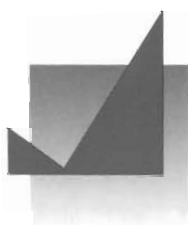# Unemployment insurance and regional economic development

High payroll taxes can be a disadvantage in attracting and holding business, but states have only modest control over the economic conditions that may force higher unemployment insurance costs

William A. Testa and Natalie A. Davila

Two questions arise concerning unemployment insurance (UI) in the context of economic development. Do state differences in UI system costs affect regional growth and development? If not, economic development policies undertaken by states to modify their UI tax rates will be misdirected. Previous statistical studies offer little guidance in assessing the importance of UI to regional growth. We have conducted an empirical study covering 75 metro areas over the 1976–1985 period which examines the relation between UI costs and regional growth for major industrial categories. Our results suggest that high UI tax rates do tend to retard state employment growth in the manufacturing sector.

The second question concerns the latitude that states have to adjust UI tax rates by means of legislative changes in the liberality of their UI systems. To the extent that larger forces beyond the influence of state policy, particularly lagging regional growth itself, are responsible for high UI costs to employers, state action to lower benefits may result in higher social costs without countervailing economic benefits.

We find that the state's economic condition, particularly the unemployment rate itself, is an important influence on the geographical variation in UI tax rates.

## The UI system and its features

In 1935 the Social Security Act was signed by President Franklin Roosevelt. The Act provided for a federal-state unemployment insurance system along with national old-age pensions, old-age assistance, and federal grants for dependent children, the handicapped, and the disabled.[1] The UI system was designed to provide weekly cash benefits to unemployed workers who lose their jobs through cyclical or structural changes in the economy, the so-called "involuntarily" unemployed workers. UI benefit payments are usually reserved for those workers who have at least moderate work experience in the year prior to losing their jobs. Accordingly, new job market entrants and re-entrants are usually ineligible to receive benefits.

The unemployment insurance system has several intended functions:

■ To provide a type of insurance to workers subject to cyclical swings in income (i.e., a budgeting aid to workers).

■ To provide jobless workers with the income to search for new jobs.

■ To stabilize the overall level of economic activity as a countercyclical program.

The cost at which the program succeeds in achieving these goals remains open to question. Some analysts believe that the system
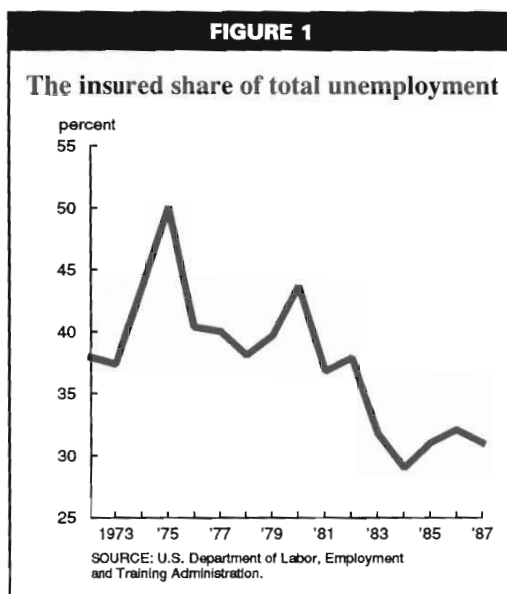
William A. Testa is a senior economist with the Federal Reserve Bank of Chicago. Natalie A. Davila is Chief Revenue Analyst, Office of Budget Management, City of Chicago. They thank Cynthia L. Ambler of the Employment and Training Administration, U. S. Department of Labor, for timely and accurate information.

significantly increases the frequency and duration of unemployment by lowering the cost to workers of becoming or remaining jobless.[2] Because UI payments are available, workers may be less concerned with losing their jobs and, once unemployed, less motivated to regain employment. Several proposals have been offered to improve the functioning of the UI system in re-employing workers.[3]

The UI system's design has also been implicated in impairing the efficient functioning of regional growth and development.[4] The UI system remains decentralized; each state (for the most part) determines the terms and size of benefits paid to workers within its own borders. Consequently, regional costs of doing business for firms may vary, because the firm must bear the costs of UI insurance.[5] Accordingly, variation in UI costs may affect regional income and employment.

The UI system in the United States currently covers approximately 86 percent of the total employed civilian population (and 97 percent of wage and salary workers). The proportion of covered workers has been relatively constant over the past decade. Prior to 1978, the covered share of all workers (including the self-employed) stood at 77 percent because state and local government employees were excluded from coverage.

The vast majority of those who receive benefits become eligible through involuntary job loss. The term of regular benefits usually expires within 26 weeks, providing only transitory income to many of the unemployed. In 1987, approximately 31 percent of all unemployed persons were receiving UI benefits. This figure has fallen by about one-fourth since 1980 and the reasons behind the drop are not completely understood (Figure 1).[6] From a labor market perspective, the length and depth of the 1981–82 recession, and the fact that it occurred so soon after the 1980 recession, undoubtedly left many laborers out of work for extended periods of time. As a result, the proportion of the unemployed who exhausted their benefits increased as economic recession and regional upheaval dragged on. Several contributing factors have also been suggested. One is that a series of relatively small legislative and administrative changes at both state and federal levels have combined, by tightening eligibility, to reduce the number of UI



**FIGURE 1**

The insured share of total unemployment

SOURCE: U.S. Department of Labor, Employment and Training Administration.

recipients.[7] And it may be that, owing to increased regional and world competition, employers became more aggressive in contesting benefit claims by asserting that quits or misconduct (rather than layoffs) were involved in job terminations.

### Eligibility

Under state statutes, unemployed individuals covered by UI must file a claim in order to receive benefits. Eligibility rules can be categorized into two types, nonmonetary and monetary conditions.

Nonmonetary rules generally apply to conditions of separation from work and also a worker's continuing willingness and availability for work (Table 1).[8] An individual receiving benefits must typically be able to work, be seeking work, be otherwise free from disqualification, and not have quit his previous job without a good cause. Particular rules and the degree to which they are enforced vary among states.

Monetary eligibility rules attempt to measure a worker's previous ties to the labor force. Eligible status is partly determined by a worker's recent experience in covered employment, typically during the past one-year "base" period. A claimant must have earned a specified amount of wages, have worked a certain number of weeks in covered employment in the base period, or meet some combination of wage and employment criteria (Table

| TABLE 1 | | |
|---|---|---|
| **Nonmonetary denial rates by state–1987** | | |
| State | For separation issues[1] | For nonseparation issues[2] |
| Illinois | 95.9 | 1.2 |
| Indiana | 119.7 | 17.8 |
| Iowa | 84.5 | 11.0 |
| Michigan | 93.4 | 9.5 |
| Ohio | 65.0 | 11.2 |
| Wisconsin | 60.2 | 15.0 |
| U.S. average[3] | 104.1 | 19.4 |

[1]Separation issue denial rates are reported per 1,000 new spells of insured unemployment.

[2]Nonseparation issue denial rates are reported per 1,000 claimant contacts.

[3]Unweighted average of 50 states plus the District of Columbia.

SOURCE: Unemployment Insurance Service Employment and Training Administration, (unpublished data).

2). In January of 1988, the amount of wages needed to obtain minimum payment offered within a state varied from $150 in Hawaii to $3,640 in Oklahoma.

Benefit amounts and duration vary widely among states. Benefits are commonly available for up to a maximum of 26 weeks but the duration is shorter in some states for workers with lesser work experience in the base period. Average weekly benefits that were actually received in 1987 ranged from $98 in Tennessee to $177 in Minnesota (Table 3). Illinois averaged $141 which, along with all other Seventh District states except Indiana, lies above the U.S. average of $136. Michigan had the highest average benefit level in the District in 1987, 13 percent above the national average, while Indiana maintained a level of weekly benefit 26 percent below the national average.

Interstate differences in average benefits can be partly accounted for by wage differences across regions. Average wage levels and average UI benefit levels of U.S. states display a strong tendency to vary in the same direction.[9] To the extent that high wages com-pensate for higher living costs in a state, the state may desire to replace a proportionate share of a worker's wages during spells of unemployment.

Regional preferences and opinions concerning the efficacy of UI benefits may also affect state differences in average benefits. Even after holding the effects of average weekly wage constant through the use of multiple regression analysis, we find much variation in average weekly benefits across regions.[10] In general, states in the East South Central and South Atlantic regions tend to pay out lower average benefits; the West, South Central, and Mountain regions display higher weekly payments to unemployed workers.

## Joint federal-state responsibility

The UI system is funded by both a state and a federal tax on payrolls of workers who are covered by the system. The bulk of system benefits are provided by state-funded benefit payouts which are administered through state programs. Accordingly, the state tax rates greatly exceed the federal tax. In 1987, state tax revenue under the UI system exceeded federal revenues fourfold.

Nonetheless, the functions of the federal government in the UI system are significant. The federal tax rate system is structured to penalize severely any state that chooses to shirk its UI mandate or ignore federal guidelines. In addition, revenues from the federal tax component fund the system's administration, provide short-term loans to states, and help provide extended benefits to workers during periods of extended recessions.

## Federal role

All UI system funds—both state and federal—are deposited into and withdrawn from trust accounts which are held by the federal government. Thus, both federal and state tax receipts and benefits appear as revenue and outlays in the unified federal budget and all UI activities affect the federal deficit accordingly.

A basic federal tax rate is now levied at a uniform rate of 0.8 percent across all covered employers in the U.S. It is levied on a uniform taxable wage base which consists of the first $7000 of each employee's wages. Revenue accruing from the federal tax is directed into one of three accounts (Figure 2). These

## TABLE 2

### Unemployment insurance: minimum and maximum wage requirements and benefits by state, January 1, 1988

| District states | Wages required for minimum benefits* | | Minimum benefits[1] | | Wages required for maximum benefits* | | Maximum benefits[1] | |
|---|---|---|---|---|---|---|---|---|
| | Base period | High quarter[2] | Weekly benefit amount | Number of weeks | Base period | High quarter[2] | Weekly benefit amount | Number of weeks |
| Illinois | 1600.00 | _ | 51.00 | 26 | 9321.00 | 4660.50 | 176-230 | 26 |
| Indiana | 2500.00 | 750.00[3] | 40.00 | 9+ | 3348.82 | 2232.55 | 96-161 | 26 |
| Iowa | 870.00 | 580.00 | 25-30.00 | 11+ | 5761.50 | 3841.00 | 167-205 | 26 |
| Michigan | 3195.00 | _ | 58.00 | 15 | 8678.20 | _ | 229 | 26 |
| Wisconsin | 1702.00 | _ | 38.00 | 1-14+ | 6766.17 | _ | 200 | 26 |

*Figures reported in dollars.

[1]Higher of two amounts shown indicates allowance for family dependents.

[2]Some states require a minimum amount of earnings in any single quarter of the base period as a qualification for benefits.

[3]$1500 over two quarters.

SOURCE: U.S. Dept. of Labor, Employment and Training Administration, *Comparison of State Unemployment Insurance Laws*, January 3, 1988.

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accounts are: the Federal Employment Security Administration Account (FESAA), used to cover administration expenses; the Federal Extended Unemployment Compensation Account (FEUCA), used to finance the federal share of extended benefits (EBs); and the Federal Unemployment Account (FUA), which provides loans to states for the payment of benefits. Advances to states from the FUA made prior to April 1, 1982, are interest-free; loans made after this date can bear interest.

During periods of state economic hardship, extended benefits (EBs) are available after state UI expires, up to a combined total (including regular state benefits) of 39 weeks. The payment of EBs is financed equally through federal and state tax revenues.

In addition to extended benefits a third tier of benefits, Federal Supplemental Compensation (FSC), authorized only at the discretion of Congress, can be paid to claimants either after EBs expire or when a state has not triggered into EBs. In contrast to the other two benefit programs, its revenues have, on occasion, come from general federal revenues. The most recent FSC payments period was enacted in response to the 1981–82 recession.
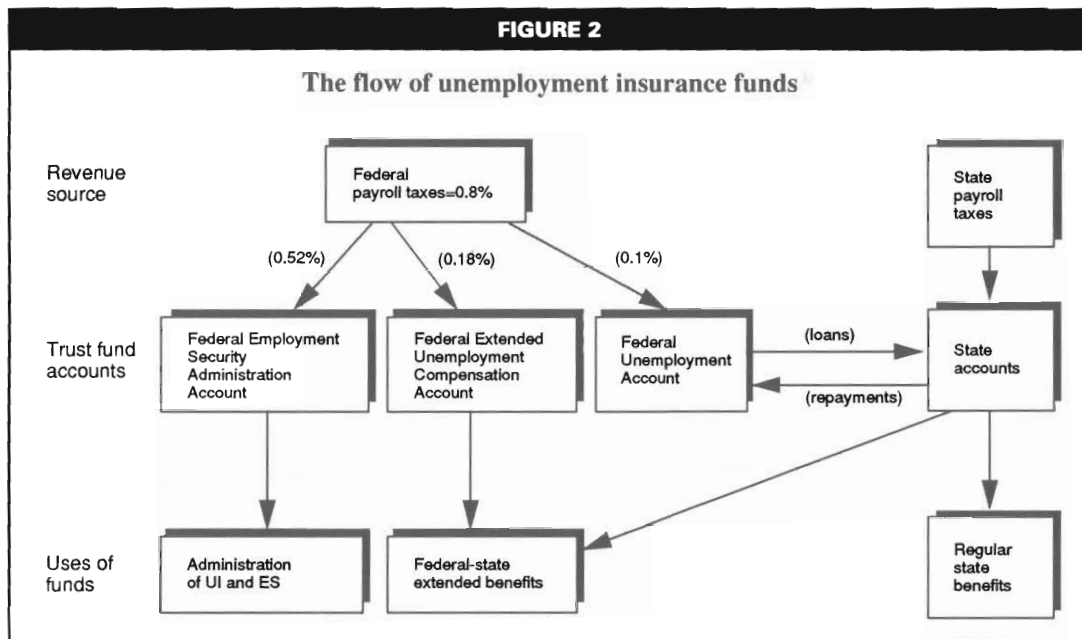
An important federal role is that of maintaining guidelines for state UI programs. The federal tax rate scheme enables the federal government to control the *basic* tax and benefit structure of state UI programs. Compliance

## TABLE 3

### Ratio of average weekly benefit amount to average weekly wage, 1987

| State | Average weekly benefit (dollars) | Average weekly wage (dollars) | Benefit-to-wage ratio |
|---|---|---|---|
| Minnesota (highest avg. of 50 states) | 177 | 375 | .45 |
| Illinois | 147 | 429 | .35 |
| Indiana | 104 | 381 | .28 |
| Iowa | 143 | 330 | .43 |
| Michigan | 158 | 452 | .36 |
| Wisconsin | 144 | 360 | .40 |
| Tennessee (lowest avg. of 50 states) | 98 | 349 | .28 |
| National average | 140 | 397 | .35 |

SOURCE: U.S. Department of Labor, Employment and Training Administration, *ET Handbook No. 394.*

FIGURE 2

## The flow of unemployment insurance funds

| | | |
|---|---|---|
| Revenue source | Federal payroll taxes=0.8% | State payroll taxes |

(0.52%)    (0.18%)    (0.1%)

| | | | | |
|---|---|---|---|---|
| Trust fund accounts | Federal Employment Security Administration Account | Federal Extended Unemployment Compensation Account | Federal Unemployment Account | State accounts |

(loans) →  ← (repayments)

| | | | | |
|---|---|---|---|---|
| Uses of funds | Administration of UI and ES | Federal-state extended benefits | | Regular state benefits |

by state programs with federal rules is virtually assured because the federal government drastically reduces the federal UI tax for employers in states with federally-approved UI programs. The nominal or gross federal tax rate now stands at 6.2 percent. However, firms are allowed a 5.4 percent credit allowance against the full federal tax provided they are in states with approved UI laws. All states currently maintain approved programs.

Original federal requirements, which covered only areas where uniformity was considered essential, largely remain in effect today: that all state-collected unemployment insurance taxes be immediately deposited in the U.S. Treasury; that money be withdrawn only for the purpose of paying UI benefits; and that states permit reduced rates to employers on the basis of the firm's past experience with unemployment. Subsequent federal legislation also covers some claimant eligibility conditions, administrative practices, and the industry sectors that states must cover under UI.

### State role

Unlike social welfare programs such as Aid to Families with Dependent Children (AFDC) which are assessed on a needs basis, UI is an insurance program and therefore is provided without regard to the economic condition of the recipient.[11] States are responsible for: developing UI benefit structure; establish-ing eligibility requirements (within federal guidelines); fixing length and size of benefit; and specifying state payroll tax structure.

At present each state remains responsible for funding its own *regular* UI benefit costs, regardless of how severe unemployment becomes or how it has been caused. No federal standards exist that cover the amount and duration of benefits payable—this is decided at state level. Each state uses at least the first $7,000 in wages (as federally required) as a base for its state UI tax (Table 4). These taxes are collected quarterly and deposited in the Unemployment Insurance Trust Fund in the U.S. Treasury.

State tax receipts not immediately paid out in benefits are used to build up a state's UI reserves. Thus do states build up their funds during good times and run them down during hard times. However, many state systems also contain elements of "pay-as-you-go" UI financing with the schedule of employer tax rates shifting up or down according to the soundness of the state's reserve funds.

Regardless of the state philosophy on financing, however, a long period of higher-than-expected unemployment can break a state fund and force borrowing from the federal government. Due to rapidly changing regional fortunes, some 37 states have, at one time or another, depleted their reserves and have borrowed federal funds over the last decade. In

### TABLE 4

### Taxable wage base

| State | State tax base (dollars) | Federal tax base (dollars) |
|---|---|---|
| Illinois | 9,000 | 7,000 |
| Indiana | 7,000 | 7,000 |
| Iowa | 11,000 | 7,000 |
| Michigan | 9,500 | 7,000 |
| Wisconsin | 10,500 | 7,000 |
| U.S. average (50 states and D.C.) | 9,300[1] | 7,000 |

[1]Figure (an unweighted average) rounded to nearest 100. Median state tax base equals $8,000.

SOURCE: U.S. Department of Labor, Employment and Training Administration, *Comparisons of State Unemployment Insurance Laws*, January 1988.

the 1970s and early 1980s the older manufacturing belt states suffered severe and prolonged unemployment. More recently, oil patch states and other energy states, such as West Virginia, Louisiana, Texas, and North Dakota, have experienced similar problems.

Prior to April 1982, a period when interest payments were not imposed on advances from the federal government, only three of the five Seventh District states, Michigan, Illinois, and Wisconsin, borrowed money from the FUA. These three states alone, however, accounted for almost 40 percent of total loans made before 1982. Michigan and Pennsylvania still owe money borrowed during this time.

Since April 1982 all five District states have, at one time or another, borrowed from the federal fund. Total advances made to the Seventh District states stand at some 32 percent of all loans made during the latter period, with Illinois and Michigan each borrowing over $2 billion.

One indicator of the solvency of state UI trust funds is the end-of-year reserves which are available for payout of benefits to claimants. In Figure 3, this measure is standardized on a per-employee basis and deflated by the GNP implicit price deflator. The five Seventh District states have had differing reserve experiences in recent years (Figure 4). Both Michigan and Illinois had a negative balance through 1986 (with the exception of Michigan in 1979.) Iowa's and Wisconsin's net reserves fell into the red during the early 1980s before recovering.[12] In contrast to other District states, Indiana's fund remained solvent throughout the dramatic economic events of the last 15 years. The state was forced to borrow in only one year, 1983, but repaid the principal within the same calendar year.

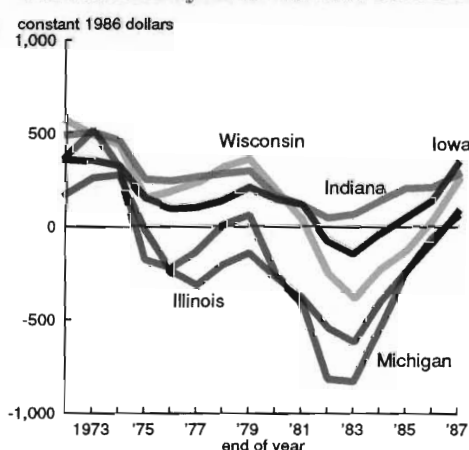In comparing the Seventh District with the U.S. as a whole, reserve fund trends differ

### FIGURE 3

#### Net reserves per covered employee
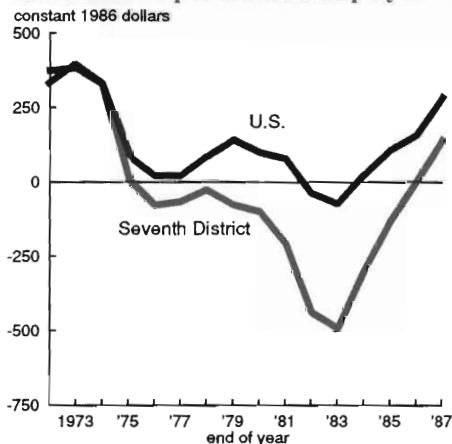


SOURCE: U.S. Department of Labor, Employment and Training Administration.

### FIGURE 4

#### Net reserves by state: Seventh District



SOURCE: U.S. Department of Labor, Employment and Training Administration.

markedly. While total District net reserves were negative from 1976 to 1986 with the exception of 1979, U.S. net reserves have only been negative in two years, 1982 and 1983.

### State experience rating

Federal guidelines induce states to impose differential tax rates on employers based on "experience rating." Under experience-rating schemes, states are required, albeit with broad latitude, to adjust each employer's tax rate on the basis of the employer's actual experience with unemployment. This allows the cost of unemployment compensation to be more ''fairly'' allocated among employers, by making firms more accountable for the joblessness they create. The design is also intended to discourage firms which may be contemplating excessive layoffs, thereby serving the national macroeconomic goal of stabilization.

The degree to which employers are experience-rated varies widely from state to state. Within any given state, the range between minimum and maximum employee costs crudely reflects the degree to which a state has adopted the experience-rating concept (Table 5). Very low minimum rates can reflect that a system rewards stable-employment firms with low UI rates. Very high maximum rates can indicate a state system designed to penalize firms with significant layoff histories. Using the range as a proxy for the sensitivity to firm experience rating in a state, it appears that Iowa and Michigan, for example, have experience-sensitive systems.

The lack of experience rating within a state indicates that firms with stable employment behavior are subsidizing volatile firms through the UI system.

An employee's benefit payments are *not* disbursed from his employer's individual account. Rather, benefit payments are drawn from the pooled funds deposited by all employers into the state's general trust fund account. Thus even within a state which has implemented a strong experience-rating system, there are employers whose taxes never fully reflect their benefit charges. Factors which contribute to the incompleteness of experience rating include: high minimum tax rates; low maximum tax rates and low taxable wage base; and the inability to collect taxes from bankrupt firms. Insofar as a state's experience-rating scheme seldom mirrors every firm's employment experiences, a varying degree of industry cross-subsidization occurs from state to state.

### State differences in UI tax rates

Overall UI tax rates, expressed as taxes paid per dollar of payroll for all industries, varied considerably across Seventh District states in 1987 (Table 6). These raw measures of overall UI tax rate display a wide geographic variation for several reasons. To some extent, tax-rate differences reflect differing industry compositions. For example, a state with a strong labor market concentration in cyclically-sensitive durable goods manufacturing industries will, other things being equal,

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### TABLE 5

#### Statutory state UI costs per employee,[1] 1988

| District states | Tax rates (percent) | | | Yearly employee costs (dollars) | | |
|---|---|---|---|---|---|---|
| | Minimum | Maximum | Range | Minimum | Maximum | Range |
| Illinois | 0.8 | 7.3 | 6.5 | 68 | 621 | 553 |
| Indiana | 0.3 | 5.4 | 5.1 | 21 | 378 | 357 |
| Iowa | 0.0 | 9.0 | 9.0 | 0 | 1107 | 1107 |
| Michigan | 1.0 | 10.0 | 9.0 | 95 | 950 | 855 |
| Wisconsin | 0.4 | 6.7 | 6.3 | 42 | 704 | 662 |

[1]Costs for employers paying wages at or above the taxable wage base as of January 3, 1988.

SOURCE: U.S. Department of Labor, Employment and Training Administration, *Comparison of State Unemployment Insurance Laws,* January 3, 1988.

### State UI tax rates[1] by industry sector, 1986

| | Construction | Manufacturing | Transport, communication, and public utilities | Wholesale | Retail | Finance, insurance, and real estate | Services | Total |
|---|---|---|---|---|---|---|---|---|
| Illinois | 2.3 | 1.7 | 0.9 | 1.4 | 2.0 | 0.9 | 1.5 | 1.6 |
| Indiana | 1.3 | 0.6 | 0.3 | 0.3 | 0.5 | 0.2 | 0.5 | 0.5 |
| Iowa | 4.5 | 2.1 | 1.2 | 1.5 | 1.8 | 1.1 | 1.5 | 1.9 |
| Michigan | 3.8 | 2.3 | 1.4 | 1.7 | 2.3 | 1.2 | 1.8 | 2.1 |
| Wisconsin | 4.5 | 2.5 | 1.6 | 1.8 | 2.5 | 1.3 | 1.9 | 2.3 |
| U.S. average[2] | 2.0 | 1.2 | 0.8 | 0.9 | 1.3 | 0.7 | 1.1 | 1.2 |

[1] Tax rates express UI contributions as a percentage of total wages

[2] 50 states and U.S.

SOURCE: U.S. Department of Labor, Employment and Training Administration, *Reports and Analysis Letter No. 4-88*, July 28, 1988.

tend to carry a tax rate reflecting the higher likelihood of manufacturing workers being laid off over the course of a business cycle.

In addition, UI tax rates may reflect the relative performance of a state's overall economy; i.e., higher unemployment will require the payment of greater taxes on those workers who remain employed. Also, a tendency toward higher benefit levels paid out to laid-off workers and the state's liberality in qualifying requirements for unemployed workers also play a role.

### Employer costs for hypothetical firms

Business interests and economic development officials are often concerned about geographical differences in the cost of doing business when evaluating alternative plant locations and making business expansion decisions. Cost differences arising from varying state UI programs are often mentioned in this context. However, accurate information concerning interstate UI cost comparisons for individual firms is not often available. The published average state tax rates do not accurately reflect any single firm's expected UI costs. A firm's UI liabilities will depend on the degree of experience-rating within a particular state and how the experience-rating scheme interacts with the overall employment conditions (i.e., UI system liabilities) within a

state. For example, in a state with a very sensitive experience-rating scheme, a firm with a very strong record of maintaining its employment levels could expect to be rewarded with a low UI tax bill relative to many of its competitors even though average overall UI tax rates may be high.

Some ambitious attempts have been made at gauging hypothetical UI tax cost differences for similarly situated firms across states. Timothy L. Hunt estimates UI costs borne by hypothetical firms located in 28 industrial states by means of a simulation model which accounts for the states' statutory UI structures (Hunt, 1986, 1987). Specific values of wage rates and layoff rates of the hypothetical firm(s) are chosen and held constant from state to state. The values of wage and layoff rates are chosen from actual nationwide average figures. Along with each state's individual statutory UI structure, these values are used to generate hypothetical UI costs (there are 9 reported simulations—3 wage levels and 3 layoff records). The 1987 state and federal UI statutes in each state remain constant in each simulation so that cost differences arising from statutory differences are thereby captured by Hunt's methodology.[13]

Estimates from the Hunt study are reprinted in Table 7. The methodology is extensive and the reader is advised to examine the

study itself to gain a full understanding and appreciation of the results. A wide range of employer costs are estimated among Seventh District states. Generally, Illinois, Michigan, and Wisconsin lie significantly above the 28-state average for the 1987 statutes. Iowa and Indiana fall below average—especially the state of Indiana which ranks 27th across the range of hypothetical firm unemployment insurance costs. Hypothetical firm costs in the states of Iowa, Michigan, and Wisconsin tend to rise rapidly (relative to the other states) as a firm's hypothetical unemployment rises. A higher experience rating apparently pushes UI system costs onto volatile firms in those states.

### UI tax rates and economic growth

Because UI payroll taxes vary significantly across states, a common concern is that states with high payroll taxes will be placed at a competitive disadvantage in attracting and holding jobs and industry. Higher payroll taxes are feared to contribute to a poor "business climate." For example, concern over unemployment insurance costs are expressed by manufacturers in the Grant-Thornton Annual Study of Manufacturing Climates. Input into this widely known business climate ranking is provided by 36 associations representing manufacturers around the country. In the 1988

edition of the study, UI system features account for 9.7 percent of the overall index.

More often than not, high UI payroll taxes are perceived to arise from overly liberal benefit levels, generous eligibility rules, lax enforcement of eligibility, and costly administration. In response, economic development efforts of the business community have often focused on restricting benefit costs in order to foster the region's economic growth.

There have been many studies of regional growth in the United States and the determinants of such growth. However, very few of them have explored UI taxes as a growth factor. Those that do mention UI taxes have almost universally found no significant relation between measures of UI tax rates and regional growth (Wasylenko 1983; Bartik 1985; Schmenner, Huber, and Cook 1987).

To some extent the lack of significant findings should not be surprising. Although there is significant variation across states in UI tax rates, UI taxes do not loom as a large percentage of total costs for most firms. Accordingly, given the difficult task of identifying regional growth determinants amid a continual sea of regional upheaval, a smaller cost item such as UI taxes (representing 1.05 percent of wages in 1987) could easily be overlooked or not considered for study.

### UI and regional growth: New evidence

In our study, using multiple regression techniques over a cross-sectional sample of regions, variation in economic growth is explained by beginning-period values of cost-related factors and also by demand factors. For any metro area, explanatory factors are assumed to be mostly invariant over the ensuing growth period with regional adjustment in economic variables moving very gradually.

Specifically, percentage change in employment is chosen as a dependent variable covering a sample of the 75 largest metropolitan areas over the 1976–85 period. Growth in total employment, manufacturing employment, nonmanufacturing employment, and manufacturing output are all estimated separately. The econometric specification chosen is in linear form; percentage change in employment is a linear function of beginning period levels of input costs and other growth factors. Each metro area (and its growth from 1976–1985) accounts for one observation so that the data-

base can be thought of as cross-sectional rather than time-series.

Aside from UI cost, individual factor influences on growth will not be discussed at length here, but they are discussed elsewhere (Testa 1988). Retained explanatory variables include measures of labor costs, regional market growth, access to technology, defense spending, educational spending, tax growth, and export orientation (Table 8).

A variable for unemployment insurance cost is measured by state total tax payments as a percentage of total UI wages paid to workers who are covered by the UI system. This measure is specific to the industry sector—manufacturing, services, and a total UI tax rate covering all industries. A single year's tax rate does not always reflect the total state liability because benefit payment obligation can be deferred through borrowing. For this reason, the average of state UI tax rates for the years 1975 to 1977 was constructed.

Geographical differences in unemployment insurance tax rates are found to have significantly deterred growth in the manufacturing sector over the study period. However, the hypothesis that UI tax rate differences had *no* effect in the nonmanufacturing sector cannot be rejected. This result has intuitive appeal in the following sense: Insofar as UI tax rates bear heavily on manufacturing industries, one would most expect to find that UI rate differences are a growth deterrent for manufacturing industries.

## State UI cost differences: Does benefit generosity matter?

Even if UI tax rates do affect a state's business climate, do state governments have any policy latitude to vary their own UI tax rates in order to spur development? This question recognizes that a state or region's economic condition may well be the primary determinant of a state's UI benefit obligations. Rather than liberal benefit provisions, slow regional growth may lie behind the bulk of interstate UI tax differences. For example, even a region with conservative benefit provisions for unemployed workers can find itself in the position of taxing its employers at a high rate due to an inordinately large number of claims recipients. If so, moderate downward adjustment of benefits may do little for economic growth even as social costs rapidly rise.

## Previous study

In measuring the influence of state benefit generosity on UI tax rates, one approach is to incorporate the multitude of existing benefit and eligibility features (those which are reported for each state's UI system) as explanatory variables into a multiple regression equation.[14] In this fashion at least one study has already attempted to determine indirectly the extent to which variation in interstate UI taxes can be accounted for by benefit liberality (Saul J. Blaustein and Paul J. Kozlowski 1978).

For the 1973–1975 period, Blaustein and Kozlowski attempted to attribute state UI cost differences to 1) varying regional economic conditions and/or 2) benefit "generosity." The 1978 study used multiple regression to explain variation in UI benefit-to-payroll ratios by both economic condition factors (proxied by the insured unemployment rate) and by benefit liberality parameters. The latter included the state average weekly benefits paid to UI recipients as a percent of state weekly wage, the state's potential duration of benefits, the number of weeks of work needed to qualify for benefits, and whether the state disqualified a claimant completely for voluntarily quitting his previous job. The study concluded that economic conditions were solely responsible for differences in UI tax rates over the period from 1973 to 1975.

The authors chose to proxy statewide economic conditions by the insured unemployment rate. This rate measures those unemployed workers who are eligible to receive benefits as a proportion of employed workers covered by the UI system in a prior period. But surely this rate will vary across states, not only because of differing state economic conditions, but also because of varying eligibility and enforcement requirements in each state. This variable itself, then, partly reflects a state's UI benefit liberality so that it is not independent of the "benefit" measures in the study. Accordingly, the authors' claims to be able to disentangle the effects of regional economic condition from UI system liberality are highly suspect.

## New evidence

The following empirical work tests the robustness of the Blaustein-Kozlowski findings and it offers several refinements in methodology. In place of using several state benefit

TABLE 8

## OLS regression equations

| EMPLOYMENT AND OUTPUT GROWTH IN MANUFACTURING | | | TOTAL AND NONMANUFACTURING EMPLOYMENT GROWTH | | |
|---|---|---|---|---|---|
| | Percent change in manufacturing employment (1976 to 1985) | Percent change in manufacturing output (1976 to 1982) | | Percent change in total employment (1976 to 1985) | Percent change in manufacturing employment (1976 to 1985) |
| Intercept | 1.04** (3.34) | 0.95** (2.27) | Intercept | 1.02** (5.69) | 1.05** (6.30) |
| Labor costs (WM76MFG) | −0.15** (−2.76) | −0.18** (−2.45) | Labor costs (UPLTW) | −0.006** (−3.23) | −0.007** (−3.57) |
| Market maturity (MARKET) | −0.00013** (−3.72) | −0.00015** (−3.22) | Market maturity (MARKET) | −0.000097** (−3.84) | −0.000056** (−2.39) |
| Access to technology (TECH) | 0.04 (1.13) | 0.07 (1.36) | Access to technology (TECH) | 0.04 (1.59) | 0.03 (1.39) |
| Defense spending per capita (DOD) | 0.0001 (1.21) | −0.00002 (−0.14) | Defense spending per capita (DOD) | 0.0002** (2.21) | 0.0002** (2.34) |
| Educational expenditure per pupil (EDEXP) | 0.0002* (1.78) | 0.0001 (0.60) | Educational expenditure per pupil (EDEXP) | 0.0002* (1.98) | 0.0001* (1.79) |
| Tax growth per capita (CHTX) | −0.003** (−2.06) | −0.0001 (−0.07) | Tax growth per capita (CHTX) | −0.002** (−2.47) | −0.002** (−2.21) |
| Export orientation (EXPORT) | 0.03** (2.27) | 0.03* (1.71) | Unemployment insurance (UITOT/UISER) | −0.08 (−0.94) | −0.03 (−0.45) |
| Unemployment insurance (UIMAN) | −0.22* (−1.84) | .03 (0.18) | $\bar{R}^2$ | 0.48 | 0.41 |
| $\bar{R}^2$ | 0.44 | 0.29 | | | |

*t-statistic significant at the 10 percent level.  **t-statistic significant at the 5 percent level.

## Glossary of variables in regression equations

| | |
|---|---|
| CHTX | Percent change in per capita state and local taxes from fiscal 1976-77 to fiscal 1984-85. |
| EDEXP | Education expenditure per pupil in average daily attendance 1976-77. |
| DOD | Per capita procurement and payroll by the Department of Defense in 1977. |
| MARKET | Ratio of value added in manufacturing to population in the metro area. |
| TECH | Total number of scientists and engineers engaged in research and development per 1,000 of the population, 1974. |
| UPLTW | Index of average hourly earnings of unskilled plant workers, 1975-76. |
| WM76MFG | Average hourly wages, all manufacturing industries, 1976. |
| XMFGEMP | Percent of total manufacturing employment related to exports, 1976. |
| PCMFG | Percent change in manufacturing employment, 1976-1985. |
| PCTOT | Percent change in total employment, 1976-1985. |
| PCNM | Percent change in nonmanufacturing employment, 1976-1985. |
| PCVA | Percent change in value-added in manufacturing, 1976-1982. |
| UIMAN | Average statewide unemployment insurance rate (as a percent of total wages) for 1975, 1976, and 1977 in the manufacturing sector. |
| UISER | Average statewide unemployment insurance rate (as a percent of total wages) for 1975, 1976, and 1977 in the service sectors. |
| UITOT | Average statewide unemployment insurance rate (as a percent of total wages) for 1975, 1976, and 1977 for all covered sectors. |

features to characterize UI system liberality, estimates constructed by John M. Barron and Wesley Mellow (1981) are used. Those estimates fully reflect expected benefit payouts for similarly situated individuals across states. In addition, we substitute total unemployment rate (from the Current Population Survey) for the Blaustein-Kozlowski insured unemployment rate. Some may take issue with our measure in that the CPS unemployment rate covers workers both inside and outside the UI system. But we believe it superior because it is largely independent of UI system eligibility claims (unlike the insured unemployment rate) in characterizing economic conditions.

Because the Barron-Mellow estimates (reporting expected UI benefit differences by state) are available for the 1976 period, the sample period is drawn for the period circa 1976 (Table 9). The dependent or explanatory variable was constructed as the simple average of the overall UI tax rates (i.e., all industries) for the years 1975, 1976, and 1977.

The results of our statistical tests reveal that the findings of the 1978 Blaustein-Kozlowski study are only partly robust. Using our more refined and meaningful measures of benefit liberality and regional economic condition, measures of economic conditions (i.e., state unemployment rates) appear to account for much of the variation across states in UI tax rates (Table 9, Models 1 and 3). However, the Blaustein-Kozlowski result is overstated. State benefit liberality does, in fact, exert some influence on a state's relative position with respect to UI costs, as suggested by the statistical significance of the expected benefits variable, ('UIBARRON') in the regression equation (Table 9, Models 2 and 3). Nonetheless, it appears that the state's overall labor market condition, which may or may not be controllable by state policy, exerts a strong influence on UI cost variation (Model 1).

## Conclusions

Preliminary new evidence for the manufacturing sector tends to support the often heard assertions by the business community that UI system costs influence the geography of business investment. Moreover, state government policy maintains some leverage in controlling UI tax rates. The differing "liberality" of states in providing an income floor under unemployed workers accounts for a small but statistically significant part of the observed regional differences in UI costs to employers. For this reason, efforts to tighten the benefit eligibility can possibly yield payoffs in terms of economic development. Of course, such payoffs must be weighed against any offsetting costs which may arise in diminishing the unemployment safety net.

In addition, our findings also suggest that states that are experiencing slow growth and high unemployment may find it difficult to bring their system costs into line with national norms by cutting benefit rates. High unemployment itself accounts for part of the geographical disparities in UI tax rates and states often have little control over such conditions—especially in the short term. Accordingly, a small tightening in benefit liberality toward workers may do little to bring a state with an aberrantly high UI tax rate back towards the national norm.

A finding that regional unemployment conditions account for part of the geographical

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### TABLE 9

#### OLS regression equations: average unemployment insurance tax rate
(Circa 1976)

|  | MODEL 1 | MODEL 2 | MODEL 2 |
|---|---|---|---|
| Intercept | 0.26 (1.18) | 0.87** (7.31) | 0.22 (0.65) |
| UR76 (unemployment rate, C.P.S.) | 0.12** (4.06) |  | 0.11** (3.76) |
| UIBARRON (expected UI benefits) |  | 0.25** (2.39) | .019* (1.99) |
| $\bar{R}^2$ | 0.24 | 0.09 | 0.28 |

*t-statistic significant at the 10 percent level.
**t-statistic significant at the 5 percent level.

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#### Glossary of variables in regression equations

TX76 — Average statewide unemployment insurance tax rate (as a percentage of total wages) for 1975, 1976, and 1977.

UR76 — Average unemployment rate of total labor force from the Current Population Survey (U.S. Bureau of Labor Statistics).

UIBARRON — State variable taken from J. Barron and W. Mellow study "Interstate Differences in Unemployment Insurance," National Tax Journal, March 1981, reflecting difference in expected benefits for unemployed workers across states.

differences in UI tax costs while, at the same time, UI tax cost differences have affected regional growth, has implications for the overarching structure of the UI system. Those state economic problems that are related to long-term regional restructuring are compounded by the UI funding structure which places much of the benefit funding responsibility on individual states. Slow economic growth can result in high UI tax costs to a state's employers which, in turn, exerts an additional drag on the region's growth. For this reason, a larger federal role in the funding of UI benefit payments may be advisable. As with other income transfer programs, funding at the state or local level often conflicts with the functioning of the market economy. Firms and workers will relocate in response to local tax differences rather than in response to fundamental market prices and costs.[15] Accordingly, a dead weight loss can be imposed on national economic output.

## FOOTNOTES

[1]For a history of the UI system and the developments preceding its inception, see James M. Rosbrow, "Unemployment Insurance System Marks Its 50th Anniversary," *Monthly Labor Review*, September 1985, pp. 21-28.

[2]Several studies have estimated significant impacts of the UI system on the insured unemployment rate of covered workers. See: Robert Moffit and Walter Nicholson, "The Effects of Unemployment Insurance on Unemployment: The Case of Federal Supplemental Benefits," *Review of Economics and Statistics*, Vol. 64 (February 1982), pp. 1-11; Stephen T. Marston, "The Impact of Unemployment Insurance on Job Search," *Brookings Papers on Economic Activity*, 1:75, pp. 13-60; Martin S. Feldstein, "Lowering the Permanent Rate of Unemployment," A Paper Prepared for the Use of the Joint Economic Committee, 93 Cong. 1 Sess. (1973); and Gene Chapin, "Unemployment Insurance, Job Search and the Demand for Leisure," *Western Economic Journal*, Vol. 9, (March 1971), pp. 102-107.

[3]For example, see Stephen A. Woodbury and Robert G. Spiegelman, "Bonuses to Workers and Employers to Reduce Unemployment: Randomized Trials in Illinois," *The American Economic Review*, Vol. 77, No. 4, Sept. 1987, pp. 513-530; Paul L. Burgess and Jerry L. Kingston, *An Incentives Approach to Improving the Unemployment Compensation System*, W. E. Upjohn Institute, 1987; and Congressional Budget Office, *Unemployment Insurance: Financial Condition and Options for Change*, June 1983.

[4]For example, A. James Heins, *Unemployment Insurance and the Illinois Economy*, The Illinois Alliance for Economic Initiatives, 1987.

[5]Of course, firms do not bear taxes, people do. The final incidence of the UI tax is uncertain between labor and capital owners. The point we are making here is much simpler: To a partial extent, differential UI taxation will raise the costs of capital investment in a state or region, ultimately affecting economic growth.

[6]For a more detailed discussion see Gary Burtless, "Why Is Insured Unemployment So Low?" *Brookings Papers on Economic Activity*, 1:83, pp. 225-249.

[7]Ibid.

[8]For a discussion, see Walter Corson, Alan Hershey, and Stuart Kerachsky, *Nonmonetary Eligibility in State Unemployment Insurance Programs: Law and Practice*, W. E. Upjohn Institute for Employment Research, Kalamazoo, 1986.

[9]See William A. Testa and Natalie A. Davila, *Unemployment Insurance: A State Economic Development Perspective, Regional Economic Issues*, Federal Reserve Bank of Chicago, 1988.

[10]Ibid.

[11]Generally UI benefits are not considered subject to means testing. However, by providing dependents' allowance, taxing benefits, and calculating benefits as a proportion of after-tax income (as is the case in Michigan), elements of an indirect means test procedure do exist in some states.

[12]Net reserves are the reserves as of the end of the year minus the balance of federal loans to state reserve funds. Reserves are the funds on deposit in a state's account in the Federal Unemployment Trust Fund plus the balances in the state's "clearing account" and "benefit payment account" that each state maintains plus the interest credited for the last quarter of the calendar year.

[13]State differences in qualifying requirements of claimants (and their enforcement) are not included in the model.

[14]For data on state UI system characteristics, see *Significant Provisions of State Unemployment Insurance Laws*, U.S. Department of Labor, Employment and Training Administration, Washington D.C., annual; and *Highlights of State Unemployment Compensation Laws*, National Foundation of Unemployment Compensation and Workers' Compensation, Washington D.C., annual.

[15]See Flatters, F., V. Henderson, and P. Miesztowski, "Public Good Efficiency and Regional Fiscal Equalization," *Journal of Public Economics*, 1974, pp. 99-112.

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