

# Do Regional Wages Differ?

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In studying U.S. regional labor markets, economists have had to grapple with a surprising observation, namely, that wages differ persistently from region to region. For example, wages have been observed to be higher than average in the North and West, and lower than average in the South. But, since workers can freely move from

place to place in search of employment, regional wage differences theoretically should not persist. If wages are high in one area, workers will move there, expanding the supply of labor, and driving wages down; similarly, if an area's wages are low, workers will leave, diminishing the supply of labor, which then forces wages up.

In trying to sort out what accounts for persistent regional wage differences, researchers have examined several facets of labor markets and wages. For example, part of the money, or nominal, wage differences can be explained by differ-

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ences in the cost of living from place to place. For the remainder of the differences, researchers initially thought that the explanation lay in differences in the mix of industry from region to region. But tests continued to show regional real wage differentials even after controlling for mix of industry.

Economists have recently begun to look more carefully at regional labor markets and at what goes into determining real wages from place to place. In particular, studies done within the last ten years have looked at wages for *individual* workers rather than at wages that have been *averaged* across all workers in a region, as the earlier studies tended to do. That is, they look at the wages of workers who are similar in terms of occupation, skills, and education, for example, in various regions. But significant variation in real wages for comparable workers also has been found in several studies.

The most comprehensive studies find that the remaining differentials in real wages of comparable workers are related to differences in amenities from place to place. If workers care not only about the goods and services they buy with their paychecks, but also about the amenities of life an area has to offer, then they may be willing to accept a lower real wage in high-amenity areas; similarly, workers may have to

be compensated with higher real wages to live and work in low-amenity regions. In sum, recent research that looks at regional real wage rates finds that while observed real wage rate differentials for comparable workers do exist, they tend to be largely compensating for regional differences in amenities and disamenities.

**ADJUSTING AVERAGE WAGES ACROSS REGIONS**

In its crudest form the issue of regional wage differentials may be understood to mean that the average money wage of all workers in one region differs considerably from the average money wage of all workers in another region. For example, there has been a common perception that wages are lower in the South than in other regions of the nation. In fact, statistics on nominal wages do bear this out (see Table 1).

One problem with this kind of regional wage comparison is that it considers nominal rather than *real* wages—that is, regional nominal wages adjusted for regional living costs. From the viewpoint of workers, the possible advantage of working in a high nominal wage area partly depends on how expensive it is to live there. Other things equal, workers should be indifferent between an area where wages and prices are at the national average and one where both

**TABLE 1  
AVERAGE MONEY WAGES ARE LOWEST IN THE SOUTH<sup>a</sup>**

Region	1978		1981	
	Male	Female	Male	Female
New York Metro Area	1.12	1.22	1.04	1.13
Rest of North East	1.13	1.13	1.12	1.09
North Central	1.12	1.10	1.13	1.07
West	1.16	1.17	1.13	1.13
Urban South	1.00	1.00	1.00	1.00

<sup>a</sup>The ratio of average nominal wages in other urban areas to average nominal wages in the Urban South. The New York metropolitan area is given separately, since its performance is quite different from that of the rest of the North East.

SOURCE: Derived from William E. Cullison, "Equalizing Regional Differences in Wages: A Study of Wages and Migration in the South and Other Regions" Federal Reserve Bank of Richmond *Economic Review* (May/June 1984).



living costs and wages are, say, 10 percent above average.<sup>1</sup> In this case, real wages are equal in both areas. Thus, workers will choose a location in response to real wage differentials.

Other things equal, we would expect workers to migrate from low real wage areas to high real wage ones and that this process would eventually lead to real wages that are largely equalized across regions.<sup>2</sup> As workers leave the lower real wage areas, the available supply of labor there drops relative to the demand for labor. As a result, real wages will rise in those areas. At the same time, the high real wage areas gain workers. And as workers who are attracted by the relatively higher real wages move into these areas, the supply of labor rises relative to demand which causes real wages to fall. Thus, real wages eventually will rise in the relatively low real wage areas and eventually will fall in the high real wage areas. In theory, this process of adjustment should continue until real wages across regions have been driven to equality.<sup>3</sup>

As a matter of fact, though, average real wages show large differences across regions. (See FROM NOMINAL TO REAL WAGES, p. 20.) More importantly, these differences have persisted. But why should such differentials persist in a country such as the U.S. where labor is, in principle, mobile across regions? Much of the earlier literature attempted to answer this question by

looking at industry mix and market imperfections.

**Reasons Why Differences in Real Wages Persist.** In reality, "other things" are not always equal across regions. Average real wages in a region may be higher because the region's industrial structure is dominated by industries that would pay higher real wages wherever they are located. To the extent that differences in mix of industries influence average real wages, the averages will *not* tend to be equalized across regions. Therefore, a number of studies have attempted to make additional adjustments to an area's real wage to correct for differences in industry mix.

Lynn Browne, writing in the *New England Economic Review*, shows that wage differences among industries are striking. For example, average wages of workers in the primary metals and transportation equipment industries are more than 30 percent above the average for workers in manufacturing.<sup>4</sup> And wages are relatively higher in Pittsburgh and Detroit because these cities have a heavy concentration of these industries.

Studies that have made adjustments for mix of industries find that even taking them into account still leaves significant differences in observed regional real wages. One study found that average real wages for manufacturing employees in 1967 were 15 percent higher in the North than in the South, even after controlling for the mix of industry.<sup>5</sup>

<sup>1</sup>See I. Hoch, "Climate, Wages and the Quality of Life," in *Public Economics and the Quality of Life*, Lowden Wingo and Alan Evans, eds., (Baltimore: Johns Hopkins University Press, 1977) pp. 28-65, for the range of cost-of-living differences.

<sup>2</sup>Real wages would be largely but not exactly equalized, because moving from place to place involves both emotional costs—such as breaking family ties—and monetary costs. But to the extent that real wage differentials only reflect these costs, they would be essentially equalized.

<sup>3</sup>The process just described assumes that the equalization of real wages is achieved entirely through worker migration. Firm location is assumed to remain unchanged. In reality, firms could move to, or start up in, the relatively lower wage regions. Since the empirical work to be discussed focuses on the worker or supply side, the discussion in the text also focuses only on labor supply.

<sup>4</sup>Lynn E. Browne, "How Different are Regional Wages? A Second Look," *New England Economic Review* (March/April 1984) pp. 40-47.

<sup>5</sup>Mark L. Ladenson, "The End of the North-South Wage Differential: Comment," *American Economic Review*, 63 (September 1973) pp. 754-756. In reply to Ladenson's findings, Coelho and Ghali report *not* finding significant real wage differentials between the North and South. Instead they imply that real wages tend to be significantly higher in the North East when compared to the North Central and Western regions. See Philip R. P. Coelho and Moheb A. Ghali, "The End of the North-South Wage Differential: Reply," *American Economic Review* 63 (September 1973) pp. 757-762.

## FROM NOMINAL TO REAL WAGES

To illustrate the regional variation in both cost of living and real wages, we constructed the table below for 19 metropolitan areas in four major regions of the country. Due to difficulties in data collection, figures that would be of great interest, such as for New York City and for California, are not reported.

As the table shows, the average nominal hourly wage rate for manufacturing production workers ranges from a high of \$14.32 for Lansing, Michigan to a low of \$6.67 for Miami, FL. Philadelphia falls at about the median of this sample, with a wage rate of \$9.91. For the cost-of-living calculation, the index is equal to 100.0 for the average of 249 metropolitan areas. Thus, the index of 116.0 for Philadelphia means that the same basket of goods is 16 percent more expensive in the Philadelphia metropolitan area than the national average. In this sample, Philadelphia's cost of living is very close to the top, surpassed only by Newark, NJ. Turning to real wages, Lansing and Miami again are the high and low metropolitan areas, respectively, but Philadelphia's position drops somewhat, from about the middle for nominal wages to the lower third for real wages.

Harrisburg and Wilmington, two other Third District cities, show different nominal wages from Philadelphia and from each other. Wilmington is in the upper quarter of the nominal wage ranking, and combined with its cost of living, has a real wage in the upper half. Harrisburg, however, ranks in the lowest quarter for nominal wages, but combined with its cost of living, moves up a few notches to the lower third of the real wage category, close to Philadelphia's position.

METROPOLITAN AREAS	Nominal Wage Rate <sup>a</sup>	Cost-of-Living Index <sup>b</sup>	Real Wage Rate <sup>c</sup>
<b>North East</b>			
Buffalo, NY	\$12.06	96.4	\$12.51
Erie, PA	9.99	101.0	9.89
Harrisburg, PA	8.93	104.3	8.57
Hartford, CT	9.91	112.2	8.83
Newark, NJ	9.62	120.9	7.96
Philadelphia, PA	9.91	116.0	8.54
Wilmington, DE	11.25	111.1	10.13
<b>North Central</b>			
Cincinnati, OH	10.81	89.7	12.05
Cleveland, OH	11.13	99.7	11.16
Indianapolis, IN	11.08	98.6	11.24
Lansing, MI	14.32	103.6	13.82
St. Louis, MO	11.02	97.2	11.34
<b>South</b>			
Atlanta, GA	9.20	107.7	8.54
Columbia, SC	7.47	93.3	8.00
Dallas, TX	9.07	112.5	8.06
Miami, FL	6.67	111.7	5.97
<b>West</b>			
Denver, CO	10.02	108.9	9.20
Las Vegas, NV	11.53	102.2	11.28
Salt Lake City, UT	8.88	101.2	8.77

<sup>a</sup>Average hourly earnings for manufacturing workers, February 1985, from *Employment and Earnings*, (Bureau of Labor Statistics, U.S. Department of Labor, April 1986) Table C-8.

<sup>b</sup>Taken from *Inter-City Cost of Living Index* (American Chamber of Commerce Researchers Association), fourth quarter 1985, pp. 1-6.

<sup>c</sup>Computed by dividing nominal wage rate by cost of living.



Some economists have tried to explain away these remaining differences by arguing that they result from market imperfections. The degree of unionization and the resulting cartelization of local labor markets is one sort of market imperfection that could inhibit the equalization of real wages. The degree of unionization (measured as the percent of an area's work force that belongs to a union) tends to vary widely across the United States; for example, it is as low as 17.7 percent in the South and as high as 29.1 percent in the North East.<sup>6</sup> Labor unions are able to raise the wages of their members above those of similar but nonunionized workers because of their ability to deal collectively in negotiations with firms.<sup>7</sup> As a result, the higher wage levels in the older, more unionized areas of the country will not be lowered by the influx of workers from relatively low-wage, less unionized places, because of the barriers to free entry imposed by unionization.

National labor markets also tend to have imperfect information flows about the availability of specific jobs and their compensations across regions. For example, an electrician in Atlanta may be unaware of higher paying jobs for someone with his skills in Lansing. This lack of job information inhibits the flow of workers that underlies the equalization process.

While some economists have cited these factors as possible explanations for the remaining regional wage differentials, it has been impossible to measure market imperfections precisely enough to lend empirical support to this view. Furthermore, the recent introduction of new data sets for individual workers has made it possible to analyze wage differentials of comparable workers rather than looking at average wages, and these analyses indicate that there are

other important factors leading to wage differentials that had been neglected previously.

#### TURNING FROM AVERAGE REAL WAGES TO REAL WAGES FOR COMPARABLE WORKERS

Until seven years ago, most empirical studies of regional wage differentials, either real or nominal, were limited. First, they generally analyzed regional differences in average manufacturing wages rather than wages in all industries. Second, they used aggregate data instead of data on individual workers. A number of more recent studies however, have analyzed differentials for workers in both manufacturing and nonmanufacturing industries and have also made attempts to adjust both real and nominal wages of individual workers to account for worker characteristics.

Relaxation of disclosure rules has allowed the Bureau of the Census to make data about individuals' economic and demographic characteristics available. The *Current Population Survey* (CPS) is one of several sources of individual wage data, which has the advantage of giving the geographical location of respondents. It seems likely that workers would care less about average wage differentials (that is, averaged across all occupations) than they would about how much differential exists among regions for people in their occupation with similar characteristics (such as years on the job, education, and so forth). Real wages for comparable workers are more likely to show equality across areas than average total real wages are.

In a 1983 study, Leonard Sahling and Sharon Smith employed wage data from the CPS of May 1973 and May 1978, which cover individual workers from 29 metropolitan areas, to see if workers with similar characteristics earn similar real wages across regions.<sup>8</sup> Among the charac-

<sup>6</sup>Gerald A. Carlino and Edwin S. Mills, "Do Public Policies Affect County Growth?" this *Business Review* (July/August 1985) Table 1, p. 5.

<sup>7</sup>A. Rees, "The Effects of Unions on Resource Allocation," *Journal of Law and Economics* 6 (October 1983) pp. 69-78.

<sup>8</sup>Leonard G. Sahling and Sharon P. Smith, "Regional Wage Differentials: Has the South Risen Again?" *Review of Economics and Statistics* 65, 1 (1983) pp. 131-135. Their sample was restricted because cost-of-living data are available only for these 29 metropolitan places.

teristics they controlled for were gender, years of schooling, years of work experience, ethnic origin, occupation (such as "professional," "manager," "sales," "laborer"), and industry.

William Cullison in a later study extended the Sahling and Smith analysis of the CPS data to 1981.<sup>9</sup> Cullison's study largely confirms the Sahling and Smith result, in terms of finding similar patterns of regional differentials. His results reported in Table 2 indicate that wages of both men and women were as much as 12 percent higher in real terms in the Urban South than for comparable workers in the New York metropolitan area.

**AMENITIES ALSO MATTER**

While these two studies improved our understanding about the size and patterns of regional wage differentials by employing data on individual workers, they still leave the problem of the existence of sizable interregional differentials in real wages. One important factor that these studies did not account for is that workers tend

to value the amenities that places have to offer.<sup>10</sup> Workers may trade off real wages for amenities, accepting lower real wages in high-amenity places and demanding higher real wages in low-amenity ones. Part of the differential in real wages for similar workers could be due to this trade-off between amenities and real wages.

**What Amenities Do Workers Care About?** Amenities can be grouped into three main categories. The first group consists of *environmental characteristics*. Areas tend to differ in terms of average temperature, average annual rainfall, the number of sunny days per year, nearness to large bodies of water, and so forth. *Local public goods and services* represent a second category of local amenities that can differ from place to place. Workers are drawn to areas that offer an attractive mix of local public goods and services, such as public parks, police protection (lower crime rates), and good public schools for a given tax bill. The third category in which regional characteristics differ is referred to as *consumer agglomeration economies*. As the number of people who

<sup>9</sup>William E. Cullison, "Equalizing Regional Differences in Wages: A Study of Wages and Migration in the South and Other Regions," Federal Reserve Bank of Richmond *Economic Review* (May/June 1984) pp. 20-33.

<sup>10</sup>A theoretical model quite similar to the one that underlies this section is found in Jennifer Roback, "Wages, Rents, and the Quality of Life," *Journal of Political Economy*. 90,6 (1982) pp. 1257-1278.

**TABLE 2**  
**REAL WAGES ARE LOWEST IN THE**  
**NEW YORK METRO AREA<sup>a</sup>**

Region	1978		1981	
	Male	Female	Male	Female
New York Metro Area	0.80	0.88	0.77	0.90
Rest of North East	0.88	0.93	0.93	0.98
North Central	0.92	0.94	0.96	1.02
West	0.99	1.05	0.95	1.03
Urban South	1.00	1.00	1.00	1.00

<sup>a</sup>The ratio of real wages (nominal wages divided by cost of living) of comparable workers in other urban areas to real wages in the Urban South.

SOURCE: William E. Cullison, "Equalizing Regional Differences in Wages: A Study of Wages and Migration in the South and Other Regions" Federal Reserve Bank of Richmond *Economic Review* (May/June 1984).



reside in a given area increases, the variety of goods and services offered in that area also expands. Larger cities offer a number of opportunities not found in smaller ones, such as professional sports events, symphony concerts, varied restaurant cuisine, and so forth. But larger concentrations, or agglomerations, of people also create congestion which drives up both local rents and transportation costs. So the costs of agglomeration to residents must be weighed against the benefits. This suggests that workers are concerned with the *net* consumer agglomeration economies an area has to offer.

**Amenity Differences Among Areas Are Reflected in Their Rents and Wages.** These amenity differences from place to place tend to be reflected in both land values and nominal wages. As people move to areas offering high amenity levels, the demand for land to build houses on increases. Since the availability of land in an area is largely fixed, this increased demand for space drives up land prices, or rents on land. Similarly, as people leave the relatively lower amenity regions, this causes the demand for land to fall relative to its supply. As a result, land rents fall in low-amenity places. Some of the people who are drawn to high-amenity places, of course, are retirees whose movement will have no effect on the region's wage. But many of the people who move into the high-amenity areas from the lower ones are also workers. This inflow of workers into high-amenity regions increases the available supply of workers. With the demand for labor unchanged, nominal wages should fall in these regions. Similarly, the decline of workers in the low-amenity regions relative to demand will push nominal wages up in these places.

Thus, amenity differences among places tend to be reflected in both nominal wages and rents. In high-amenity areas, nominal wages are relatively low and rents are relatively high. Because rents are an important component of the cost-of-living index, real wages are lower. Workers would accept the combination of lower nominal wages and higher rents (that is, lower real wages) because they get satisfaction (or "psychic income")

from the increased level of amenities available to them.

While real wages tend to be lower in high-amenity areas, they should, conversely, tend to be higher in places with lower levels of amenities, because workers need more real income to compensate for the lack of amenities. These high real wages result because money wages tend to be higher and rents tend to be lower in low-amenity places.

If amenities matter, real wages will be higher in low-amenity areas and lower in high-amenity ones. To summarize, the observed real wage differentials could be the result of regional differences in amenities. Of course, the extent to which amenities and disamenities become reflected (are capitalized) in real wages is an empirical issue. Recently, a number of studies have looked at this question for comparable workers across regions.

**Studies of the Effects of Amenities on Wages.** Jennifer Roback, like Sahling and Smith, and Cullison, employs wage data from the CPS of May 1973 for individual workers.<sup>11</sup> She uses roughly the same set of worker characteristics as do Sahling and Smith, and Cullison to see if workers with similar characteristics earn similar amenity-adjusted wages across regions.

While the Roback study uses the same data sources (CPS data) as Sahling and Smith, and Cullison, it differs from these studies in a number of ways. To begin with, Roback's study contains 98 U.S. metropolitan areas compared to only 29 in the Sahling and Smith, and Cullison studies. In addition, unlike Sahling and Smith, and

<sup>11</sup>Roback's analysis is an extension of that of Sherwin Rosen, "Wage-Based Indexes of Urban Quality of Life," in Peter Mieszkowski and Mahlon Straszheim, eds., *Current Issues in Urban Economics* (Baltimore: Johns Hopkins University Press, 1979) pp. 74-104. Rosen employs wage data from the CPS of 1970 for individual workers. He, however, restricts his sample to males who reported earnings in 1969. In addition, he considers only 19 major metropolitan areas in the U.S. Since Roback's empirical work is more comprehensive than Rosen's, only Roback's paper will be discussed, although this literature owes an intellectual debt to Rosen.



Cullison who used real wages, Roback uses nominal wages in her full analysis, although she does attempt to control indirectly for living cost differences across cities.<sup>12</sup> Since Roback's study does take into account factors that capture living cost differentials across the metropolitan places in her study, her nominal wage findings are essentially comparable to Sahling and Smith's, and Cullison's real wage ones.

To capture the effects of amenities on wages, Roback controls for size of city, population density, population growth, total crimes per 10,000 people, unemployment rate, air quality, heating degree days, total snowfall, number of cloudy days, and number of clear days. After controlling for these area-specific characteristics broadly defined to capture amenities, Roback finds that workers with similar characteristics have about the same amenity-adjusted wage no matter where they live. Thus, the Roback study supports the view that observed wage differentials tend to be equalizing in nature. Workers have to be compensated to live and work in low-amenity regions. Similarly, workers will accept a lower real wage to live and work in high-amenity areas since they are compensated in the form of "psychic income."

A study by Shelby Gerking and William Weirick also supports the view that amenities are capitalized into real wages.<sup>13</sup> Gerking and Weirick employ the 1976 Panel Study of Income Dynamics (PSID) data, which contain unusually detailed measures of education, work experience, and occupation, as well as information on workplace and job characteristics.

The PSID data also permit Gerking and Weirick

to have a more complete specification of worker characteristics and work environment variables than the data set employed by Sahling and Smith, Cullison, and Roback. Gerking and Weirick consider years of full-time work experience, months worked for present employer, years of formal schooling, advanced educational degrees, other schooling, months to become fully trained on present job, number of persons supervised, occupation, race, gender, physical limitations and disabilities. In addition, Gerking and Weirick eliminate part-time workers from the sample, since they are not likely to migrate due to real wage differentials.

Rather than restricting their study to only 29 metropolitan places, as did Sahling and Smith, or 98 metropolitan areas, as did Roback, Gerking and Weirick look at wages of comparable workers for the entire U.S. Like Roback, Gerking and Weirick control for a number of area-specific characteristics broadly defined to capture amenities, including size of city, local government expenditures, average annual precipitation, average January temperature and windspeed, and crime rates.

Like Roback, Gerking and Weirick find that workers with similar characteristics have approximately the same amenity-adjusted real wage no matter where they live. Thus, the Gerking and Weirick study supports the view that observed real wage differentials tend to be equalizing in nature.

#### CONTRADICTION OR CONSISTENCY?

While the studies by Sahling and Smith, and Cullison, that find real wage differentials across regions, and the ones by Roback, and Gerking and Weirick, that report that amenity-adjusted real wages are equalized across regions, seem contradictory, they are, in fact, consistent with the theory of equalizing real wage differentials. The studies that do not control for differences in net amenities across regions find real wage differentials to exist. But when these net amenity differences are controlled for, as in the Roback, and Gerking and Weirick studies, amenity-

<sup>12</sup>Roback reports trying a real wage specification for 32 of the metropolitan areas for which living cost data were available. She finds that the overall real wage results are not significantly different from the "nominal" wage ones.

<sup>13</sup>Shelby D. Gerking and William N. Weirick, "Compensating Differences and Interregional Wage Differentials," *The Review of Economics and Statistics* 65 (1983) pp. 483-487. The study by Rosen also supports the equalization of amenity-adjusted real wages.



adjusted real wage differentials across regions appear to be insignificant. Thus, the observed pattern of real wage differentials across regions seems to be the result of amenity differences from place to place.

These findings have several important implications. Workers care about more than just the level of their real wage in their location decision. Specifically, workers will have to be compensated with a higher real wage in order to work in areas offering low amenities. Similarly, workers will accept a lower real wage in high-amenity regions, since they get “psychic income” from living in these areas.<sup>14</sup> Since observed real wages

reflect these compensatory and psychic income differentials, such differentials take the form of equalizing differentials to workers.

In answer to the question “do regional wages differ?”—Yes: nominal wages do vary across regions even for comparable workers—and, Yes: real wages of comparable workers also differ across regions. But, when amenities are taken into account, the answer is—No: amenity-adjusted real wages do not vary significantly. As has been shown, evidence of nominal or real wage differences among areas may be the result of a number of different factors, only some of which can be affected by local policies. One implication is that local policymakers must examine the reasons for such wage differences in detail before deciding whether their economic strategies should be altered.

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<sup>14</sup>Unfortunately, the estimates in the studies are not precise enough to make a definitive statement about how much of the differentials in real wages are due to amenity differences.

## Working Papers

The Philadelphia Fed's Research Department occasionally publishes working papers based on the current research of staff economists. These papers, dealing with virtually all areas within economics and finance, are intended for the professional researcher. The 17 papers added to the Working Papers Series in 1985 are listed below.

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### 1985

- No. 85-1 Theodore M. Crone, "Changing Rates of Return on Rental Property and Condominium Conversions."
- No. 85-2 Paul S. Calem, "Equilibrium in a Contestable Market."
- No. 85-3 Gerald A. Carlino and Edwin S. Mills, "The Determinants of County Growth." Reissued in the *Journal of Regional Science*, forthcoming.
- No. 85-4 Michael Smirlock, "An Analysis of Cross Hedging CDs with Treasury Bill Futures: Bank Specific Evidence." Reissued in *Advances in Futures and Options Research*, forthcoming.
- No. 85-5 Theodore M. Crone, "The Effect of Recent Tax Reform Proposals on the Return to Owner-Occupied Housing."
- No. 85-6 Robert P. Inman, "Does Deductibility Influence Local Taxation?"
- No. 85-7/R Paul S. Calem, "Exact Sequential Equilibria." (Revision of 85-7, "On the Definition of Sequential Equilibrium.")
- No. 85-8 Jan G. Loeys, "The Fed's Use of Mitigating Competitive Factors in Bank Merger Cases." Reissued in the *Banking Law Journal*, forthcoming.
- No. 85-9 Robert H. DeFina, "Unions' Monopoly Power Increases Efficiency."
- No. 85-10 Mitchell S. Berlin, "Screening, Limited Liability and the Choice Between Long and Short Term Contracts."
- No. 85-11 Anthony Saunders and Michael Smirlock, "Intra- and Interindustry Effects of Bank Securities Market Activities: The Case of Discount Brokerage."
- No. 85-12 Loretta J. Mester, "A Multiproduct Cost Study of Savings and Loans."
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- No. 85-15 Brian R. Horrigan, "Monetary Instruments and Reserve Requirements for Economic Stabilization."
- No. 85-16 Michael Smirlock and Laura Starks, "Day of the Week and Intraday Effects in Stock Returns." Reissued in the *Journal of Financial Economics*, forthcoming.
- No. 85-17 Herb Taylor, "Deposit Market Deregulation and the Demand for Money."



# Selected Abstracts 1985

85-1

## CHANGING RATES OF RETURN ON RENTAL PROPERTY AND CONDOMINIUM CONVERSIONS

Theodore M. Crone

In the 1970s about 350,000 housing units in multi-family structures in the U.S. were converted to a condominium or cooperative form of ownership. This paper shows how changes both in rents and in housing prices influence the expected rate of return on rental property and therefore the probability of conversion. A minimum logit chi-square model was applied to data from 34 metropolitan areas to estimate the effects of these changes. The evidence suggests that changes in housing prices had a greater effect on conversions than changes in the expected net return on rental property.

85-6

## DOES DEDUCTIBILITY INFLUENCE LOCAL TAXATION?

Robert P. Inman

Recent proposals to reform the U.S. tax code all contain significant reforms of the current provisions allowing for the deductibility of state and local taxes. While there are compelling efficiency and equity arguments for the removal of deductibility, there are possibly significant consequences of reform for the financing of state and local services which must be weighed in the balance too. This paper examines the effect of deductibility reform on the revenue decisions of the largest U.S. cities. The analysis of eight alternative reforms concludes: (1) total taxes change very little in the long-run, falling at most by 13% and, for many cities, even rising slightly; (2) fees and license revenue (predominantly a tax on firms) generally fall, in some cases by 30% or more; (3) the net effect on total revenues (tax plus fees) is generally small, never declining by more than 12% even with full loss of deductibility; and (4) policies to offset city revenue losses are effective in neutralizing the negative effects of deductibility reform.

85-9

## UNIONS' MONOPOLY POWER INCREASES EFFICIENCY

Robert H. DeFina

This study investigates the efficiency consequences of the union wage differential, following the general equilibrium methodology used by DeFina (1983). That approach is taken one step further, by accounting more thoroughly for preexisting distortions. This step appears quite significant, for when these distortions are recognized, the union wage differential is found to increase efficiency. Using plausible estimates for the model's parameters, this gain amounts to about 0.2 percent of GNP. This finding of a positive impact of the union wage premium is unique among studies of the wage differential.

85-11

## INTRA- AND INTERINDUSTRY EFFECTS OF BANK SECURITIES MARKET ACTIVITIES: THE CASE OF DISCOUNT BROKERAGE

Anthony Saunders and Michael Smirlock

Despite substantial debate, there has been little empirical analysis of the economic arguments concerning commercial bank expansion into securities activities. This paper uses the stock price response of commercial banks and securities firms to examine the risk and return effects of the announcement of bank entry into one such activity, discount brokerage. Our findings indicate that while bank profitability and risk was largely unaffected by such entry, securities firms experienced a significant decline in market value. These results indicate that the objection of the securities industry to bank discount brokerage expansion was largely self-motivated and that bank safety and soundness would not be imperiled by such expansions.



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