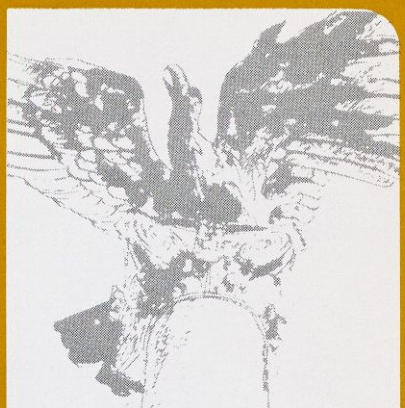
ECONOMIC REVIEW



The Outlook for Unemployment

Usury Ceilings: Shield or Scourge?

Fiscal Effects on Potential Output

Working Paper Reviews

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THE OUTLOOK FOR UNEMPLOYMENT

Discouraged workers and part-time workers, traditionally excluded from labor force and unemployment estimates, nevertheless provide important advance indications of changes in the overall unemployment rate. Based on the behavior of these two measures in the last few recessions, we can expect unemployment to rise sharply from now until the end of 1980.

by Charlie Carter

The unemployment rate traditionally presents a problem in forecasting cyclical changes in the economy. Recently, most cyclical indicators suggest that we have entered or are on the very edge of another recession. The index of leading economic indicators, real retail sales, industrial production, consumer confidence, and productivity have all deteriorated since the beginning of the year. Yet, except for a small increase in July, the overall unemployment rate had not increased.[1] (It averaged 5.7 percent in both the first and second quarters of 1979.) New estimates of the role of discouraged workers and part-time workers help explain why the unemployment rate typically lags behind other indicators at cyclical turning points. A better understanding of these two measures can provide a more accurate outlook for unemployment in the future.

[1] The unemployment rate rose slightly to 5.7 percent in July but jumped to 6 percent in August.

THE PROBLEM OF DISCOURAGED WORKERS

The usefulness of traditional indicators of labor market conditions, such as labor force, employment, and unemployment, has long been questioned because the indicators fail to account for discouraged workers (people who are not currently seeking work because they think they cannot find a job). Since 1967, the U.S. Department of Labor has collected monthly statistics on discouraged workers, along with other labor market information from the monthly household survey. But economists disagree on how to use these data. Some economists, who see discouraged workers as people who have exhausted all reasonable methods of searching for work, argue that discouraged workers should be counted as unemployed. Others believe they should not be counted as unemployed because they are not actively searching for work. The U.S. Department of Labor has accepted the latter argument

and has counted discouraged workers as neither employed nor unemployed. Discouraged workers are simply excluded from labor force and unemployment estimates, a situation which leaves such estimates open to further questions.

The National Commission on Employment and Unemployment Statistics also addressed this issue. Although the final recommendation was not unanimous, the Commission recommended that the Department of Labor continue to collect data on discouraged workers and continue their practice of not including such persons in the official unemployment figures.[2]

THE PROBLEM OF PART-TIME WORKERS

Like discouraged workers, persons who usually work part time and are not seeking work are not counted as unemployed or in the labor force.[3] At the very last stage of expansions, some part-time workers lose their jobs and generally do not search for others. If they had been working out of economic necessity (economic reasons), they would not have had the option of leaving the labor force but would have stayed and searched for other jobs. That would have driven the unemployment rate up. But since these workers are simply classified as "not in the labor force," this flow away from employment does not appear in the measured unemployment rate.

HOW CAN DISCOURAGED AND PART-TIME WORKERS BE INCLUDED IN LABOR MARKET ESTIMATES?

The Implications of Worker Discouragement. Whether or not discouraged workers should be counted in the unemployed category is still open to debate. Our interest, however, is in finding a way to use the monthly estimates to extract meaningful information about how discouraged workers perceive current labor market conditions. In theory, employment confidence by persons not currently seeking work should be consistent with opinion polls designed to measure general confidence about job availability.[4] Actually, since estimates of discouraged workers come from a much larger sample than other surveys, the figures should be *more* representative of current sentiment of the working-age population. Another useful implication is that these nonparticipants are more inclined to seek work when confidence by the general population is high. Therefore, favorable perceptions by discouraged workers could be helpful in explaining the large increases in labor force participation at the latter stage of expansions. A final important implication is that the availability and confidence of other family members in finding work frequently bear strongly on consumer spending.

Measuring Worker Discouragement. Everyone who is not looking for work is not necessarily discouraged. People who *want* a job but are not looking are categorized according to their reasons for not looking: (1) school attendance, (2) home responsibilities, (3) ill health or disability, (4) think they cannot find a job, and (5) other reasons. In the second quarter of 1979, discouraged workers (category 4) numbered 826,000. But since the number of discouraged workers fluctuates with changes in the number of people in the working-age population, a more reliable measure of discouragement among persons not in the labor force is the ratio of reason (4) to reasons (1-5). This ratio provides a measure of employment discouragement of those people not currently seeking work.

The table shows the behavior of this ratio by race and sex from first quarter 1970 to second quarter 1979. Discouragement declines during expansions as more people outside the measured labor force view their chances of finding a job as

[2] For details, see T. Aldrich Finegan, "The Measurement, Behavior and Classification of Discouraged Workers," Background paper No. 12 for the National Commission on Employment and Unemployment Statistics.

[3] To be sure, some discouraged workers are voluntary part-time workers who have lost their jobs.

[4] Our empirical test of the relationship between our measure of employment confidence and Citibank's measure of employment outlook (for second-half 1970 through second-half 1978) showed strong support for our belief that the two measures are closely related.

TABLE

INDEX OF EMPLOYMENT DISCOURAGEMENT OF NONLABOR FORCE PARTICIPANTS, 1970:I-1979:II

Period	Total	Male	Female	White	Black and Other
1970:I	15.2	15.9	18.2	15.0	18.0
II	16.9	19.2	20.1	16.5	17.8
III	16.7	21.0	18.6	16.0	20.6
IV	16.7	17.6	20.3	16.5	17.0
1971:I	17.5	19.3	16.8	17.4	18.5
II	16.6	16.2	16.8	15.3	17.7
III	18.2	18.1	18.3	18.7	19.0
IV	17.5	16.7	17.8	17.2	20.7
1972:I	18.1	19.8	17.3	17.6	20.4
II	18.3	18.0	18.4	17.5	17.3
III	17.2	16.3	17.6	17.1	18.5
IV	15.5	16.9	14.9	14.9	17.8
1973:I	14.4	16.5	13.3	13.7	17.5
II	16.4	16.0	16.6	13.6	22.4
III	15.1	15.6	14.9	15.0	16.6
IV	15.4	16.2	15.1	16.3	13.9
1974:I	15.6	14.6	16.0	15.1	17.6
II	14.7	17.7	13.4	14.7	14.0
III	13.3	14.9	12.6	13.3	14.7
IV	17.5	18.9	16.9	17.2	19.8
1975:I	21.0	21.5	20.7	19.7	24.6
II	22.3	23.6	21.7	20.1	27.7
III	21.1	21.5	21.0	20.3	25.9
IV	18.5	19.9	17.8	17.3	22.9
1976:I	18.2	22.4	16.2	17.5	18.7
II	17.0	18.8	16.2	17.0	16.3
III	18.1	20.3	17.1	17.2	22.6
IV	18.3	20.6	17.2	17.9	20.3
1977:I	17.3	17.4	17.3	16.0	21.6
II	18.7	17.7	19.1	17.1	22.0
III	17.5	19.2	16.7	16.7	20.2
IV	17.5	18.2	17.1	16.7	20.2
1978:I	16.8	19.7	15.5	15.5	20.9
II	16.2	18.6	15.1	14.7	20.0
III	15.6	16.8	15.0	13.6	22.3
IV	14.5	16.5	13.6	13.7	17.6
1979:I	13.8	17.4	12.0	12.8	16.3
II	16.0	17.3	15.5	14.9	18.2

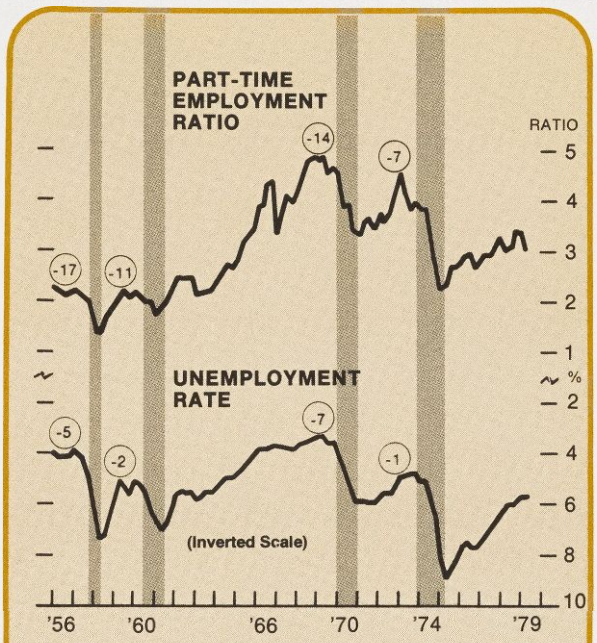
favorable. It increases during economic contractions as the job outlook dims. In the first quarter of 1979, the table shows that only 13.8 percent of nonlabor force participants gave lack of job availability as their reason for not seeking work. However, that measure of discouragement rose sharply in the second quarter.

The Implications of Part-Time Work. Along with the discouraged worker, the part-time worker is another useful indicator of turns in the unemployment rate. When a significant number of involuntary part-time workers lose their jobs, the unemployment rate will finally begin to rise. Consequently, reductions in employment will directly affect the unemployment rate because these persons will continue to seek work. With double-digit inflation and high debt burden, the percentage of involuntary part-time workers compared to part-time workers for noneconomic reasons has increased. As a

result, the unemployment rate is likely to rise sharply during the current recession.

Measuring Part-Time Work As a New Indicator of Confidence. Geoffrey Moore of the National Bureau of Economic Research has developed a measure of part-time workers which may be the best clue to when the unemployment rate will start to rise.[5] His analysis shows that the ratio of voluntary part-time workers to involuntary part-time workers is a useful indicator of turns in the unemployment rate. When the ratio peaks, the unemployment rate turns up, on the average, about eight months later. This eight-month lead time between peaks in the ratio and increases in the unemployment rate is long enough to give an early indication of turning points in the overall unemployment rate.

A glance at the last few recessions shows how the "part-time employment ratio" provided advance indication of the coming downturns (see chart). During the 1957-58 recession, the ratio peaked one year prior to the rise of the unemployment rate. The lead time was nine months in the 1960-61 recession, seven months before the onset of the 1970 recession, and only six months before the beginning of the 1973-75 recession. As you can see, however, the decline in lead time since 1957 suggests that the lead time for the next recession might be even shorter than six months.



Shaded areas indicate business recessions as determined by the National Bureau of Economic Research.

Numbers indicate the length of leads (-) in months preceding business cycle peaks (beginning of shaded areas).

Source: U.S. Department of Labor, Bureau of Labor Statistics.

THE OUTLOOK FOR UNEMPLOYMENT

When we updated Moore's results through the second quarter of 1979, we found that the part-time employment ratio peaked in the fourth quarter of 1978. If the lead time behaves as it did before the last recession, June's unemployment rate was the lowest point for the current cycle. Thus, the indicator suggests that the unemployment rate will rise from June to about the end of 1980.

According to this new indicator, in fact, unemployment may rise even more than it did in the last recession. Evidence suggests that the rate increases with the magnitude of the decline in the part-time employment ratio. From 1978:IV to 1979:II, for example, the ratio fell about 9 percent. The ratio fell only 7 percent prior to the onset of the last recession, and the unemployment rate doubled from October 1973 to May 1975. High inflation, high consumer debt, and a higher initial unemployment rate (5.6 percent vs. 4.6 percent) could easily push the unemployment rate over 9 percent before the current recession is over.

After almost four years of steady decline, the discouraged worker ratio jumped sharply in the second quarter of 1979 from 13.8 percent to 16 percent. The part-time employment ratio peaked in December of 1978. These and other indicators, including the unemployment rate of adult men (up .2 percent in July) and the index of help wanted advertising (declining since December), clearly suggest that the 5.6-percent unemployment rate in June was the cyclical low point of the unemployment rate. Joblessness will rise swiftly from now until the end of 1980. ■

[5] Geoffrey Moore, "A New Leading Indicator of Unemployment," **Morgan Guaranty Survey** (November 1978), pp. 12-14.

USURY CEILINGS: SHIELD OR SCOURGE?

Usury ceilings, originally designed to protect mortgage borrowers against high market interest rates, have been raised by state legislatures responding to increasingly vigorous opposition from lenders and home builders. This opposition has created controversy about how usury ceilings actually influence mortgage lending and home building. What ceilings usually do is divert at least some of the money and borrowers into exempt mortgages with rates higher than the usury ceiling. Where these exempt mortgages are available, ceilings may have only a small impact on home building. If usury ceilings covered all mortgages, home building probably would decline.

by B. Frank King

Usury ceilings on home mortgage interest rates have been hailed as a shield protecting borrowers against high credit costs and damned as a scourge driving away financial flows necessary for home building. Evidence gathered in several studies of the effects of these ceilings strongly suggests that they are seldom a shield and that they may not be a particularly powerful scourge. Since most states exempt a significant number of mortgages from their ceilings, the claims of both advocates and opponents of mortgage usury ceilings are typically overstated.

Usury ceilings date from early in the history of commerce. They have been supported for a variety of reasons. In recent years, advocates have argued primarily that such ceilings are necessary to ensure low cost credit and to protect borrowers who have little knowledge of credit markets or who have desperate need for credit against credit costs that are excessively high. By limiting the interest rates and finance charges that lenders are allowed to levy on these borrowers, the ceilings keep credit costs within limits consistent with legislators' concept of protecting the public.

Although this argument seems to have been generally appealing to voters and their representatives (only two states have no usury ceilings at all), the states have chosen many different ways of organizing usury protection. Among the states, ceilings differ in several ways. Maximum rates, allowable fees and service charges, and approved methods of interest computation vary substantially. The categories of credit are differently defined, and what is covered in one state may be exempt in another.

Usury ceilings on home mortgages share in the state-to-state variation. As of August 1979, 45 states sought to give some protection to home buyers with usury ceilings on first mortgages secured by single-family residences, but the extent of the protection varies widely. Although only five states cover none of these home mortgages with usury ceilings, most states exempt certain types of home mortgages

from their coverage. The most important exemption applies to loans backed by the Federal Government. Thirty-seven of the states with usury ceilings on home mortgages do not apply them to FHA and VA mortgages. Other exemptions occur much less often. They are generally based on the institution making the loan (e.g., Florida's exemption of mortgages originated by savings and loan associations and the Federal exemption allowing national banks to charge one percent above the Federal Reserve discount rate) or on the size of the loan (e.g., Kentucky's exemption of loans of more than $15,000). In addition, at least 16 states have recently adopted home mortgage usury ceilings that adjust to some national index of market interest rates.

In spite of the exemptions and floating rates, the recent acceleration of inflation and the accompanying rise in interest rates have raised opposition to usury ceilings on mortgages in several states. Where ceilings have been low relative to market interest rates and where exemptions have not been quite liberal, legislators and governors have been asked to raise usury ceilings and, implicitly, to explain to their constituents why they have done so. This has concentrated attention on the issue of how usury ceilings actually affect mortgage lending and home building.

During the past decade, several economists have reported on research that attempted to answer this question. Their results form a fairly consistent pattern when their work is carefully analyzed, but to accomplish the analysis, one must consider both of the basics of the economic analysis of price controls and the arguments of the opponents of binding usury ceilings.

Economists analyzing usury ceilings have generally argued that, in a market economy, usury ceilings set below market interest rates will have two primary effects. First, when market interest rates exceed the usury ceiling on a certain type of loan, funds will be diverted by lenders from that type of loan to loans or investments that carry higher rates and greater profits. This diversion may be to other types of loans that are not subject to a binding ceiling or to loans in other states where usury ceilings do not exist or do not bind. A corollary to this conclusion is that borrowers who are not inhibited by the market interest rate itself will seek other sources of credit where it is available—in other types of loans or in other places. Second, lenders will react to binding usury ceilings, particularly when the market rates exceed the ceiling by small amounts, by attempting to reduce their costs of loans covered by the ceiling. Various analysts have suggested that costs may be reduced by making credit standards tougher or requiring more collateral, thus reducing losses from default; by raising minimum loan size, thus reducing fixed costs per dollar of loan; and by raising service charges or fees, if possible, thus covering some origination costs directly.

Opponents of binding usury ceilings have used this analysis to argue that binding ceilings will be either detrimental to a state's economy or ineffective in protecting the consumer. They argue that ceilings will divert credit flows from types of economic activity that depend on credit covered by the usury ceiling. However, opponents continue, if borrowers and lenders can find a financing method that is not covered by the ceiling, the flow may be brought back to the activity, but with credit costs exceeding the usury ceiling. Opponents also claim that lenders' adjustment of credit standards and terms will raise actual credit costs of loans covered by the ceiling toward the market rate.

This theory tells one what to expect when usury ceilings bind. What, in fact, have the studies of effects of binding usury ceilings on home mortage lending and home building shown? At first glance, the studies seem to support the old saw that one always gets at least as many conclusions about a subject as the number of economists studying that subject. Closer analysis of the studies leads to four relatively firm conclusions:

1. Usury ceilings divert money and borrowers from covered mortgages.
2. Some (possibly all) of the diverted money and borrowers go to loans that are not covered; these may be

government-backed mortgages, mortgages made by exempt institutions, or mortgages above a specified size. Whatever the reason for the exemption, borrowers effectively pay more than the usury ceiling on these loans.

3. Usury ceilings cause terms on covered mortgages to be toughened, making loans more costly and more difficult to get for borrowers perceived to be less credit worthy.
4. Whether usury ceilings reduce home building is not entirely clear from the evidence. Their effect seems to depend in part on whether there are types of mortgages that are exempt from the ceilings. If there are, the impact of binding ceilings may be small. If there are not, home building is likely to be significantly reduced.

We have reviewed nine recent studies of the effects of mortgage usury ceilings on home building and/or mortgage credit in the United States.[1] (These are summarized in the Appendix.) Three of these have dealt with cross sections of states or metropolitan areas during one particular year when usury ceilings were binding in some of the areas. Two dealt with a group of metropolitan areas over time. Four followed a single area during a period in which usury ceilings were binding part of the time and not binding at other parts of time.

Five studies dealt with the effects of binding usury ceilings on conventional mortgage lending. They reached uniform conclusions. Conventional lending was reduced in the face of binding ceilings. Estimates of the magnitude of the reduction ranged from a low of a 7-percent reduction in the value of originations to a high of a 23-percent reduction in the number of originations.

Two studies analyzed the effects of a binding mortgage rate ceiling on credit terms. They found some of the terms of conventional mortgages to be significantly tougher under binding usury ceilings on such mortgages and no terms to be easier. Lenders tended to charge greater closing costs and to require higher down payments, but they did not appear to shorten loan maturity.

Despite general agreement that there was a significant decline in conventional mortgage lending when usury ceilings bound, the studies that dealt with overall effects of such ceilings on home building did not agree. Many, but not all, of their differences seem to turn on their treatment of the usual practice of exempting FHA and VA mortgages from the ceilings.

Of the four cross-section studies that dealt with effects of binding ceilings on the number of housing starts or building permits, two found significant reductions and two found little or no reduction. Such wide differences in conclusions among studies that differ mainly in the areas and time periods covered and, to a lesser extent, in the variables in their economic models lead one to doubt any of the studies.

A flaw common to these studies was first pointed out by Rolnick, Graham, and Dahl in a report on the effects of a mortgage usury ceiling in Minnesota between 1968 and 1978. The analysis of these economists suggests a reason for the differences and, at the same time, explains how conventional mortgage lending can decline without a concurrent decline in home building.

A binding conventional mortgage ceiling in areas where FHA and VA mortgages or mortgages made by certain institutions are exempt might be expected to divert funds from covered conventional mortgages and to shift potential mortgage borrowers from covered conventional to FHA or VA and exempt conventional mortgages. These borrowers would generally pay credit costs greater than the usury ceiling in order to induce lenders to make the exempt loans, but credit flows into housing would be maintained.

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[1]Two additional studies were not reviewed. Their results are reportedly consistent with those covered here. The studies are D. V. Austin and D. A. Lindsley, "Ohio Usury Ceilings and Residential Real Estate Development," **American Real Estate and Urban Economics Journal,** spring 1976, and R. Lindsay, "The Economics of Interest Rate Ceilings," **The Bulletin,** Nos. 68-69, New York University Graduate School of Business Administration, Institute of Finance (December 1970).

Evidence from Minnesota and New York indicates that with a binding usury ceiling on conventional mortgages and an exception for FHA and VA mortgages, conventional lending declined and FHA-VA lending increased. The evidence from Minnesota goes a step further to indicate that the binding ceiling had little or no effect on the number of single-family building permits issued.

A recent study of the effects of Georgia's mortgage usury ceiling indirectly lends further support to this line of reasoning. In this study, the analysis showed that binding ceilings reduced savings and loan associations' mortgage originations. However, it found no diminution of the number of building permits issued for single-family houses. Although the study ignored the effects of the ceilings on FHA and VA lending, Georgia's exemption of government-backed loans from its usury ceiling seems likely to explain how the decline in conventional mortgage lending could have occurred without a reduction in home building.[2]

Although substitution of exempt for covered mortgages by both borrowers and lenders seems likely, the substitution may not fully offset the impact of binding usury ceilings. In the most sophisticated work yet on the effects of mortgage rate ceilings, Rosen recently found significant declines in home building in some housing markets when ceilings bound but no declines in others. He covered eight metropolitan areas over a ten-year period, and each area but one had the same exemptions. Thus, his results are much less subject to the flaw of ignored exemptions than most others.

These studies, despite their differences, paint a consistent picture when their evidence is properly interpreted. They indicate that both borrowers and funds will shift from types of mortgages covered by binding ceilings to types that are not covered but that the shift may not include all borrowers and funds affected by the ceiling. Borrowers who shift choose not to be protected from mortgage credit costs that state governments consider excessively high. The studies also indicate that if all types of mortgages are covered by binding ceilings, mortgage lending *and* home building will decline. This evidence strongly suggests that the twin goals of protecting mortgage borrowers from high market interest rates and maintaining home building are incompatible. Full protection will most likely reduce home building. Avoiding such a reduction will most likely require that ceilings be ineffective on some types of mortgage credit.

Even if they accept these conclusions, many state lawmakers and their constituents remain concerned about naive or desperate borrowers. How can these persons be protected without other undesirable results? Five general approaches have been tried (sometimes in combination). Federal and state "truth-in-lending" laws have attacked this problem by requiring that borrowers be informed in detail about the terms of their loan. Two other approaches seek to protect borrowers but have no specific usury ceiling. They depend on borrower-initiated remedies to unconscionable credit costs. Under one approach, the borrower may ask a court to declare an interest rate usurious, free him from his obligation, and penalize the lender under general legal guidelines. Under the other, he is allowed to refinance any loan without penalty for prepayment and may thus avoid continuing to pay an interest rate that is above the market rate.

A fourth approach applies the usury ceiling only to loans below a certain size. An assumption that naive and desperate borrowers are concentrated in the market for small loans underlies this policy. The approach does not avoid undesirable economic effects, but it limits them (as it limits protection) to borrowers of small amounts.

Recently, a fifth approach has become more popular. Until the high inflation

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[2]A study of the Canadian mortgage market also reinforces the explanation based on exemptions. This study found that originations of mortgages subject to Canada's interest rate control declined when the rate ceiling was below market rates but that orginations of exempt mortgages increased to cover a large portion of the decline.

and interest rates of the past 15 years, most usury ceilings in the United States were moderately above market interest rates. They did not impede credit flows, but they protected the vulnerable borrower from unconscionable credit costs. In many cases, these fixed ceilings became binding as interest rates rose. In response, several states have adopted ceilings floating moderately above market interests. In most cases, these flexible ceilings allow mortgage and housing markets to function with little impediment, but they still provide some limit to rates charged on mortgages covered by the ceiling.

The effects of these approaches have not been systematically studied. We do not know the extent to which borrowers use the courts or free refinancings to escape usurious interest rates when there are no specific usury ceilings. Whether, under a binding ceiling on small mortgages or a floating ceiling, most vulnerable borrowers shift (or are shifted) to loans with higher rates is also uncertain. However, the strong general evidence that borrowers and lenders shift from mortgages with binding ceilings to those without makes shifting by specific borrowers and lenders seem quite likely. Further study may find that isolated vulnerable borrowers are as difficult to protect as borrowers in general. ■

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APPENDIX

A SUMMARY OF RECENT STUDIES OF THE INFLUENCE OF USURY CEILINGS ON MORTGAGE LENDING AND HOME BUILDING

Author(s)	Activity Studied	Time Period/ Area(s)	Analytic Method	Results
Strangways and Yandle	permits for single-unit houses	1966 50 states	cross-section multiple regression	usury ceilings not an influence
Yandle and Procter	permits for single-unit houses	1970 and 1974 50 states	cross-section multiple regression	1970—usury ceilings not an influence 1974—usury ceilings reduce permits about 7 percent
Robins	starts of single-unit houses	1970 77 SMSAs	cross-section multiple regression	usury ceilings reduce starts 16 to 28 percent
Ostas	permits for single-unit houses conventional loan terms	1965-1970 15 SMSAs	pooled time series cross-section multiple regression	usury ceilings reduce permits 11 to 18 percent; most terms made tougher
France	loans closed at savings and loan associations	1966-1970 Philadelphia	time series multiple regression	usury ceilings reduce loans; closed about 23 percent
Kohn, Carlo, and Kaye	outstanding loans secured by 1-2 unit in-state houses outstanding loans secured by multi-family and commercial property outstanding loans secured by 1-2 unit out-of-state houses	1966-1975 New York (state)	comparisons over time	in-state outstandings of home loans at S&Ls fell; did not change at banks and MSBs outstandings of multi-family and commercial loans rose out-of-state outstanding home loans rose
Rolnick	permits for single-unit houses value of conventional loans originated value of FHA-VA loans originated	1968-1978 Minnesota	comparisons over time within Minnesota and among states	usury ceilings not an influence on permits usury ceilings reduced conventional mortgage lending usury ceilings increased FHA-VA lending
McNulty	loans closed at savings and loan associations permits for single-unit houses	1966-1977 Georgia	time series multiple regression	usury ceilings reduced conventional mortgage lending usury ceilings not an influence on permits
Rosen	permits for single-unit houses conventional loan terms	1965-1975 15 SMSAs	time series multiple generalized least squares for each area	usury ceilings reduced permits and tightened mortgage terms in some markets; did not do so in others
Smith	loan approvals, government-backed loans (rate fixed) loan approvals, conventional loans (market rate)	1951-1963 Canada	time series multiple regression	usury ceilings reduced government-backed mortgage lending usury ceilings increased conventional mortgage lending

FISCAL EFFECTS ON POTENTIAL OUTPUT

Changes in tax structure and government spending policies have two main effects on the supply of labor and capital. Tax reductions tend to increase the supply of labor services because of shifts from leisure to work and from nonmarket to market activity. Tax reductions also increase the supply of capital because of shifts from consumption to savings and investments and from tax shelters to more productive domestic uses of capital.

by Robert E. Keleher

The nation's tax structure and spending policies produce significant supply side effects which also influence the size and growth of potential output. An analysis of how these fiscal side effects influence the available market supply of labor, capital, and, ultimately, aggregate supply (or output) reveals the importance of tax structure for realistic estimates of growth.

FISCAL EFFECTS ON LABOR SUPPLY

Conventional economics indicates that the tax structure affects labor supply in two basic choices workers make: (1) the choice between working for more taxable income *or* enjoying more leisure time and (2) the choice between working for taxable income *or* for nontaxable income. The first choice is based in part on how much the worker can earn *net of taxes.* If a worker chooses to work less, the price of his additional leisure is the amount of after-tax income he gives up. A reduction in the tax rate, then, would increase the price of leisure because the worker stands to lose more net income by not working. Based on this principle, most economists believe that tax rate cuts increase the "price" of leisure and, consequently, induce an increase in the supply of labor services. They have in mind a worker who says, "Why should I put in more hours working to pay taxes?"

Other economists, however, argue for the opposite effect. The desire for more income, they claim, offsets the desire for leisure time so that when tax rates are reduced, people want to work *less,* not more, in an attempt to maintain their level of income. They have in mind a worker who says, "I have to work more just to stay even because more and more of my income goes for taxes." It also means that when tax rates are lowered and the relative price of leisure rises, people demand more leisure.

Which idea seems to prevail in reality? Several recent studies of the income versus leisure relationship show that when the

effects on the entire economy are considered, the first theory (tax cuts increase labor supply) tends to receive support.[1] The studies demonstrate that when the government cuts taxes *and* reduces spending, the effects emphasized by the second theory (tax cuts reduce labor supply) tend to be very small. This is because the reduced effort of the taxpayer (because of his higher net income) will be offset by the increased effort of the government-spending recipient (because of his lower income). Consequently, the effects stressed by the second theory will largely offset one another, whereas the effects emphasized by the first theory (tax cuts increase labor supply) are not offset.[2]

Specifically, reduced welfare benefits may increase the price of leisure and affect the work-leisure choice. When lower welfare benefits accompany lower tax rates, then both taxpayers *and* welfare recipients will consume less leisure and offer more labor in the market.

Tax rate changes also affect a second choice the worker makes: the choice between working for taxable income or for nontaxable income. Nontaxable or "underground" work may take the form either of illegal activities (gambling, drug sales, prostitution, "off-the-books" transactions, etc.) or legal nonmarket activities (do-it-yourself work, barter transactions, payment in fringe benefits, etc.). Because this "underground" activity is not taxed, tax rate increases (and sometimes stricter regulations) make this nontaxed activity relatively more profitable than taxable market activity.[3]

It will not, however, be more profitable for the economy as a whole. An increase in nonmarket activity often implies a loss of efficiencies (from division of labor, specialization, and economies of scale). As a result, economic output as well as economic growth may be slowed or reduced.

A reduction of tax rates, then, reduces the attractiveness of such "underground" activity and, consequently, increases the supply of labor services for normal taxable market activities.[4] Lack of reliable data, however, makes the magnitude of this effect difficult to estimate. In sum, tax reductions apparently will increase the market supply of labor services not only because of shifts from leisure to work but also because of shifts from nonmarket to market activity.[5]

FISCAL EFFECTS ON CAPITAL SUPPLY

While labor supply decisions are based on work-leisure and market-nonmarket alternatives, the tax structure's two major effects on investment in capital stock are the decisions whether to consume or save and whether to engage in market or nonmarket activities. An individual, for example, can use his income for either additional consumption or for increased savings and investments, depending in part on the relative price of these two choices. The price of consuming more now, for example, is the amount of future income the individual foregoes to obtain his current level of consumption. This price increases as the real rate of return on savings and investments grows. As a result, the less future income foregone to obtain greater current consumption, the less saving that will take place.

How do tax rates affect the consumption-saving choice? Recent evidence suggests that the lower the tax rate on saving-investment activity, the larger the amount of after-tax future income that is sacrificed by enjoying added current consumption.[6] Lower taxes, therefore, tend to increase the price of consuming more now and result in increased savings and investments. The end result of this process is an increase in the supply of capital.

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[1] Studies that take a more general approach in that they include tax uses, as well as tax sources, include, for example, Victor A. Canto, Arthur B. Laffer, and Onwochei Odogwu, "The Output and Employment Effects of Fiscal Policy in a Classical Model," unpublished manuscript, and P.C. Roberts, "The Breakdown of the Keynesian Model," **The Public Interest,** No. 52, summer 1978, pp.30-31.

[2] Since the income effects offset each other, there is no important aggregate income effect. And substitution effects reinforce one another, so the aggregate substitution effect will not be offset by a netted out income effect.

[3] Estimates of the size of the so-called underground economy, although unreliable, run from $100 billion (an IRS estimate) to $176 billion (1976). (P. Gutmann, "The Subterranean Economy," **Financial Analysts Journal,** November-December 1977.)

[4] When the receipt of welfare benefits is conditioned on the unemployment of the recipient, a dual incentive for working in the underground economy is created. (See Jude Wanniski, **The Way the World Works,** Basic Books, New York, 1978, pp. 84, 95.)

[5] The supply of labor is probably more elastic (with respect to changes in tax rates) in a longer time frame as well as in an open economy.

[6] See, for example, Roberts, *op. cit.,* p. 24, as well as "The Economic Case for Kemp-Roth," **Wall Street Journal,** August 1, 1978.

The second major effect which change in the tax rate has on capital supply is in the choice of *taxable* (market) saving-investment activity versus domestic and international *nontaxable* savings and investments. This decision directly affects the taxable market supply of capital. A reduction of tax rates reduces the relative returns of nontaxable investing (domestic or international tax shelters) and, consequently, drives funds out of these tax shelters into taxable domestic investments. Tax rate reductions on taxable (market) saving-investment activity, then, will increase the supply of capital not only because of shifts from consumption to savings and investments but also because of shifts out of both domestic and international tax shelters and into productive domestic uses of capital.

EFFECTS OF TAX RATES ON AGGREGATE SUPPLY OR OUTPUT

Since fiscal effects influence both the supply of labor and capital, they also influence potential output, or GNP. A recent analysis of these effects by Neil J. McMullen for the National Planning Association shows what happens to aggregate output as tax rates rise.[7] When tax rates are near zero, output is low because certain public services (justice, defense, law and order, road maintenance, and education, for example) which are essential for markets to operate are not being provided. As tax rates rise, these essential public goods and services are provided and economic activity expands. The provision of these public goods helps create rapid increases in the productive efficiency of capital and labor and, consequently, output. At this early stage of development, the effects of these increases in productive efficiency outweigh any negative effects of higher tax rates. But as tax rates continue to rise, disincentives and inefficiencies begin to become more important. People do less saving, investing, and working for taxable income and begin to increase their leisure, consumption, tax shelters, and work for nontaxable income. The market supply of goods and services is thus decreased.[8] At the same time, improvements in productive efficiency based on public goods slow down because less essential public goods are provided.[9] Gains in output begin to shrink. Eventually, the efficiency gains due to government expenditures are completely offset by efficiency losses and disincentives due to high tax rates. Potential output peaks and begins to decline. Tax rates have then become so high that they induce factors of production to leave the producing sector. If tax rates continue to rise, output declines even further as supplies continue to withdraw from production.

The problem for policy makers is to determine the point at which output is maximized. According to McMullen's analysis, the point of maximum output depends on how factor supplies (labor, capital, land, etc.) respond to those same changes in tax rates. These supply responses to tax rate changes depend, in turn, on several other factors. These factors include, for example, the openness of the economy, the uses to which tax revenues are put, the intensity of the work and saving ethics of society, and the time period over which the output/tax relationship is considered.

The analysis has shown that, in general, the supply of both labor and capital tends to increase when tax rates are reduced. The significance of these fiscal effects for our long-term economic progress, while still a matter of debate, may well be as important as our technological progress or our changing demographic structure. In any case, it is clear that we must continue to examine carefully the effect of the tax structure and spending policies of government in order to make an accurate assessment of the nation's potential economic growth. ■

A more technical discussion of this topic can be found in Robert E. Keleher, "Supply-Side Effects of Fiscal Policy: Some Preliminary Hypotheses," Research Paper No. 9, Federal Reserve Bank of Atlanta, June 1979.

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[7] Neil J. McMullen, "Appendix A: Conceptualizing Welfare/Efficiency Relationships," **Welfare and Efficiency: Their Interactions in Western Europe and Implications for International Economic Relations,** National Planning Association, Washington, D. C., 1978.

[8] Roberts, "The Economic Case for Kemp-Roth," *op. cit.*

[9] At some point, government expenditures instead of improving efficiency may actually diminish it, for example, as larger and larger welfare payments provide disincentives to labor supply.

WORKING PAPER REVIEWS

The following articles are staff reviews of more complete studies that are available as part of a series of Federal Reserve Bank of Atlanta Working Papers. Single copies of these and other studies are available upon request to the Research Department, Federal Reserve Bank of Atlanta, Atlanta, Georgia 30303.

REGIONAL CREDIT MARKET INTEGRATION: A SURVEY AND EMPIRICAL EXAMINATION

If the United States is really a series of compartmentalized, disassociated, and regional credit markets, then:

*Monetary policy makers cannot ignore the varying regional impacts of their deliberations. To be effective, they must deal with more than just aggregate policies.

*The financial intermediation process in this country is probably inefficient in allocating credit across regions.

On the other hand, if the regional credit markets are integrated into a unified national market, then the above statements are not necessarily true and macroeconomic life becomes a little easier. Many authors on the subject, however, do not believe that a national credit market exists for certain assets such as small loans and conventional mortgages.

In his examination of this vital question, Robert Keleher takes a stand that is very much at variance with the other authors.

Keleher's paper begins with an examination and review of the previously published literature on the subject of national vs. regional credit markets. Almost all researchers in his survey are in agreement that the U.S. is—and always has been—a group of regional credit markets for certain loan and mortgage categories. Empirical studies cited by Keleher support the view that a national credit market exists only in abstract macroeconomic theory and not in the real world.

There are several reasons, contends Keleher, to be skeptical of these conclusions. He uncovers two basic faults in the previous studies of U.S. credit markets. Both faults evolve from the universal use of cross-section interest rate data by all previous authors. Keleher concedes that by using this method, a researcher will normally find actual differences in interest rates between regions at any given point in time. But, he claims, these interest rate variances between regions could easily be the result of transactions and information costs, not capital market imperfections and inefficiencies.

Keleher states the second fault of the cross-section approach arises from the presumption that the interest rates being studied are rates on identical credit instruments. He contends that this is not an appropriate assumption for nontraded assets such as bank loans and conventional mortgages.

Using a framework derived from studies of international credit markets, Keleher examines the U.S. interest rate data and discovers definite indications of a national market for both mortgages and business loans. The Keleher framework is based on using time series

data rather than cross-section data. With this technique, he concedes that actual rate differences might exist in different regions, but that, when viewed through time, the *movement* of all regional interest rates was virtually identical. The rate in any given region would move in the same direction, and at the same time, as the national rate. This evidence, argues Keleher, constitutes sounder criteria for determining whether the market is national or regional.

This paper marks the first study that applies time series testing to the hypothesis that for similar nontraded assets (bank loans and conventional mortgages), regional interest rates move with and are determined by national interest rates. By concluding that the hypothesis is true, after empirical testing, Keleher's Working Paper stands in direct conflict with almost all of the literature he surveys. His conclusion, however, is in strong accord with what is considered the "abstract" assumptions of macroeconomics.

The implications of these conclusions are important. In a national credit market, monetary policies should be smoothly and rapidly diffused throughout the nation. There would be no reason, therefore, for monetary policy makers to be concerned with how their policies impact differently in various regions. Any such difference, according to Keleher, is likely due to industrial composition, not inefficiencies in the monetary transmission mechanism.

Another important implication concerns the monopoly powers of large regional banks. In an integrated national credit market, financial institutions, lending in their markets, cannot have substantial monopolistic lending powers—even if they lend to a large share of local borrowers. ■

AN EMPIRICAL ANALYSIS OF SECTORAL MONEY DEMAND IN THE SOUTHEAST

In his Working Paper, Stuart G. Hoffman uses Sixth District data from the Demand Deposit Ownership Survey to estimate separate money demand functions for the household and nonfinancial business sectors. His analysis provides important new insights, since sectoral money demand functions have previously been estimated using national data only. Theoretically, alternative measures of opportunity costs, wealth, and transactions variables are significant for each deposit-holding sector. Such factors, including real income and the interest rate on time and savings deposits, were not statistically significant in the combined sectors' (aggregate) estimated demand equation. When broken down into separate sectors, however, real income and the interest rate paid on time and savings deposits proved highly significant in the household sector's demand function, as did business loans (compensating balances proxy) and the high-grade corporate bond yield in the nonfinancial business sector's demand function.

The sectoral analysis also allows the speeds of adjustment to differ among types of depositors, something that is impossible to detect with aggregate estimates. Hoffman's study shows that the District's households adjust their demand for deposits more slowly than nonfinancial businesses to changes in interest rates and income.

A third interesting finding involves the shortfall in money demand relative to interest rates and income growth nationally in late 1974 and 1975. Many economists have explained this shortfall as a result of increased business participation in the Federal funds and security repurchase markets. However, money demand by Sixth District individuals was also overpredicted, not underpredicted, during this period. Individuals did *not* participate

in the immediately available funds market, and the overprediction was not due to a failure to include the yield on less liquid assets (corporate bonds and stocks). Hoffman concludes that a shift in the demand for money by individuals in the Sixth District (and likely elsewhere) occurred in late 1974, which significantly contributed to overprediction of aggregate money demand functions estimated with national data.

Finally, the most impressive evidence that information is lost in aggregate estimates of money demand appears when Hoffman compares dynamic simulations using the two methods with actual figures of money demand. Summary statistics for the estimated errors from the aggregate equation are over 50 percent higher than comparable errors from the sum of the sectoral ("disaggregated") demand functions. ■

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