be paid during peak years of business activity to provide reserves to meet the added expenditures during years of rising unemployment. Consequently, costs of unemployment insurance must be estimated on the basis of economic assumptions wherein recognition is given to the danger of a rise in unemployment.

Long-Range Costs of Unemployment Insurance

The distinction between "long run" and "short run" costs of unemployment insurance is relative. Because of uncertainties with regard to future economic developments, the outlook with respect to unemployment insurance costs can change radically over a relatively short time interval. For example, costs could be increased sharply during periods of high unemployment over what they would otherwise have been if employers should decide to rotate jobs among unemployed workers in such a way as to maximize the outlay in unemployment benefits. In this discussion, costs over the long run are the estimated costs over a "cycle" of business activity. The term "business cycle," as used here, is not intended to imply that there is regularity or periodicity in the variations in business activity or unemployment levels. As used here, it is only intended to represent a pattern of business activity which includes periods of increasing and decreasing unemployment.

Long-Range Impact of Cyclical Unemployment

Even during peak years of business activity there is unemployment, which is generated by seasonal, technological and frictional factors in the economy. When employment declines, the "cyclical" layoffs in covered industries occur among workers hitherto in relatively stable employment, with sufficient background of earnings and employment to be eligible for benefits. Benefit costs will rise sharply in the initial stages of a downturn. Benefit expenditures should eventually decline even if business conditions do not improve, since a large proportion of the unemployed workers will exhaust benefit rights and will not have the opportunity to renew benefit entitlement because of the scarcity of job opportunities. Implicit in this statement is the assumption that the employer will not cooperate with the worker to institute job rotation, whereby the proportion of unemployment in compensable status is deliberately maximized or augmented over what it would otherwise have been.

Moreover, if business conditions improve, the most likely to be hired first will be those most recently laid off who will be the most likely ones not to have exhausted their benefit rights. In periods of relatively high unemployment, after sufficient time has passed for the "depression" claimants to exhaust their benefit entitlement, unemployment may be regarded for purposes of actuarial estimating as being composed of the following two groups:
(1) "Long-duration" unemployment composed of workers with practically no chance of receiving unemployment benefits.
(2) "Turnover" group composed of seasonal intermittent and frictional unemployment.

As a first approximation, therefore, compensable unemployment in an average week of a business cycle will be the sum of the following two items:
(1) The volume of compensable unemployment generated on the average during a week of peak business activity; and
(2) The total number of compensable weeks of unemployment incurred because of the "cyclical" rise in unemployment, averaged out over the total number of weeks assumed to be covered by the business cycle pattern.

In general, long-range cost estimates in unemployment insurance may be regarded as the cost rate during peak years of business activity loaded for additional losses due to "cyclical" declines in business activity.

Federal Unemployment Tax Act

The Federal Unemployment Tax (FUTA) funds unemployment insurance and can be thought of as the source of ‘premiums’ for this particular type of insurance coverage.

The **Federal Unemployment Tax Act** (or **FUTA**, 26 U.S.C. ch.23) is a federal law that imposes a federal employer tax used to fund state workforce agencies. Employers report this tax by filing an annual Form 940 with the Internal Revenue Service (IRS). In some cases, the employer is required to pay the tax in installments during the tax year. FUTA covers the costs of administering the unemployment insurance (UI) and job service programs in all states. In addition, FUTA pays one-half of the cost of extended unemployment benefits (during periods of high unemployment) and provides for a fund from which states may borrow, if necessary, to pay benefits.

Calculation of amount of contribution

For years through December 31, 2009, the FUTA imposes a 6.2% tax (before credits) on the first $7,000 of gross earnings of each worker per year. Once the worker's earnings reach $7,000 during a given year, the employer no longer pays any Federal unemployment tax for that year with respect to that worker. Certain credits are allowed with respect to state unemployment taxes paid that may reduce the effective rate to 0.8%.

Wages exempt from FUTA

The following wages are exempt from Federal Unemployment Tax Act payments.

1. Wages for services performed outside the United States.
2. Wages paid to a deceased employee or a deceased employee's estate in any year after the year of the employee's death.
3. Wages paid by a parent to a child under age 21, paid by a child to a parent, or paid by one spouse to the other spouse.
4. Wages paid by a foreign government or international organization.
5. Wages paid by a state or local government or by the United States federal government.
6. Wages paid by a hospital to interns.
7. Wages paid to newspaper carriers under age 18.
8. Wages paid by a school to a student of the school.
9. Wages paid by an organized camp to a student.
10. Wages paid by non-profit organizations

Who must pay?

The following three tests determine whether an entity must pay FUTA tax. Each test applies to a different category of employee, and each is independent of the others. If the situation meets a test, the entity is subject to FUTA tax on the wages paid to employees in that category during the current calendar year.

1. **General test.**

Companies are subject to FUTA tax in 2010 on the wages paid to employees who are not farm workers or household workers if in the current or preceding calendar year:

   a. Wages of $1,500 or more in any calendar quarter in 2009 or 2010, were paid or
   b. An employer had one or more employees for at least some part of a day in any 20 or more different weeks in 2009 or 20 or more different weeks in 2010.

2. **Household employees test.**

Employers are subject to FUTA tax if they paid total cash wages of $1,000 or more to household employees in any calendar quarter in 2009 or 2010. A household employee is an employee who performs household work in a private home, local college club, or local fraternity or sorority chapter.

3. **Farmworkers test.**

Employers are subject to FUTA tax on the wages paid to farmworkers if:

   a. The employer paid cash wages of $20,000 or more to farmworkers during any calendar quarter in 2009 or 2010, or
   b. The employer employed 10 or more farmworkers during at least some part of a day (whether or not at the same time) during any 20 or more different weeks in 2008 or 20 or more different weeks in 2009.

Computing FUTA tax

For 2009 and 2010 the FUTA tax rate is 6.2%. The tax applies to the first $7,000 paid to each employee as wages during the year. The $7,000 is the federal wage base. The state wage base may be different. Generally, employers can take a credit against the FUTA tax for amounts paid into state unemployment funds. This credit cannot be more than 5.4% of taxable wages. If an employer is entitled to the maximum 5.4% credit, the FUTA tax rate after the credit is 0.8%.

Successor employer. If an employer acquired a business from another employer who was liable for FUTA tax, the acquiring entity may be able to count the wages the initial employer paid to the employees who continue to work when figuring the $7,000 FUTA wage base. Instructions are found in the Form 940.

Depositing FUTA tax. For deposit purposes, figure FUTA tax quarterly. The employer determines FUTA tax liability by multiplying the amount of taxable wages paid during the quarter by .008 (0.8%). Stop depositing FUTA tax on an employee's wages when he or she reaches $7,000 in taxable wages for the calendar year. If any part of the wages subject to FUTA is exempt from state unemployment tax, the employer may have to deposit more than the tax using the 0.8% rate. For example, in certain states, wages paid to corporate officers, certain payments of sick pay by unions, and certain fringe benefits are exempt from state unemployment tax.

If the employer's FUTA tax liability for a quarter is $500 or less, he or she does not have to deposit the tax. Instead, it ma be carried forward and added to the liability figured in the next quarter to see if a deposit must be made. If the employer FUTA tax liability for any calendar quarter in 2010 is over $500 (including any FUTA tax carried forward from an earlier quarter), the employer must deposit the tax using EFTPS or at an authorized financial institution using Form 8109.

Household employees. Employers are not required to deposit FUTA taxes for household employees unless the employer reports their wages on Form 941, Form 944, or Form 943.

When to deposit. Deposit the FUTA tax by the last day of the first month that follows the end of the quarter. If the due date (below) for making the deposit falls on a Saturday, Sunday, or legal holiday, the employer may make the deposit on the next business day.

If employer liability for the fourth quarter (plus any undeposited amount from any earlier quarter) is over $500, deposit the entire amount by the due date of Form 940 (January 31). If it is $500 or less, the employer can make a deposit, pay the tax with a credit or debit card, or pay the tax with the Form 940 by January 31.

When to Deposit FUTA Taxes

Quarter	Ending	Due Date
Jan.–Feb.–Mar.	Mar. 31	Apr. 30
Apr.–May–June	June 30	July 31
July–Aug.–Sept.	Sept. 30	Oct. 31
Oct.–Nov.–Dec.	Dec. 31	Jan. 31

Reporting FUTA tax. Use Form 940, Employer's Annual Federal Unemployment (FUTA) Tax Return, to report FUTA tax.

Household employees. If an employer did not report employment taxes for household employees on Form 941, Form 944, or Form 943, report FUTA tax for these employees on Schedule H (Form 1040), Household Employment Taxes.

Electronic filing by reporting agents. Reporting agents filing Forms 940 for groups of taxpayers can file them electronically.

State Employment Department

The California Employment Development Department (EDD) provides the following information at its website. It is representative of most state systems.

Wages to establish a claim

Employers report wages to the Department for each employee. The Department uses this information to decide if an individual earned enough wages in a base period to establish a UI claim. A base period is a specific 12-month period. For example, if a claimant files a claim that begins in April, May or June the claim is calculated based on wages paid to the claimant between January 1 and December 31 of the prior year. The minimum weekly benefit amount is $40 and the maximum weekly benefit amount is $450.

Reason an individual is unemployed

The reason an individual is out of work can affect his or her eligibility for benefits. A person who is laid off is out of work through no fault of his or her own. A person who quits work or is fired from work will be scheduled to a telephone interview because there is a separation issue that must be resolved. The Department interviewer obtains and documents information about the separation from the employer and claimant and decides, according to law and regulations, if the person is eligible to collect benefits. The Department mails a notice to the claimant who is not eligible for benefits. The Department mails a notice to the employer who responded timely to the notice of claim filed. The notice advises the employer about whether the claimant is eligible or not, and whether the employer's account will be charged for benefits paid to the former employee. Either party can disagree with an unfavorable decision and file an appeal.

Eligibility Required Each Week

A person must be physically able to work, available for work and actively looking for work each week benefits are claimed. An individual must complete a claim form every two weeks, sign and date the form and return it to the Department for payment. If the information on the form shows that the individual did not meet eligibility requirements, the Department will schedule a telephone interview. Based on the information obtained, benefits may be reduced or denied. An individual who disagrees with the Department’s decision to reduce or deny benefits may file an appeal.

Approved Training

Individuals interested in enrolling in training to increase their job opportunities must contact EDD for approval. Claimants attending an approved training course are not required to look for work, be available for work or accept work while in training.

Benefits & Services

Individuals and employers can access UI services by telephone or using the Internet. Using the EDD website, employers can obtain information about their role in the UI program as well as how to fill a job opening or complete forms. Some useful employer information on this Web site includes:

- A special guide developed specifically for employers entitled *Managing Unemployment Insurance Costs.* (DE4527)
- Information developed specifically for the employer community. Select For Employers from the main menu.
- A list of UI toll-free telephone numbers.

Individuals who are interested in filing a new UI claim, reactivating an existing claim or filing for extended benefits can call toll-free numbers or use one of the applications on the EDD Web site. Information on payments can be obtained by using the automated telephone system. To obtain this information:

- A claim must have been filed
- An individual must be eligible for benefits
- A Personal Identification Number (PIN) must have been created.

III. Factors Associated With UI Benefit Receipt

Results in Brief

Certain characteristics are associated with the likelihood of receiving Unemployment Insurance (UI) benefits and unemployment duration. Based on the analysis of workers during the first half of their working lives, UI-eligible workers are more likely than other workers to receive UI benefits if they have higher earnings, are younger or have more years of education, or, most notably, if they received UI benefits in the past. In particular, UI-eligible workers who received UI benefits before are more likely than other workers to receive UI benefits again and this likelihood increases each time they are unemployed and receive UI. Other factors, including a high local unemployment rate, increase the likelihood of receiving UI. UI-eligible workers who receive UI benefits have longer periods of unemployment than workers who do not receive benefits. Similarly, workers who have fewer years of education, lower earnings, or no union membership experience longer unemployment than workers who do not have these characteristics. Workers who received UI benefits in the past, however, were unemployed about as long as similar workers who had not received UI in the past. [2]

UI-eligible workers from certain industries are more likely than other workers to receive UI benefits and experience shorter unemployment duration, although no clear industry trend emerged. Specifically, the simulations show that ;

- The likelihood of receiving UI benefits during a first period of unemployment is highest among workers from mining and manufacturing. Furthermore, the likelihood of receiving UI benefits when unemployed increases with each previous period of UI receipt across all industries, and the most notable increase occurs for workers from the public administration sector.
- The unemployment duration for first-time unemployed workers from construction and manufacturing is significantly shorter than the unemployment duration experienced

[2] This section adapted from General Accounting Office report GAO-06-341

by workers from other industries. While unemployment duration varies across all industries, this variation is not affected by whether workers were unemployed in the past, or whether they received UI in the past.

Background

The UI program was established in 1935 and serves two primary objectives:

(1) To temporarily replace a portion of earnings for workers who become unemployed through no fault of their own and

(2) To help stabilize the economy during recessions by providing an infusion of consumer dollars into the economy.

Unemployment Insurance (UI) is a complex system of 53 state programs that in fiscal year 2004 provided $41.3 billion in temporary cash benefits to 8.8 million eligible workers who had become unemployed through no fault of their own. Given the size of the UI program, its importance in helping workers meet their needs when they are unemployed, and the little information available on what factors lead eligible workers to receive benefits over time, GAO was asked to determine;

(1) the extent to which an individual worker's characteristics, including past UI benefit receipt, are associated with the likelihood of UI benefit receipt or unemployment duration, and

(2) whether an unemployed worker's industry is associated with the likelihood of UI benefit receipt and unemployment duration.

Using data from a nationally representative sample of workers born between 1957 and 1964 and spanning the years 1979 through 2002, and information on state UI eligibility rules, GAO used multivariate statistical techniques to identify the key factors associated with UI benefit receipt and unemployment duration.

Certain characteristics are associated with the likelihood of receiving UI benefits and unemployment duration. UI-eligible workers that GAO studied are more likely to receive UI benefits if they have higher earnings prior to becoming unemployed, are younger, have more years of education, or if they have a history of past UI benefit receipt when compared with otherwise similar workers. GAO found that past experience with the UI program has a particularly strong effect on the future likelihood of receiving UI benefits. However, some characteristics, such as receiving a higher maximum weekly UI benefit amount, are not associated with a greater likelihood of receiving UI benefits. UI-eligible workers who receive UI benefits have longer unemployment duration than workers with similar characteristics. Also, UI-eligible workers are more likely to experience longer unemployment duration if they have lower earnings before becoming unemployed or have fewer years of education. Other characteristics associated with longer unemployment duration include being African-American, female, or not belonging to a union. GAO found no relationship between past UI benefit receipt and subsequent unemployment duration.

UI-eligible workers from certain industries are more likely than similar workers in other industries to receive UI benefits and experience shorter unemployment duration. Specifically, GAO's simulations show that the likelihood of receiving UI benefits during a first period of unemployment is highest among workers from the mining and manufacturing industries. Furthermore, the likelihood of receiving UI benefits when

unemployed increases with each previous period of UI receipt across all industries, and the most notable increase occurs in public administration. First-time unemployed workers from construction and manufacturing experience significantly shorter unemployment duration than workers from other industries.

UI is made up of 53 state-administered programs that are subject to broad federal guidelines and oversight. In fiscal year 2004, these programs covered about 129 million wage and salary workers and paid benefits totaling $41.3 billion to about 8.8 million workers. Federal law provides minimum guidelines for state programs and authorizes grants to states for program administration. States design their own programs, within the guidelines of federal law, and determine key elements of these programs, including who is eligible to receive state UI benefits, how much they receive, and the amount of taxes that employers must pay to help provide these benefits. State unemployment tax revenues are held in trust by the Department of Labor (Labor) and are used by the states to pay for regular weekly UI benefits, which typically can be received for up to 26 weeks. During periods of high unemployment, the Extended Benefits program, funded jointly by states through their UI trust funds and by the federal government through the Unemployment Trust Fund, provides up to 13 additional weeks of benefits for those who qualify under state program rules. Additional benefits, funded by the federal government, may be available to eligible workers affected by a declared major disaster or during other times authorized by Congress.

Eligibility Requirements

To receive UI benefits, an unemployed worker must file a claim and satisfy the eligibility requirements of the state in which the worker's wages were paid. Although states' UI eligibility requirements vary, generally they can be classified as monetary and nonmonetary. Monetary eligibility requirements include having a minimum amount of wages and employment over a defined base period, typically, about a year before becoming unemployed, and not having already exhausted the maximum amount of benefits or benefit weeks to which they would be entitled because of other recent unemployment. In addition to meeting states' monetary eligibility requirements, workers must satisfy their states' nonmonetary eligibility requirements. Nonmonetary eligibility requirements include being able to work, being available for work, and becoming unemployed for reasons other than quitting a job or being fired for work-related misconduct. In all states, claimants who are determined to be ineligible for benefits are entitled to an explanation for the denial of benefits and an opportunity to appeal the determination.

Since UI was introduced, researchers and those responsible for overseeing the program have monitored the size, cost, and structure of the program and its effects on individuals' movement into and out of the workforce, including which types of workers receive UI benefits. Much of what is known about the dynamics of the UI program has been based on snapshots of the UI beneficiary population at any given time. Labor regularly gathers UI program data from the states, including each state's eligibility requirements, employers' UI tax rates, program revenues and costs, and numbers of claims received and approved. An extensive amount of research has been devoted to the effect of UI benefit receipt on unemployment duration. Specifically, researchers have found that receiving UI benefits increases unemployment duration. Much of this research is focused on measuring how changes in the amount of UI benefits increase the amount of time that an unemployed worker takes to find a new job. (Alan B. Krueger and Bruce D. Meyer, "Labor Supply Effects of Social Insurance," NBER Working Paper

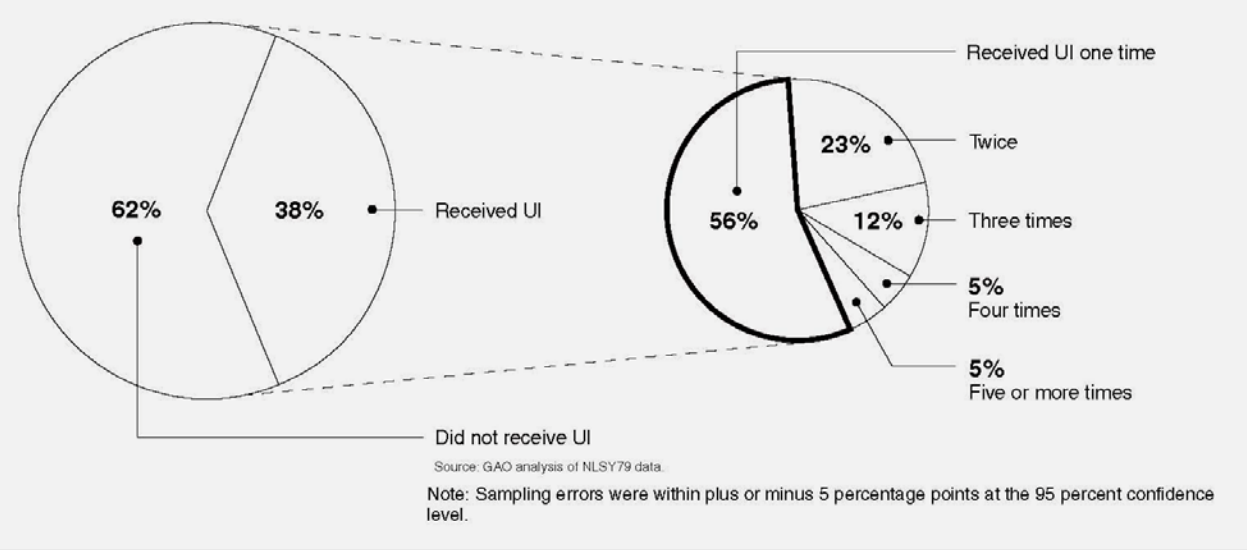
9014 (Cambridge, Massachusetts: National Bureau of Economic Research, 2002). Although much is known about UI caseloads and about the relationship between UI benefits and unemployment duration, less is known about the patterns of UI receipt among individual workers over their entire working careers.

Extended Period Receipt

What is known about the patterns of UI benefit receipt over an extended period for individual workers comes from a few studies that are fairly limited in scope. In one study, researchers analyzed 1980-1982 survey data and found that among unemployed workers who were eligible for UI, younger or female workers were less likely to receive UI benefits, while union workers, workers from large families, or those with more hours of work from their previous jobs were more likely to receive UI. (Rebecca M. Blank and David E. Card, "Recent Trends in Insured and Uninsured Unemployment: Is There an Explanation?" *The Quarterly Journal of Economics*, vol. 106, no. 4 (1991)) In another study, using UI administrative data from five states, researchers found that between 36 and 44 percent of UI claims from 1979 to 1984 were from workers who had received UI benefits more than once and that middle-aged workers and workers with higher earnings were more likely to be repeat UI recipients. (Bruce D. Meyer and Dan T. Rosenbaum, "Repeat Use of Unemployment Insurance," NBER Working Paper 5423 (Cambridge, Massachusetts: National Bureau of Economic Research, 1996), p. 20) Another study, based on survey data from the NLSY79, found that 16 percent of young adults had received UI benefits more than once between 1978 and 1991 and that as many as 46 percent of those who received UI were repeat recipients. See Brian P. McCall, "Repeat Use of Unemployment Insurance," in Laurie J. Bassi and Stephen A. Woodbury, editors, *Long-Term Unemployment and Reemployment Policies* (Stamford, Connecticut: JAI Press, Inc., 2000). This study also found that workers who were women or Hispanic or whose fathers had more years of education were less likely to become repeat recipients than workers who were men or non-Hispanic or whose fathers had fewer years of education.

In 2005, the GAO analyzed the NLSY79 to determine the extent to which individual workers received UI benefits during their early working lives. It was found that 38 percent of workers born between 1957 and 1964 received UI at least once between 1979 and 2002, with almost half of these individuals receiving UI benefits more than once. (See fig. 1.) The analysis also found that the rate at which unemployed workers received UI benefits varied across industries, but researchers did not control for any of the other factors that may have helped to explain this variation.

Figure 1: Incidence of UI Benefit Receipt
From 1979 through 2002, for Workers Born between 1957 and 1964



Source: GAO analysis of NLSY79 data.

Note: Sampling errors were within plus or minus 5 percentage points at the 95 percent confidence level.

Certain Characteristics Associated with UI Benefit Receipt and Duration

Earnings, age, education, and most notably past UI benefit receipt are all associated with the likelihood of receiving UI benefits for UI-eligible workers. Education, earnings, and union membership, and current UI benefit receipt, are associated with unemployment duration

Workers More Likely to Receive UI

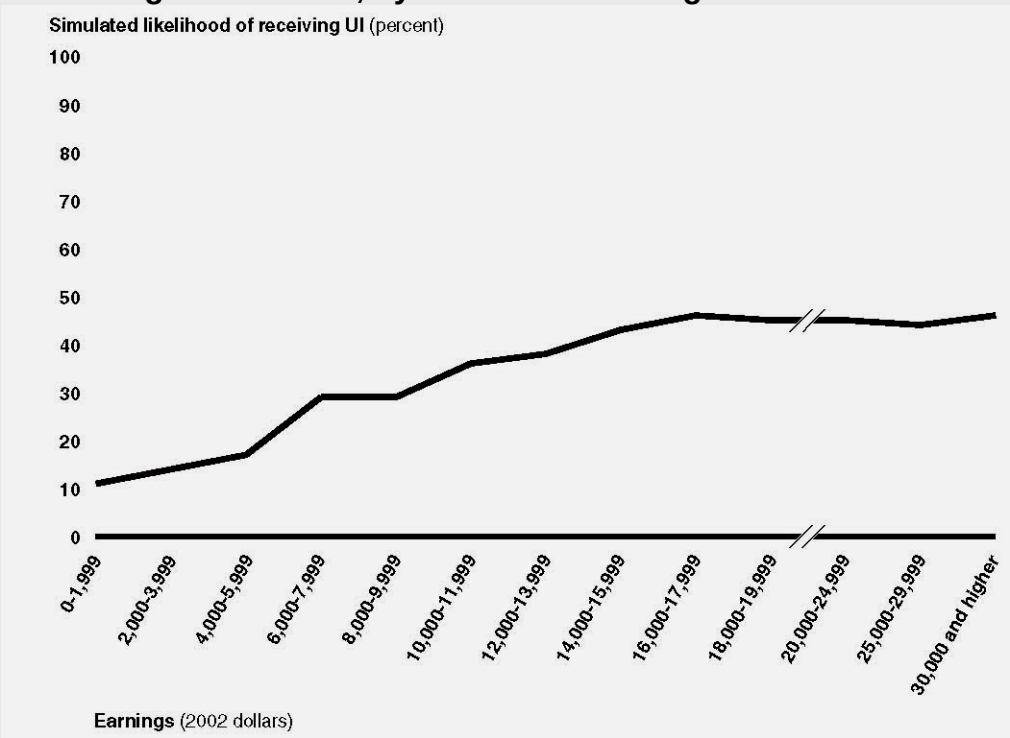
Unemployed workers are more likely to receive UI benefits if they have higher earnings prior to becoming unemployed, are younger or have more years of education, or have a history of past UI benefit receipt, when compared to workers with similar characteristics. The results described in this report are statistically significant at the 95 percent confidence level, unless otherwise noted. GAO found that past experience with the UI program has a particularly strong effect on the future likelihood of receiving UI benefits. In addition, UI-eligible workers are more likely to receive UI when the local unemployment rate is high. However, some characteristics, such as the weekly UI benefit amount that a worker is eligible to receive, are not associated with a greater likelihood of receiving UI benefits.

With respect to earnings, Earnings refers to base period earnings, which this report defines as the amount of earnings received during the first four of the last five full calendar quarters before a worker becomes unemployed. This definition is consistent with the time frame states generally use to determine eligibility.

The simulations show that the likelihood of receiving UI tends to increase as the amount earned in the year prior to becoming unemployed increases (see fig. 2). For example, a UI-eligible worker with earnings between $10,000 and $11,999 in the year before becoming unemployed has a 36 percent likelihood of receiving UI, whereas a worker who earned roughly twice as much (between $20,000 and $24,999) has a 45 percent likelihood of receiving UI. The average and maximum earnings for the unemployed

workers in this sample are $15,524 and $597,950, respectively. The likelihood of receiving UI is lowest among workers with the lowest earnings (i.e., less than $10,000 in the year before becoming unemployed). There is generally little difference in the likelihood of receiving UI among workers earning $18,000 or more.

Figure 2: Simulated Likelihood of Receiving UI Benefits For UI-Eligible Workers, by Prior-Year Earnings



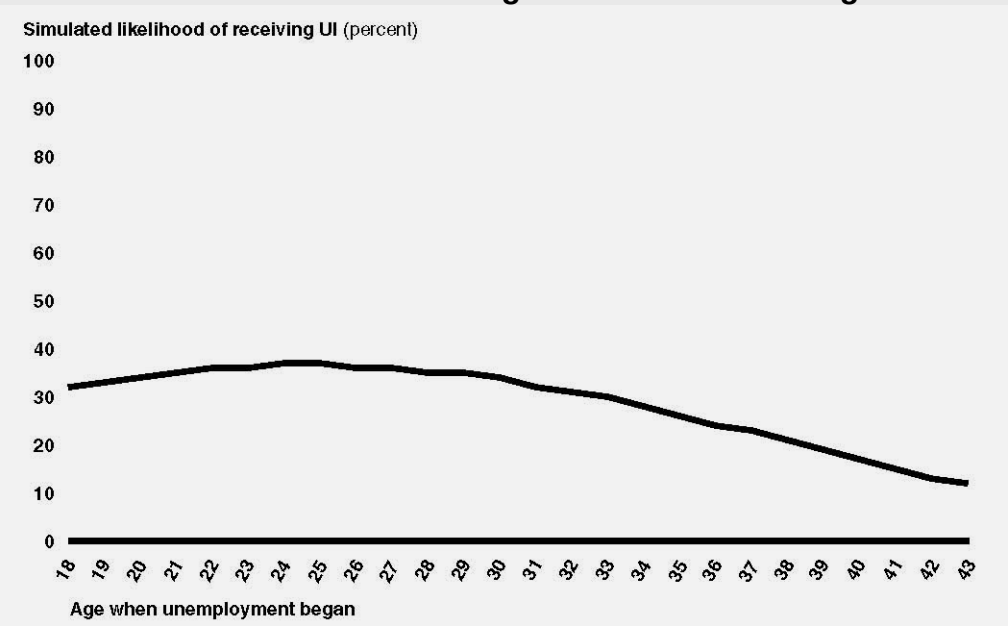
Source: Simulations based on GAO analysis of NLSY79 data
Note: Simulations are for the average likelihood of receiving UI during first-time unemployment at different levels of earnings. The overall average likelihood of receiving UI during first-time unemployment is 33 percent. Source: Simulations based on GAO analysis of NLSY79 data.

This result confirms the 2000 finding that low-wage workers are less likely to receive UI benefits than workers with higher earnings even when they have worked for the same amount of time. (GAO, *Unemployment Insurance: Role as Safety Net for Low-Wage Workers Is Limited, GAO-01-181* (Washington, D.C.: Dec. 29, 2000)) The current result also controls for other worker differences, such as which industries the workers were employed in or whether they were ineligible for benefits, which GAO had not previously been able to rule out as explanations for the variation in likelihood of receiving UI. The relationship between higher earnings and a higher likelihood of receiving UI benefits is also consistent with economic theory that predicts that workers with higher earnings prior to becoming unemployed will be more reluctant to accept lower reemployment wages and are therefore more likely to take advantage of UI benefits as a way to subsidize their job search efforts. For economic theory concerning the relationship between job search and unemployment insurance, see Dale T. Mortensen, "Unemployment Insurance and Job Search Decisions," *Industrial and Labor Relations Review*, vol. 30, no. 4 (1977).

Concerning age, the simulations show that the likelihood of receiving UI peaks at about age 25 and decreases thereafter (see fig. 3). More specifically, a 25-year-old unemployed worker who is eligible for UI is more than twice as likely to receive UI as an otherwise similar 40-year-old unemployed worker.

Figure 3: Benefits for UI Eligible Workers, by Age

Simulated Likelihood of Receiving UI Benefits for UI-Eligible Workers, by Age



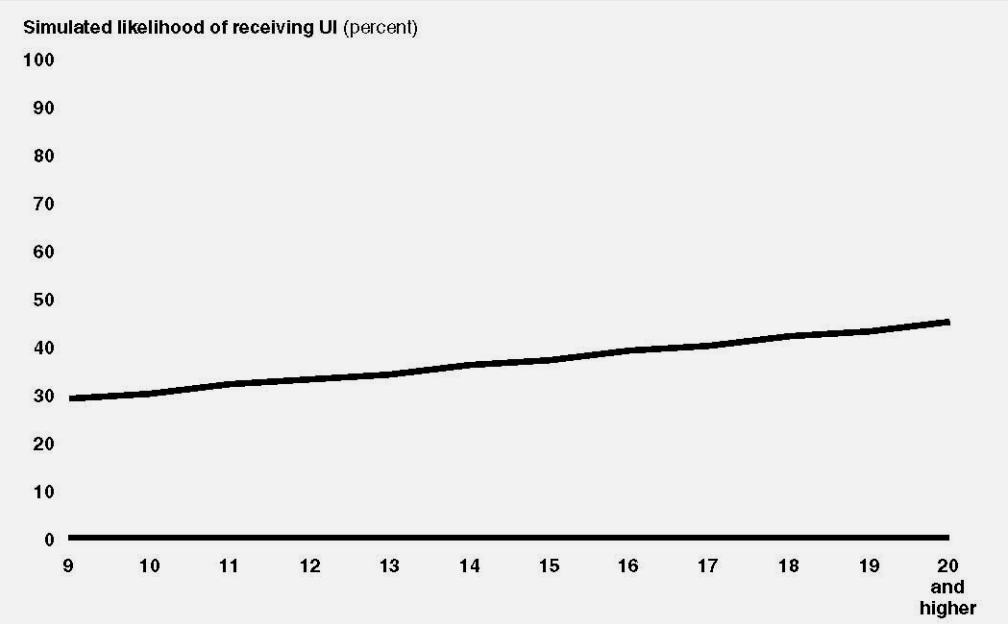
Source: Simulations based on GAO analysis of NLSY79 data. Age when unemployment began
Note: Simulations are the average likelihood of receiving UI during first-time unemployment at different ages. The overall average likelihood of receiving UI during first-time unemployment is 33 percent.

Previous studies have found that younger workers are less likely to receive UI benefits than older workers. (See Blank and Card, and McCall) However, these previous studies did not include as much information about workers' past unemployment and UI benefit receipt histories as the current analysis. Therefore, because older workers have more of this experience than younger workers, it is possible that this analysis has controlled for the effect of this past experience more completely than these previous studies, resulting in a more precise estimate of the effect of age. The researchers are unable to explain why younger workers are more likely to receive UI benefits than otherwise similar older workers. However, it is possible that older workers, who have had more time to accumulate financial assets, may have more private resources available to help them cope with unemployment than younger workers. (See Jonathan Gruber, "The Wealth of the Unemployed," October 2001, *Industrial and Labor Relations Review*, vol. 55, no. 1) Alternatively, younger workers may be less optimistic about how long it will take for them to become reemployed. Unemployed workers with more years of education are more likely to receive UI benefits than otherwise similar workers with fewer years of education. Specifically, the simulations show that the likelihood of receiving UI increases for each additional year of schooling that a UI-eligible worker has completed before becoming unemployed (see fig. 4). For example, a UI-eligible worker with a college education (one who has completed 16 years of schooling) when he or she becomes unemployed is almost one-fifth more likely to receive UI than a UI-eligible

worker with a high school education (12 years of schooling). The average number of years of schooling completed by UI-eligible workers, at the time when they became unemployed, is 12 years.

Figure 4: Benefits for UI Eligible Workers by Education

Simulated Likelihood of Receiving UI Benefits for UI-Eligible Workers, by Education Level



Source: Simulations based on GAO analysis of NLSY79 data.
Note: Simulations are the average likelihood of receiving UI during first-time unemployment at different education levels. The overall average likelihood of receiving UI during first-time unemployment is 33 percent.

Although the impact of education on the likelihood of receiving UI benefits has been analyzed in other research, this research found no significant education effect. However, to the extent that workers with more years of education are better able to access and understand UI program rules, they may also be more likely to know when they are entitled to benefits and to have the information that they need to file successful benefit claims. Other factors, including gender, marital status, job tenure, and the local unemployment rate are also associated with UI benefit receipt. Controlling for all other characteristics among this UI-eligible group;

- a woman is 29 percent more likely to receive UI benefits than a man,
- a married worker is 13 percent more likely to receive UI than an unmarried worker,
- a longer tenured worker is more likely to receive UI—for example, a worker with 4 years of tenure at his or her most recent job is 12 percent more likely to receive UI than a worker with 1 year of job tenure, and
- being in an area with high unemployment raises the likelihood that an unemployed worker will receive UI—for example, a worker living in an area with an unemployment rate of 9 percent is 10 percent more likely to receive UI than a worker living in an area with an unemployment rate of 5 percent.

Findings that women are more likely to receive UI benefits than otherwise similar men differs from the results of previous research, which generally found no statistically significant differences. Nevertheless, the current analysis controls for more worker

characteristics than these previous studies, and it is likely that the researchers have more carefully isolated the effect of gender from that of other characteristics related to gender, such as workers' occupations or industries. It is not immediately clear why women are more likely to receive UI benefits, however. The report writers likewise unable to explain why married workers are more likely to receive UI benefits than otherwise similar unmarried workers. GAO specifically tested for the effect of spousal income on the likelihood of receiving UI to determine whether marital status was masking some underlying effect of additional family income, and found this not to be the case.

The report's findings on job tenure are consistent with previous research. However, the higher likelihood of UI benefit receipt associated with more years of job tenure is likewise difficult to explain. It might be that workers with longer job tenures have acquired more skills that are not as easy to transfer to another employer, relative to workers with less job tenure, and anticipate longer job searches. The higher likelihood of receiving UI benefits among workers living in areas with higher unemployment is likely due to the higher number of unemployed workers relative to available jobs, which may make workers more willing to apply for UI benefits as they engage in what are likely to be longer job searches.

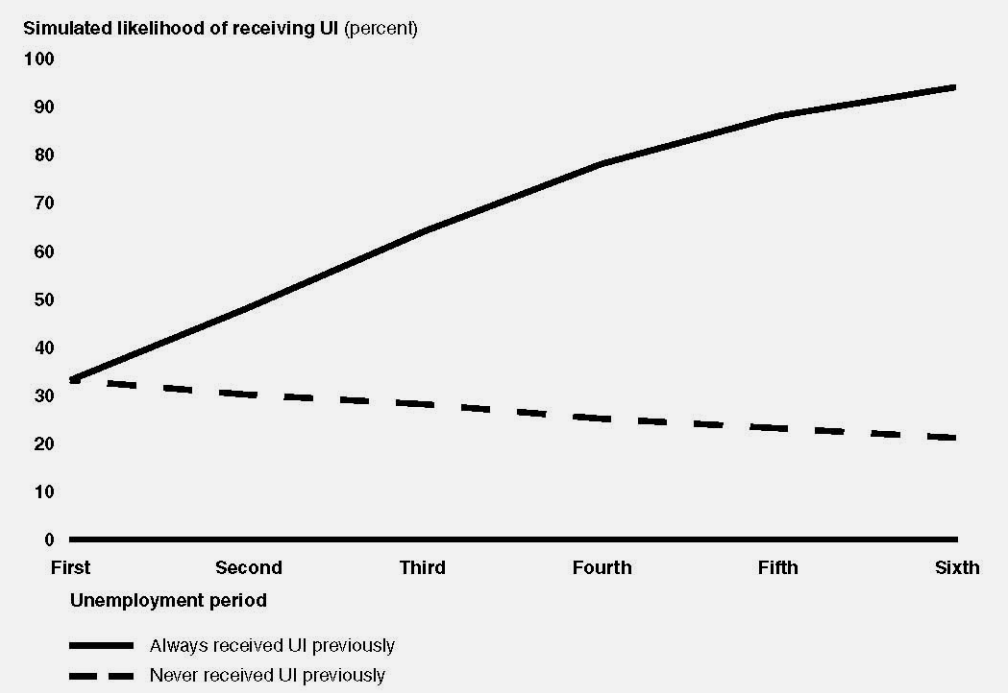
In contrast to the findings above, a key UI program element, the weekly UI benefit amount that UI-eligible workers are entitled to, is not associated with a greater likelihood of receiving UI benefits. Using their own model estimates, the authors of this report simulated increases in weekly UI benefit amounts of 10 percent and 25 percent and a decrease of 10 percent and found that these changes had no effect on the likelihood of UI benefit receipt. This finding is consistent with the work of others, who have found that increases in the weekly benefit amount have mixed, but generally small effects on UI benefit receipt. (See David E. Card and Phillip B. Levine, "Unemployment Insurance Taxes and the Cyclical and Seasonal Properties of Unemployment," *Journal of Public Economics,* vol. 53, no. 1 (1994); Patricia M. Anderson and Bruce D. Meyer, "The Effect of Unemployment Insurance Taxes and Benefits on Layoffs Using Firm and Individual Data," NBER Working Paper No. 4960, December 1994; and Robert H. Topel, "On Layoffs and Unemployment Insurance," *American Economic Review,* vol. 73, no. 4 (1983)) Collectively, these results suggest that UI benefit levels have modest effects on individuals' decisions about whether or not to receive UI benefits, after controlling for other factors.

Past Recipients Likely to Receive UI during Subsequent Unemployment

Unemployed workers who have received UI benefits during a prior period of unemployment are more likely to receive UI benefits during a current period of unemployment than otherwise similar workers who never received UI benefits (see fig. 5). For example, when workers experience their first UI-eligible period of unemployment, their likelihood of receiving UI is 33 percent. During a second UI-eligible period of unemployment, the likelihood of receiving UI is 48 percent for workers who received UI during the first unemployment period but only 30 percent for workers who did not receive UI. Furthermore, the likelihood that these UI-eligible workers will receive UI benefits during successive periods of unemployment increases each time that they receive UI benefits and decreases each time that they do not. As noted above, relatively few UI-eligible workers who receive UI benefits receive them multiple times.

Figure 5: Benefit Receipt During Successive Periods

Simulated Likelihood of Receiving UI Benefits for UI-Eligible Workers during Successive Periods of Unemployment, by Past UI Receipt Status



Source: GAO simulations based on GAO analysis of NLSY79 data.
Note: Simulations are the average likelihood of receiving UI during a current unemployment period for two extreme cases: (1) workers who always received UI benefits during previous unemployment and (2) workers who never received UI during previous unemployment. The average likelihood of receiving UI during first-time unemployment for all UI-eligible workers is 33 percent.

This finding suggests that a worker's first unemployment experience has a lasting and self-reinforcing effect. To the extent that workers know about the UI program and whether or not they are eligible, receiving or not receiving UI benefits may be a personal choice based on unobserved worker characteristics or preferences. Alternatively, if workers do not have good information about UI, those who receive UI benefits may know more about the UI program than those who do not receive UI, and their knowledge about the program could make it easier to apply for and receive benefits during a subsequent period of unemployment.

Benefit Receipt Associated with Unemployment Duration

Receiving UI benefits, along with other factors, is associated with unemployment duration. Overall, unemployed workers who receive UI benefits have longer unemployment duration than otherwise similar workers who do not receive UI benefits. The variables reported here are those that were statistically significant at the 95 percent confidence level.

Several other characteristics are also associated with unemployment duration. Specifically, UI-eligible workers are more likely to experience longer unemployment duration if they have lower earnings before becoming unemployed or have fewer years of education. Other characteristics associated with longer unemployment duration, after

controlling for other factors, include being African-American or female or not belonging to a union. This report's authors found no relationship between past UI benefit receipt and subsequent unemployment duration.

Receiving UI Benefits Is Associated with Longer Unemployment Duration

Whether or not an unemployed worker receives UI during a specific period of unemployment has the strongest effect on how long that period of unemployment is likely to last. Overall, UI-eligible workers who receive UI benefits during a period of unemployment remain unemployed for about 21 weeks on average, whereas otherwise similar workers who do not receive UI remain unemployed for about 8 weeks. This result is consistent with economic theory that predicts that receiving UI benefits reduces the costs associated with unemployment and allows workers to engage in longer job searches (See Mortensen). That is, an unemployed worker who receives UI benefits faces less pressure to accept the first job offer they receive and can search longer for a more desirable job than an unemployed worker who does not receive UI. Another possible explanation for the strong association between UI receipt and longer unemployment duration may be that workers who expect to experience longer unemployment may be more likely to apply for UI than those who expect to return to work quickly.

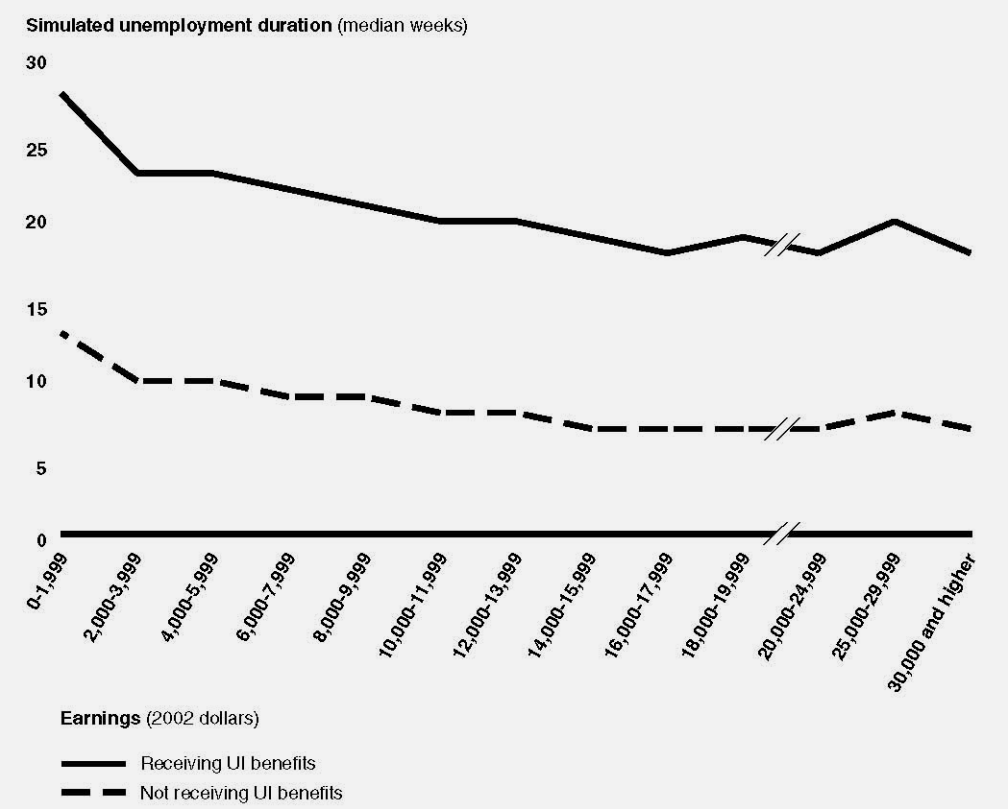
Lower Earnings-Less Education

Unemployed workers with lower earnings tend to have longer unemployment duration than otherwise similar workers with higher earnings. This finding holds for workers who are receiving UI benefits, and for workers who are not receiving UI benefits. Specifically, the simulations show that UI-eligible workers who receive UI benefits and have relatively high earnings ($30,000 and higher) in the year prior to becoming unemployed have unemployment duration that is as much as 9 weeks shorter than workers with earnings that are below $16,000. The average prior-year earnings amount for this sample is $15,524. The results are similar for UI-eligible workers who do not receive UI benefits (see fig. 6).

This result is consistent with other research that has found that higher previous earnings tend to reduce unemployment duration. (See Karen E. Needels and Walter Nicholson, *An Analysis of Unemployment Durations Since the 1990-1992 Recession,* UI Occasional Paper 99-6, prepared for the Department of Labor, 1999, p. 94.) Researchers have suggested that the association between higher earnings and shorter unemployment duration may be due, in part, to the higher cost of unemployment for workers with higher earnings, relative to the cost for workers with lower earnings. (See Bruce D. Meyer, "Unemployment Insurance and Unemployment Spells," *Econometrica*, vol. 58, no. 4 (1990), p. 771) Specifically, the cost of unemployment in terms of lost wages is greater for workers with higher earnings, because they forego a higher amount of potential earnings in exchange for the time they spend on unpaid activities, such as job search, home improvement, or recreation.

Figure 6: Prior Year Earnings and UI Receipt

Simulated Unemployment Duration for UI-Eligible Workers, by Prior-Year Earnings and UI Receipt



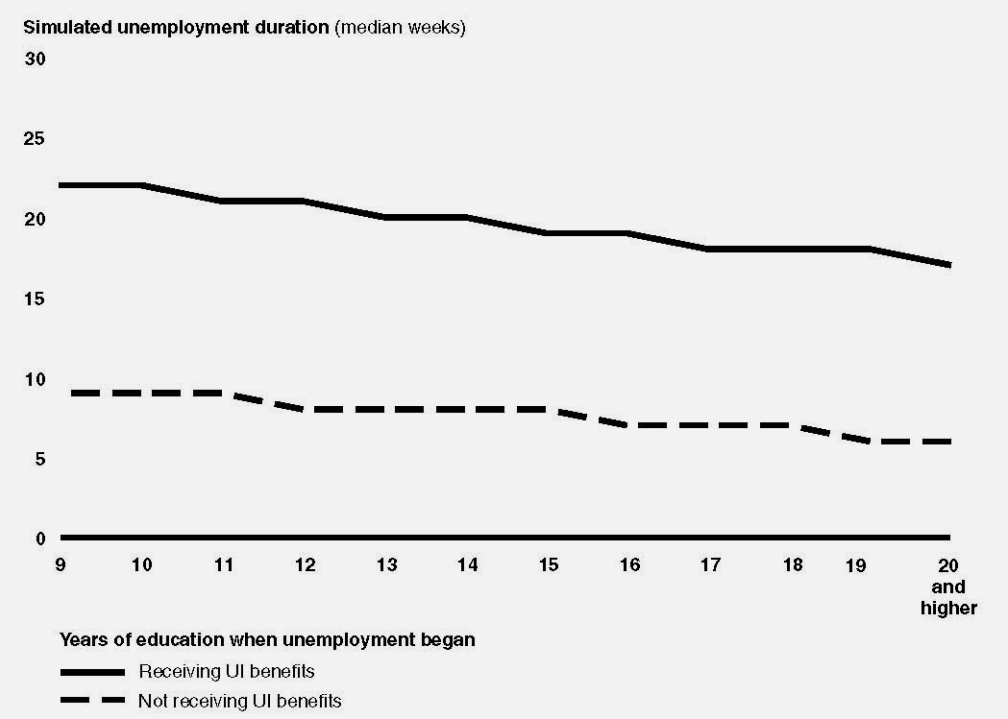
Note: Simulations are the median duration of unemployment during first-time unemployment. Overall average duration is 21 weeks for UI-eligible workers receiving UI benefits and 8 weeks for UI-eligible workers not receiving UI benefits.

The model estimates also indicate that unemployed workers who have more education tend to have shorter unemployment duration than otherwise similar workers with less education. For example, simulations show that on average, UI-eligible workers with a 4-year college education (16 years of schooling) who receive UI benefits remain unemployed about 2 weeks less than workers with a high school education (12 years of schooling). The average number of years of schooling completed by UI-eligible workers, at the time when they became unemployed, is 12 years. (See fig. 7.) The results are similar for UI-eligible workers who do not receive UI benefits. This finding is consistent with past research indicating that less education is associated with longer unemployment duration, because workers with less education have fewer work-related skills (Needels and Nicholson, p. 6).

Unemployed workers' race or ethnicity, gender, union membership status, and length of most recent job tenure are also associated with unemployment duration. Specifically, simulations show that UI-eligible workers who are African-American or women, who do not belong to labor unions, or who have less years of job tenure before becoming unemployed tend to have longer unemployment duration than otherwise similar workers. As seen in table 1, these associations exist whether or not workers receive UI benefits.

Figure 7: Education Level and UI Receipt Status

Simulated Unemployment Duration for UI-Eligible Workers, by Education Level and UI Receipt Status



Source: Simulations based on GAO analysis of NLSY79 data.
Note: Simulations are the median duration of unemployment during first-time unemployment. Overall average duration is 21 weeks for UI-eligible workers receiving UI benefits and 8 weeks for UI-eligible workers not receiving UI benefits.

These findings are generally consistent with prior research. In particular, longer unemployment durations have been found to be associated with being African-American, female, or not belonging to a union (See Needels and Nicholson). Two possible explanations for the differences in employment outcomes for African-American workers include labor market discrimination, and limited access to social networks that may enable these workers to find jobs more quickly. (See Antoni Calvó-Armengol, and Matthew O. Jackson, "The Effects of Social Networks on Employment and Inequality," *The American Economic Review*, Vol. 94, No. 3, (2004) for a discussion of the effects of individuals' social networks on employment outcomes) Likewise, longer unemployment duration among female workers may be due to labor market discrimination, or to differences in how they value paid work versus nonemployment activities, relative to men. (See Needels and Nicholson, and GAO, *Women's Earnings: Work Patterns Partially Explain Differences between Men's and Women's Earnings, GAO-04-35* (Washington, D.C.: Oct. 31, 2003)) Likewise, the associations between shorter unemployment duration and union membership or longer job tenure may reflect the greater access of these workers to reemployment opportunities than otherwise similar workers or because of a greater likelihood of being recalled to their previous jobs (See Needels and Nicholson). This report did not control for the likely effect of an expected job recall.

Table 1; Benefit Receipt- Various Characteristics

Simulated Unemployment Duration for UI-Eligible Workers by Current UI Receipt Status and Other Characteristics Unemployment duration (median weeks)		
Worker characteristics	**Receiving UI benefits**	**Not receivingUI benefits**
Race or ethnicity		
White	19	8
Hispanic	21	8
African-American	25	11
Gender		
Male	20	8
Female	22	9
Union membership status		
Union member	19	8
Not a union member	21	9
Tenure at most recent job[a]		
10 years	20	8
1 year	21	8
Overall average duration	**21**	**8**

Source: Simulations based on GAO analysis of NLSY79 data.
Note: Simulations are the median duration of unemployment during first-time unemployment.
[a]Simulated decreases in median weeks of unemployment are less than 1 week per additional year of tenure at most recent job, regardless of whether workers received UI or not.

Unemployment Duration Is Not Associated with Past UI Receipt

Past UI receipt has no significant effect on subsequent unemployment duration. Although receiving UI during a current period of unemployment is associated with longer unemployment duration, past UI receipt does not affect current unemployment duration. Specifically, simulations show that unemployment duration tends to decrease by about the same amount (typically, 1 week or less) from one unemployment period to the next, regardless of whether a worker received UI benefits in the past or not, and regardless of whether or not the worker receives UI benefits in the current period.

IV. Certain Industries Are Associated with Unemployment

Unemployed workers in certain industries are more likely to receive UI benefits and experience shorter unemployment duration than otherwise similar workers from other industries. Simulations show that first-time unemployed workers from mining and manufacturing are more likely to receive UI than workers from other industries. Moreover, the strength of the association between past and current UI benefit receipt varies across industries. The increase in the likelihood of receiving UI from one unemployment period to the next is highest for public administration and is lowest for agriculture and construction. Furthermore, simulations indicate that UI-eligible workers from industries with higher proportions of unemployment periods that result in UI receipt are no more likely to become repeat UI recipients than workers from other industries. With respect to unemployment duration, UI-eligible workers from construction and manufacturing have shorter unemployment duration than workers from other industries.

Unemployed Workers from Mining and Manufacturing

Unemployed workers from mining and manufacturing are more likely to receive UI than otherwise similar workers from other industries. For example, first-time unemployed workers from the manufacturing industry are about two-thirds more likely to receive UI benefits than workers from the professional and related services industry (see table 2). Although UI-eligible workers from mining are more likely to receive UI benefits than workers from other industries, just 2 percent of the unemployment periods that result in UI benefit receipt come from the mining industry. (See fig. 8.)

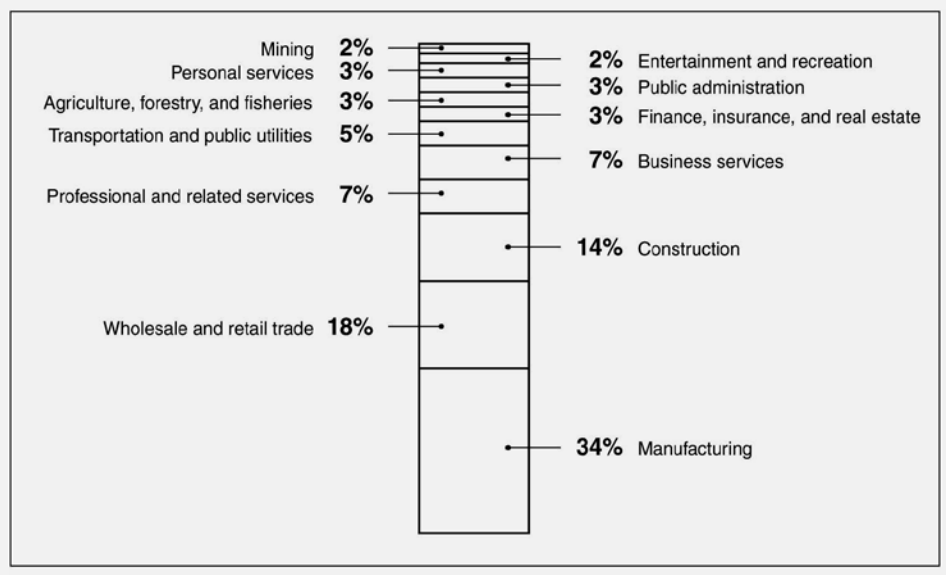
Table 2: Benefit Receipt From Different Industries

Simulated Likelihood of Receiving UI Benefits for UI-Eligible Workers from Different Industries Industry	Simulated likelihood of receiving UI benefits (percent)
Mining	46
Manufacturing	40
Public administration	37
Wholesale and retail trade	35
Agriculture, forestry, and fishing	34
Business services	31
Construction	31
Finance, insurance, and real estate	31
Transportation and public utilities	29
Entertainment and recreation services	26
Professional and related services	24
Personal services	23
All industries	**33**

Source: Simulations based upon GAO analysis of NLSY79 data.
Note: Simulations are the average likelihood of receiving UI during first-time unemployment for workers from different industries. The parameter estimates for the mining, manufacturing, public administration, wholesale and retail trade, agriculture, forestry, and fishing, business services, and construction industries are statistically significant relative to the professional and related services industry at the 95 percent confidence level.

The percentages in table 2 and figure 8 are not comparable. The percentages in table 2 represent an individual worker's likelihood of receiving UI when UI-eligible unemployment occurs, whereas the percentages in figure 8 compare the relative proportions of unemployment spells with UI benefit receipt coming from different industries.

Figure 8: Distribution of All Periods of UI Benefit Receipt across Industries



Note: Total does not equal 100 percent due to rounding.

The Relationship between Past and Current UI Receipt Is Strongest for Public Administration

Unemployed workers who have received UI benefits in the past are more likely to receive UI benefits during a current period of unemployment than otherwise similar workers who never received UI benefits, across each industry (see table 3). However, the increase in the likelihood of receiving UI benefits associated with past UI benefit receipt is not the same across all industries. Specifically, this effect is strongest for workers from public administration and is weakest for workers from agriculture and construction. Although the association between past UI receipt and current UI receipt is statistically significant for all industries combined, differences in this association among industries were statistically significant only for public administration, agriculture, and construction

These results show that although UI-eligible workers in some industries are more likely to receive UI benefits when they experience unemployment for the first time, their likelihood of receiving UI benefits again when they become unemployed a second or third time is not necessarily higher than it is for workers from other industries. For example, the likelihood of receiving UI benefits for workers from the manufacturing industry who are unemployed for the first time is relatively high—about 40 percent. This likelihood increases to 52 percent during a second period of unemployment for workers who have already received UI benefits, and to 65 percent during a third period of unemployment for workers who received UI each time they were unemployed. By comparison, the increase in the likelihood of receiving UI between the first and third periods of unemployment is higher for most other industries, especially public administration. Specifically, the likelihood of receiving UI benefits for public administration workers who are unemployed for the first time is 37 percent. This likelihood increases to 69 percent during a second period of unemployment for workers who have already received UI, and to 92 percent during a third period of unemployment for workers who received UI each time they were unemployed. (See fig. 9.)

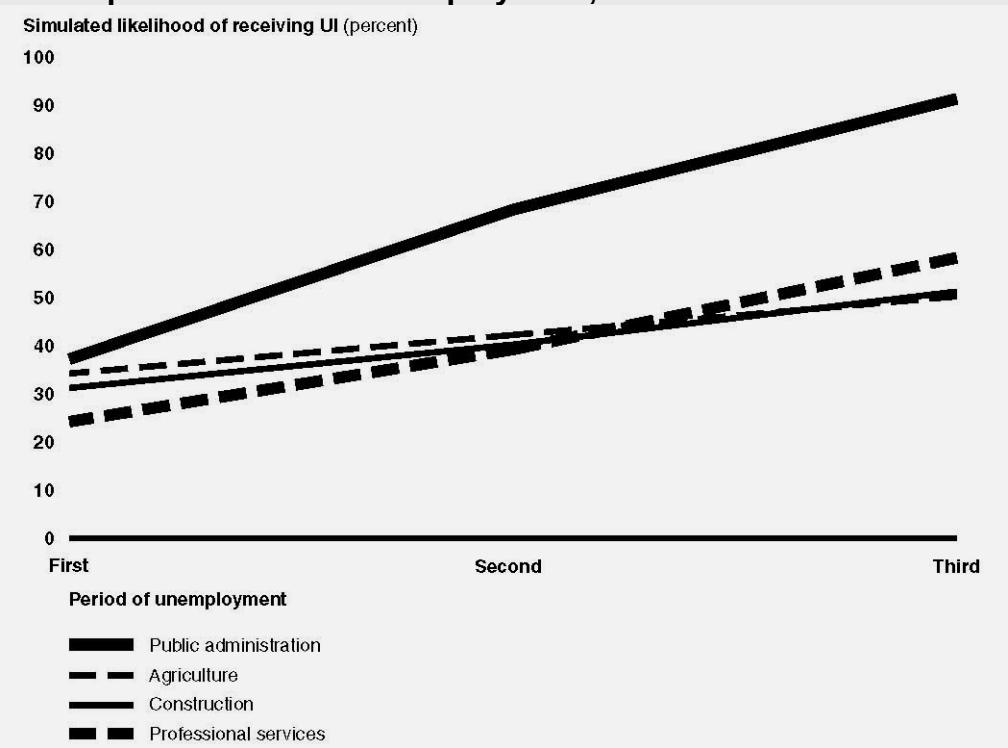
Table 3: Benefits for Different Periods- Past UI Receipt

Simulated likelihood of receiving UI benefits during current UI-eligible unemployment period, given past UI receipt (percent), by industry			
Industry	**First unemployment period[a]**	**Second unemployment period**	**Third unemployment period**
Mining	46	57	69
Manufacturing	40	52	65
Public administration	37	68	91
Wholesale and retail trade	35	52	70
Agriculture, forestry, and fishing	34	42	50
Business services	31	48	66
Construction	31	40	51
Finance, insurance, real estate	31	64	91
Transportation and public utilities	29	46	66
Entertainment and recreation services	26	45	67
Professional and related services	24	39	58
Personal services	23	38	56
All industries	**33**	**48**	**64**

Source: Simulations based upon GAO analysis of NLSY79 data.
Note: Simulations are the average likelihood of receiving UI during a first unemployment period, a second unemployment period with UI receipt during the prior unemployment period, and a third unemployment period with UI receipt during both prior unemployment periods. The positive effect that each prior UI receipt period has on the likelihood of current UI receipt is statistically significantly larger for the public administration industry relative to the professional and related services industry at the 95 percent confidence level, and smaller for the agriculture and construction industries. The simulations also incorporate the industry effects and the industry interactions with the number of prior periods of unemployment.
[a]Workers experiencing their first period of unemployment did not have past UI receipt.

Figure 9: Future Receipt of Benefits by Industry

Simulated Effect of Past UI Benefit Receipt on the Likelihood of Receiving UI in Subsequent Periods of Unemployment, for Selected Industries



Source: Simulations based on GAO analysis of NLSY79 data.
Note: Simulations are the average likelihood of receiving UI during a first unemployment period, second unemployment period with UI receipt during the prior unemployment period, and a third unemployment period with UI receipt during both prior unemployment periods. The positive effect that each prior UI receipt period has on the likelihood of current UI receipt is statistically significantly larger for the public administration industry relative to the professional and related services industry at the 95 percent confidence level, and smaller for the agriculture and construction industries. The simulations also incorporate the industry effects and the industry interactions with the number of prior periods of unemployment.

Administrative unemployment insurance data have shown that repeat UI recipients tend to be from industries that are more seasonal, such as manufacturing and construction. The results, however, suggest that this is not because workers with past UI receipt from these industries are more likely to receive UI benefits when they become unemployed than otherwise similar workers from other industries. Rather, it may be that workers from such seasonal industries are unemployed more often on average than workers from other industries, or that a larger proportion of unemployed workers from such industries have collected UI previously.

Construction and Manufacturing Have Fewer Weeks of Unemployment

Unemployed workers from construction and manufacturing have shorter unemployment duration than otherwise similar workers from other industries. (See table 4.) Furthermore, simulations based on model estimates show that differences in unemployment duration across industries exist whether or not UI benefits are received.

Specifically, UI-eligible workers from construction who receive UI benefits have the fewest weeks of unemployment on average (17 weeks), when compared with workers from other industries. Likewise, UI-eligible workers from construction who do not receive UI benefits also have the fewest weeks of unemployment, on average (6 weeks).

Table 4: Eligibility and Duration

Simulated Unemployment Duration for UI-Eligible Workers, by Industry and UI Receipt Status Simulated unemployment duration (median weeks)

Industry	Receiving UI benefits	Not receiving UI benefits
Construction	17	6
Mining	17	6
Business services	18	7
Manufacturing	19	7
Finance, insurance, and real estate	21	8
Wholesale and retail trade	22	9
Public administration	23	9
Professional and related services	24	10
Entertainment and related services	24	10
Personal services	24	10
Agriculture, forestry, and fishing	26	11
Transportation and public utilities	27	12
Overall average duration	**21**	**8**

Source: Simulations based upon GAO analysis of NLSY79 data.
Note: Simulations are the median duration of unemployment during first-time unemployment. The parameter estimates for the construction and manufacturing industries are statistically significant relative to the professional and related services industry at the 95 percent confidence level.

UI Benefit Receipt and Longer Unemployment Duration

The likelihood of receiving UI benefits varies across occupations, but generally not as much as it does across industries. Specifically, UI-eligible managers are about one-fifth more likely to receive UI than otherwise similar transportation equipment operators, and one-half more likely to receive UI than professional and technical workers (see table 5).

UI-eligible workers who have received UI benefits in the past are more likely to receive UI benefits during a current period of unemployment than UI-eligible workers who never received UI benefits, across each occupation. Specifically, this effect is strongest for sales and service workers and weakest for transportation equipment operators and craftsmen (see table 6). Although the association between past UI receipt and current UI receipt is statistically significant for all occupations combined, differences in this association among occupations were statistically significant only for sales and service workers, and for transportation equipment operators and craftsmen.

Table 5: UI Benefits and Different Occupations

Simulated Likelihood of Receiving UI Benefits for UI-Eligible Workers from Different Occupations

Occupation	Simulated likelihood of receiving UI benefits (percent)
Managers and administrators	39
Farmers, farm laborers, and foremen	38
Machine operators (nontransportation)	38
Craftsmen	35
Laborers (nonfarm)	34
Transportation equipment operators	33
Clerical and unskilled workers	33
Service workers (excluding private household)	28
Sales workers	28
Professional and technical workers	25
Overall average	**33**

Source: Simulations based upon GAO analysis of NLSY79 data.
Note: Simulations are the average likelihood of receiving UI during first-time unemployment for workers from different occupations. The parameter estimates for managers and administrators, farmers, farm laborers, and foremen, machine operators, craftsmen, laborers, transportation equipment operators, and clerical and unskilled workers are statistically significant relative to professional and technical workers at the 95 percent confidence level.

Table 6: Past Receipt and Occupation

Simulated Likelihood of Receiving UI Benefits during Different Periods of UI-Eligible Unemployment for Workers with Past UI Receipt, by Occupation

	Simulated likelihood of receiving UI benefits during current UI-eligible unemployment period, given past UI receipt (percent)		
Occupation	First unemployment period[a]	Second unemployment period	Third unemployment period
Managers and administrators	39	52	65
Farmers, farm laborers, and foremen	38	54	70
Machine operators (no transportation)	38	50	62
Craftsmen	35	46	56
Laborers (nonfarm)	34	45	58
Transportation equipment operators	33	42	51
Clerical and unskilled workers	33	53	73
Service workers (excluding private household)	28	50	74
Sales workers	28	66	94
Professional and technical workers	25	39	56
Overall average	**33**	**48**	**64**

Source: Simulations based upon GAO analysis of NLSY79 data.
Note: Simulations are the average likelihood of receiving UI during a first unemployment period, a second unemployment period with UI receipt during the prior unemployment period, and a third unemployment period with UI receipt during both prior unemployment periods. The positive effect that each prior UI receipt period has on the

likelihood of current UI receipt is statistically significantly larger for sales workers and service workers relative to professional and technical workers at the 95 percent confidence level, and smaller for transportation equipment operators and craftsmen. The simulations also incorporate the occupation effects and the occupation interactions with the number of prior periods of unemployment.
[a]Workers experiencing their first period of unemployment did not have past UI receipt.

Unemployment duration also varies across occupations. UI-eligible professional and technical workers have longer unemployment duration than otherwise similar workers from other occupations. Specifically, professional and technical workers have unemployment duration that is 5 weeks longer than average for workers receiving UI and 3 weeks longer than average for workers not receiving UI (see table 7). The largest differences between industries in median weeks of unemployment are 10 weeks for workers receiving UI and 5 weeks for workers not receiving UI. Past experience with UI benefit receipt has no significant effect on unemployment duration, regardless of a worker's occupation.

Table 7: Past Receipt, Occupation, and Duration

Simulated Unemployment Duration for UI-Eligible Workers, by Occupation and UI Receipt Status Simulated unemployment duration (median weeks)

Occupation	Receiving UI benefits	Not receiving UI benefits
Craftsmen	16	6
Sales workers	18	7
Machine operators (nontransportation)	19	7
Transportation equipment operators	20	8
Laborers (nonfarm)	20	8
Service workers (excluding private household)	23	9
Managers and administrators	23	9
Clerical and unskilled workers	23	10
Farmers, farm laborers, and foremen	26	11
Professional and technical workers	26	11
Overall average duration	**21**	**8**

Source: Simulations based upon GAO analysis of NLSY79 data.
Note: Simulations are the median duration of unemployment during first-time unemployment for workers from different occupations. The parameter estimates for craftsmen and machine operators are statistically significant relative to professional and technical workers at the 95 percent confidence level.

Concluding Observations

Although the UI program has existed for over 70 years and serves millions of workers each year, little is known about workers who receive UI benefits on a recurring basis or about workers who are eligible for UI benefits but never receive them. The authors of this report found that UI-eligible workers during the first half of their working lives with certain demographic characteristics and from certain industries have a greater likelihood of receiving UI benefits multiple times and experiencing longer unemployment durations

than otherwise similar workers. Although results are generally consistent with past research, analysis includes additional information about workers' past experiences that provides new insight into the factors that distinguish workers who receive UI benefits from those who do not. In fact, the single most important factor associated with eligible workers receiving benefits is whether or not they received benefits during previous unemployment, suggesting that a worker's perception of UI when they are faced with unemployment is key to whether that worker will ever use the program. Moreover, it does not appear that previous UI recipients from industries where UI benefit receipt is more likely, such as construction and manufacturing, are any more likely to receive benefits if unemployed again than similar workers from other industries. Rather, it appears that workers from these industries are simply more likely to face the choice of whether or not to file for UI benefits more often than their counterparts in other industries. In addition, while the patterns for UI receipt and unemployment duration GAO identified for this group during the first half of their working lives may not change significantly as they enter the second half of their working lives, it remains to be seen whether the issues they face in the years leading up to their retirement will reshape their use of the UI program.

V. Analysis of UI Benefit Receipt and Unemployment Duration

Overview

Report authors analyzed the factors affecting unemployment insurance (UI) benefit receipt by statistically modeling the determinants of UI benefit receipt and unemployment durations simultaneously. The research modeled UI benefit receipt in conjunction with unemployment durations to allow for correlations that may exist between the two outcomes for a given individual. For example, an unemployed person anticipating a lengthy unemployment period might be more likely to receive UI benefits than a person expecting a short unemployment period. Alternatively, the receipt of UI benefits may lengthen an unemployment period by allowing an individual to spend more time looking for new employment. In addition, the model controls for a number of observable factors about each unemployed worker's situation, including recent employment experience, prior unemployment and UI benefit receipt experience, information about UI program factors, including benefit levels, and demographic characteristics. Students interested in further study can view the Appendix on line at www.gao.gov and access report GAO-06-341.

The appendix describes (1) the data used in the analysis, including how the data were prepared, (2) the econometric model that was estimated, (3) the results from two specifications of the econometric model, and (4) the limitations inherent in the analysis.

Data Used

The GAO used the Bureau of Labor Statistics' (BLS) National Longitudinal Survey of Youth 1979 (NLSY79) for the analysis. The NLSY79 is an ongoing longitudinal survey of individuals who were between the ages of 14 and 22 in 1979, the first year of the survey. NLSY79 data begin in 1978. Interviews for the NLSY79 were conducted annually until 1994, and biennially beginning in 1996. This report uses data through 2002, which were the most recent NLSY79 data available. A primary focus of the NLSY79 is on individuals' labor force patterns, and the data are collected at a very

detailed level. This detail allowed the tracking of weekly employment, unemployment, and earnings histories of the individuals in the sample. The NLSY79 also contains less detailed information about individuals' UI receipt during unemployment. UI receipt information is provided on a monthly basis in the NLSY79. Because this information is only given on a monthly basis, it cannot be used to accurately measure the number of weeks of UI receipt during unemployment. The NLSY79 does not contain direct information about an individual's UI eligibility status, which is a function of previous employment and earnings, among other things, and varies by state of employment. State UI programs determine eligibility using a number of criteria, including the following conditions:
(1) the unemployment must be the result of a job loss that was not caused by the individual,
(2) the individual must have earned a specified amount of money during the time preceding the unemployment, and
(3) the individual must be actively looking for new employment. The writers of this report estimate an unemployed individual's UI eligibility status using data that are available in the NLSY79.

Use of NLSY79

There are three main reasons why the NLSY79 database provides the most suitable data for the analysis;
First, the longitudinal nature and level of detail of the data allows control for an individual's history of unemployment and UI receipt, which is a major contribution of this work.
Second, respondents were first surveyed at a young age, which reduces the likelihood that observers do not observe periods of unemployment and UI receipt early in a person's working career.
Third, the detailed data allows the estimating of an individual's UI eligibility status. This allows the focusing of analysis on unemployed individuals whom the authors of this report estimated to be eligible for UI benefits while also reasonably controlling for differences in UI program rules across states.

A few limitations to the NLSY79 database should be mentioned. First, the sample began with 12,686 individuals in 1979, but has decreased in size over time due to attrition. (See Center for Human Resource Research, Ohio State University, The National Longitudinal Surveys NLSY79 User's Guide, prepared for the Department of Labor, 2002) Second, the data are self-reported and thus subject to recall error. This report's authors assessed the reliability of the NLSY79 data by interviewing relevant BLS officials, reviewing extensive NLSY79 documentation, and performing electronic tests of the NLSY79 data for missing or corrupt information that might negatively affect the analysis. On the basis of these reviews and tests, the authors determined that the data were sufficiently reliable to be used in the analysis.

The authors considered using administrative state UI data as an alternative to the NLSY79. Although such administrative data could provide information about all UI recipients in a state, these data could not provide information about UI-eligible unemployed workers who did not receive benefits. Also, because these data are not designed for research purposes, there is limited information available about individuals that can be used to control for differences, such as demographic characteristics. Finally, there is also no nationally representative data source for administrative UI data.

For each individual in the NLSY79 database, GAO authors created a detailed weekly history of employment and unemployment, including whether UI benefits were received during unemployment. The definition of unemployment is not the strict definition used in the BLS's Current Population Survey (CPS). The writers of this report define unemployment to include both the weeks in which an out-of-work person is looking for work (the standard CPS unemployment definition) and the weeks during which the individual reports being out of the labor force (OLF). GAO did require that an individual spend at least 1 week actively looking for work after a job loss to reduce the likelihood that the person had permanently left the labor force. Other research has addressed the effect that the UI program plays on the percentage of weeks of nonemployment that a person reports that he or she was looking for work. R. Mark Gritz and Thomas MaCurdy, "Measuring the Influence of Unemployment Insurance on Unemployment Experiences," *Journal of Business and Economic Statistics*, vol. 15, no. 2, (1997), examined the role that UI rules have on an individual's choice to report himself or herself as unemployed (CPS definition) as opposed to out of the labor force. They found that, in addition to having longer nonemployment periods, UI recipients report being unemployed in the CPS sense for a greater proportion of their nonemployment period.

Eligibility Status

For each unemployment period experienced by an individual, the researchers estimate the person's UI eligibility status. Although states determine UI eligibility using a number of criteria, this report focuses on the following three: (1) the unemployment must be the result of a job loss that was not caused by the individual, (2) the individual must have earned a specified amount of money during the time preceding the unemployment, and (3) the individual must be actively looking for new employment. The NLSY79 provides the information necessary to estimate whether these criteria are met by an unemployed individual. For criterion 1, the NLSY79 provides information about the reason that a job was lost. Only those unemployed individuals who lost a job through no fault of their own were deemed to be UI-eligible. It appeared from the NLSY79 data that a number of respondents did not differentiate between being laid off and being discharged or fired. As a result, GAO includes those who report being either laid off or discharged or fired as satisfying the first UI eligibility rule. The NLSY79 reports a number of other reasons for leaving a job, including having found better work, low pay, pregnancy, illness, change of job by spouse or parents, other family reasons, job's interference with school, the end of a program, bad working conditions, and entrance into the armed forces. For the monetary eligibility criterion 2, investigators compiled a detailed set of UI eligibility and benefit criteria for each of the 50 states and the District of Columbia over the period 1978 to 2002. (See U.S. Department of Labor. Employment and Training Administration, *Significant Provisions of State Unemployment Insurance Laws (*Washington, D.C., 1979-2002))

When these criteria for criterion 3, GAO considered as UI-eligible only those unemployed individuals who reported actively looking for work during at least 1 week of their unemployment. Researchers erred on the side of overestimating the eligibility based on criterion 3, because individuals who self-report information about nonemployment may not fully realize the impact that "looking for work" versus "being out of the labor force" has on UI eligibility, especially if they did not receive UI benefits. Although this estimation method is not perfect, the report's authors believe that it captures some of the most important features of UI eligibility. It is similar to the methods

used by other researchers. were combined with the NLSY79's detailed employment and earnings histories, investigators were able to determine monetary eligibility for UI with reasonable accuracy, as well as the weekly benefit amount and the number of weeks of benefits a person was eligible to receive. Although UI eligibility is based upon the rules in the state where an individual is employed, GAO used state of residence for estimates because state of employment was not available in the NLSY79. Thus, people who work in one state but live in another may not be classified correctly. However, the writers believe that only a small percentage of such data are classified incorrectly and, thereby, the results should be only minimally affected (See Gritz and MaCurdy, 1997, and McCall 2000 for examples).

UI Benefit Receipt

In addition to estimating the UI eligibility status of individuals at the time of each of their unemployment periods, researchers also created the other variables used in this analysis. The empirical model outlined in the following subsection focuses on UI benefit receipt and unemployment duration. UI benefit receipt during unemployment was determined using the monthly measure provided in the NLSY79. The report authors consider only an individual's first period of unemployment with UI receipt during a person's "benefit year." A benefit year is the 52-week period during which UI benefits can be claimed. The duration of unemployment, as defined above, is measured in weeks from the week after a job was lost to the week a new job was begun. Investigators censor duration to be no longer than 100 weeks. To isolate the impact that a variable has on the likelihood of UI benefit receipt and unemployment duration, this model controls for a great number of other factors that were observable at the start of, and throughout, the person's unemployment. One set of variables relates to the employment experience of the individual immediately preceding unemployment, including industry and occupation of the lost job (measured at the one-digit Standard Industrial Classification [SIC] and Standard Occupational Classification [SOC] level), union status and tenure at the job lost, earnings (base period earnings [BPE] and high quarter earnings [HQE]), whether the job was lost because of a plant closing, and the calendar year and month the unemployment began. The base period is the period of time during which earnings are counted toward UI eligibility. It generally covers a year. This report's authors define the base period as the first four of the last five completed calendar quarters. High quarter earnings refers to the quarter of highest earnings during the base period.

The authors of this report group both earnings measures into brackets to allow for nonlinear effects. All dollar values are adjusted for inflation to 2002 dollars using the BLS's Consumer Price Index for All Urban Consumers (CPI-U). This report also controls for the state unemployment rate during the month that unemployment began, and, in the duration equation, for the time-varying state monthly unemployment rate over the period of unemployment.

A second set of variables summarizes UI program factors, such as the weekly benefit amount (WBA) a person is eligible to receive, the number of weeks of benefits a person is eligible to receive, whether the state has a waiting period before benefits can be received, and whether permanent or temporary extended benefits are in effect. Permanent extended benefits are triggered by high unemployment rates in a state, and provide for up to 13 additional weeks of benefits to UI-eligible individuals. Temporary extended benefits are available periodically, as authorized by Congress. The report also control for the percentage of new UI claims that are denied by a state (in the receipt

equation) and the percentage of continuing UI claims that are denied by a state (in the duration equation). In the unemployment duration equation, investigators also allow the parameter estimates for WBA, remaining weeks of benefits, and extended benefits to vary over the period of unemployment. This is done by interacting these variables with a cubic function of the number of weeks unemployed. Again, all dollar values are adjusted for inflation to 2002 dollars using the BLS's CPI-U.

A third group of variables relates to a person's history of unemployment and UI benefit receipt as measured at the start of an unemployment period. This group of variables includes the number of times the person had been unemployed and the number of times a person had received UI benefits previously (in the receipt equation) and whether or not the person had been unemployed and whether or not the person had received UI benefits previously (in the duration equation). The report also interacts these variables with industry and occupation dummy variables to investigate whether previous unemployment and UI receipt affect the likelihood of current UI receipt and unemployment durations differently across industries. These interactions with industry and occupation are done in separate specifications of the model.

A fourth group of variables relates to a person's demographic characteristics at the time of unemployment. These include age, race, gender, marital status, number of years of schooling, health limitations, whether a spouse has used UI previously, family size, number of children, number of children between the ages of 0 and 2, whether the person lives with his or her parents, state of residence, and whether the person lives in a Standard Metropolitan Statistical Area (SMSA) as opposed to a rural area.

The researchers limit their analysis to the nonmilitary sample of NLSY79 respondents. The NLSY79 began with 12,686 individuals in 1979, 1,280 of whom were part of the military subsample. The majority of the military subsample of the NLSY79 was eliminated in 1985. In addition, the report drops individuals with insufficient information to estimate UI eligibility with reasonable accuracy. Data for an individual were included up to their first missed interview. The NLSY79 attempts to reconnect with individuals that missed an interview in the previous year. Individuals without any unemployment, and those without unemployment that was estimated to be UI-eligible, were not used in the analysis. Also, individuals who were missing data required by the report's econometric model were not used in the analysis. This yielded a sample of 5,631 individuals who had been unemployed and eligible for UI benefits at least once, resulting in a total of 15,506 separate periods of UI-eligible unemployment.