Rural Impacts of Monetary Policy

By Chase Econometric Associates, Inc., and the Economic Research Service*

Abstract

A multiregional econometric model evaluates the impacts of changes in monetary policy on economic development in metropolitan and nonmetropolitan parts of each of the four principal U S Census regions Regional variations in the adaptation to a change in national monetary policy depend on a specific region's economic structure Nonmetro regions are generally less affected by overall changes in monetary policy than are metro regions Increases in credit to nonmetro regions increase nonmetro economic activity But, the accompanying decrease in metro activity—caused by decreased credit availability—more than offsets the nonmetro gains, and these nonmetro gains tend to dissipate over time

Keywords

Monetary policy, rural-urban comparisons, regional development, economic theory

The historical migration of people into metropolitan (metro) regions was reversed during the seventies The rate of economic growth, as measured by changes in income and employment, is now greater in nonmetro than in metro regions The Federal Government has considerable interest in the economic development of nonmetro regions To better understand the process of regional and subregional economic growth one needs to examine the relationships between real variables and monetary variables While some markets affecting regional growth are national others are primarily regional Market structure differs between metro and nonmetro regions

USDA has a multibillion dollar set of loan and grants programs for rural development pursuits such as housing, community facilities and business and industrial activities To evaluate lending programs and policies for rural areas over the long run, we need a better understanding of the institutional and economic relationships between Federal Reserve policy, Treasury deposits, and private commercial balances and their transfer and of how these relationships affect commercial banks in both metro and nonmetro regions

Economists have generally explained regional economic growth in real terms and have ignored the monetary aspects of the regional growth process Most income-expenditure models of growth are national, and the models are designed to examine closed economic systems These closed, single-region models are inappropriate for analyzing regional growth for several reasons they do not account for relative price differentials and changes between regions, they fail to explain interregional flows of products, capital labor, money, and information, they ignore determinants of regional inflation rates, and they omit observation of the determinants of interest rate differentials, capital market segmentation, and institutional and behavioral differences No simple model can be constructed that will expose all aspects of regional financial markets However, we must and can delineate a regional structure which will help us understand the flow of credit and capital among regions, the interactions among real financial activities, and the differential effects of national monetary policy on regional growth

Scope

This article describes a project carried out by Chase Econometrics, under contract to ERS, to develop an analytical model capable of assessing the similarities and differences

*Many people have contributed to this project At Chase Econometrics overall guidance for the project was provided by Lawrence Horwitz vice president regional economics Robert Shriner, director of Washington operations and Kevin Hurley, director of financial analysis Bradley Perry served as project manager during much of the project, he was succeeded by John Hagens who completed the development of the model and carried out the policy simulations Data collection and equation estimation were done by Alison Baldock and others in the regional economics department who also helped prepare the final report At the Economic Research Service (ERS) of the U S Department of Agriculture (USDA), Clark Edwards Richard French Fred Hines, James Mikesell Daniel Milkove and David Weisblat provided recommendations and assistance This article is based on Staff Report AGES 810825 *Regional Financial and Monetary Policy Analysis Model* under RMA Contract No 53 319S-9-02692 Sept 1981

in the effects of monetary and other national policies on different U S regions and on their metro and nonmetro areas The model synthesizes regional and monetary models evolved in the late seventies by Chase Econometrics and others with the policy analysis requirements of USDA and others concerned with the effects of Government policies on regional and urban-rural differences

The model presented here divides each of the four major U S Census regions—North Central, Northeast, South, and West—into metro and nonmetro subregions We used the April 1973 metro area definition Each of the eight regions has a financial sector linked to a nonfinancial sector There are linkages among the regions as well as linkages to national financial markets and to aggregate demand To capture these relationships, the model uses 164 statistical equations, plus 114 identities from which various accounting relationships are calculated at the regional and national levels There are 38 exogenous variables The eight regions used to demonstrate the model represent a compromise, they are diverse enough to validate the concept without the great computational complexity that additional regions would have introduced A national sector explains variables, such as consumer demand and prices, that are not amenable to geographic disaggregation

Because deregulation of financial institutions began to occur after the project was nearly half completed, the model does not incorporate this deregulation and the resulting changes in financial infrastructure

Model Design

The model is structured in four blocks

- A national financial market,
- Eight regional financial markets,
- A national real economy, and
- Eight regional real economies

Figure 1 shows how the four blocks fit together It reveals substantial simultaneity within and among the blocks We present an overview of how the model evaluates the effect of tightening monetary policy as an example of its capabilities The numbers in our description refer to the numbered relationships in figure 1 Further details are available in the project report

The first impact of tightening monetary policy occurs in the national financial markets (1) interest rates rise Rising national interest rates have two effects (2) the investment component of national aggregate demand contracts, and (3) changes occur in regional deposits, demand, savings, and thrift deposits contract and time deposits expand Each of the eight regions responds differently, depending on local market structure As national aggregate demand contracts, (4) national industrial production drops, thereby (5) reducing manufacturing employment

Manufacturing is regarded as a basic industry whose aggregate level is determined by national financial and real conditions This model considers manufacturing investment as the key to a region's growth or decline Over the long run, firms maximize profits by investing in those regions where the anticipated costs of production (including labor costs, energy costs, and tax costs) are relatively low In the shorter run, however, manufacturing activity within a region is determined primarily by the national demand for the products produced in that region

Variations in regional credit conditions influence the geographic pattern of manufacturing activity First, even if credit conditions vary little across regions, those regions with relatively credit-sensitive industries suffer more when credit markets tighten Second, when credit conditions do vary across regions, they produce differential effects Regional impacts of the change in manufacturing depend both on regional variations in the share of the industry and on financial and real conditions at the regional level, which affect the multipliers for local industries such as construction and services

The decline in bank deposits in each region causes (6) a drop in the funds available for local mortgages, thus lowering housing starts Similarly, (7) the changing loan to deposit ratios at regional banks cause (8) the decline in manufacturing employment to spread differentially across regions The declines in regional housing starts (9) reduce construction employment regionally Changing regional financial conditions affect (10) commercial construction employment As employment declines (11) regional personal income declines, reducing other locally oriented employment, which simultaneously leads to (12) further declines in personal income The decline in regional personal income causes (13) a further drop in national aggregate demand (14) in regional housing demand, and (15) in regional deposits, with subsequent effects filtering through all the components of the model It is clear that there are several channels through which monetary policy can affect each region

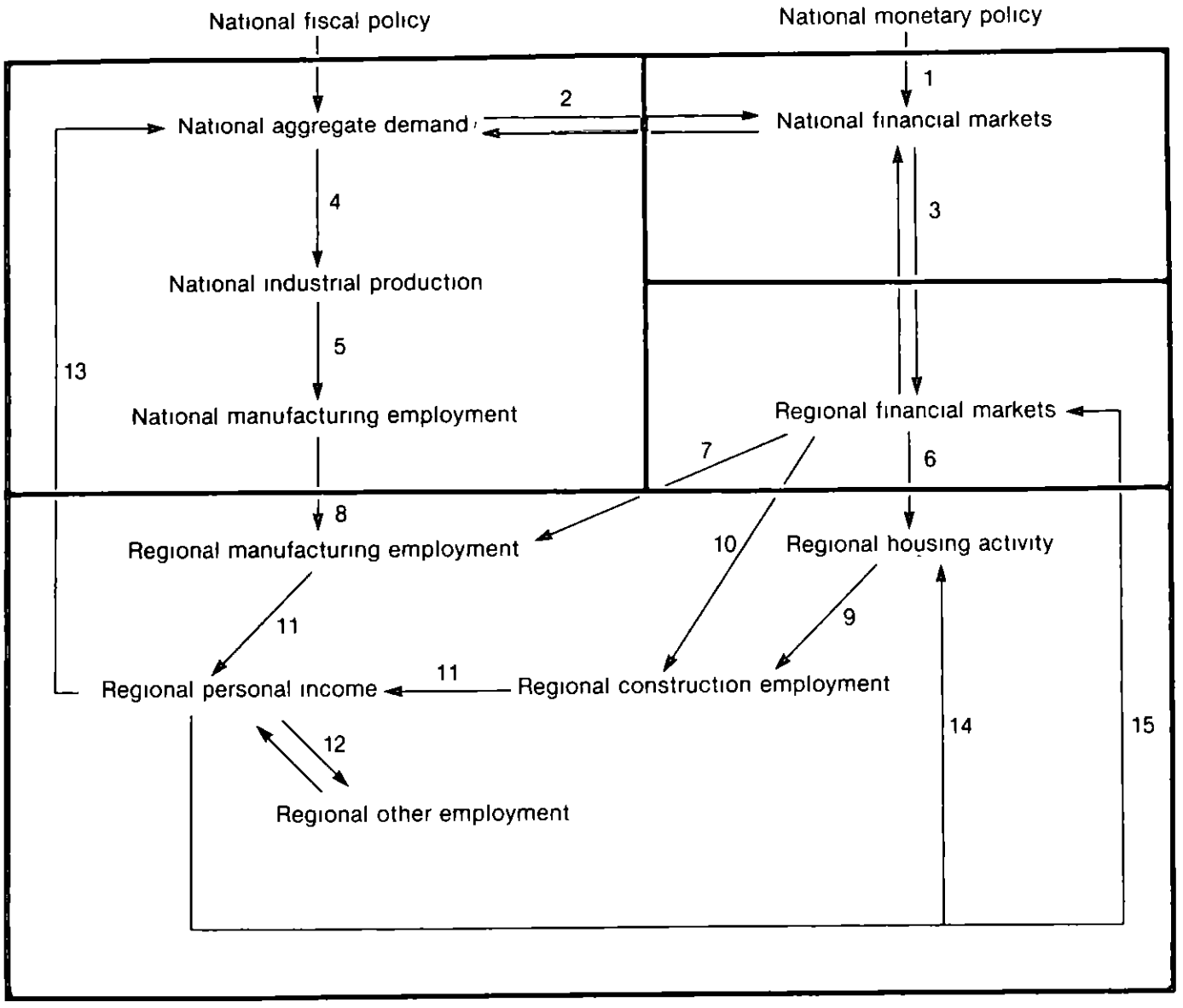
Monetary Policy

In developing its monetary policy the Federal Reserve seeks to attain the goals of full employment, stable prices, balance in international payments, and economic growth Each goal is important, but at any time, one or another may have greater influence because it deviates more from acceptable levels

All these goals are national The Federal Reserve does not intentionally follow a policy aimed at influencing any particular region This does not mean that the results of

Figure 1

The Major Relationships Among the Sectors of the Model



Federal Reserve policy do not differ from region to region Rather it means that such effects are unintentional

Prior to October 1979—the period analyzed in this study—the Federal Reserve employed a two-stage implementation procedure First it used an intermediate target variable the money stock, to indicate performance Second, it used a short-term operating variable to alter its stance between expansiveness and restrictiveness as measured by the Federal funds rate The operating variable is the supply of bank reserves relative to the demand Bank reserves are the deposits commercial banks hold at Federal Reserve banks plus vault cash Banks must hold reserves to meet reserve requirements and, therefore they demand reserves for this purpose By buying and selling Government securities in the open market the Federal Reserve can increase or decrease the supply of reserves and change the Federal funds rate

Banks actively trade reserves among one another For these transactions, reserves are called Federal funds The price of borrowing Federal funds is the Federal funds

rate This rate naturally reflects the interaction of the demand for and the supply of reserves so that the Federal Reserve's open market operations are mirrored by changes in the funds rate An expansive policy increases the supply of reserves and lowers the rate A restrictive action reduces the supply of reserves and raises the rate

The effect of monetary policy on the real sector of the economy is transmitted through the cost and availability of credit The sequence of events begins with a change in the Federal funds rate The markets in which the Federal Reserve operates have highly developed interregional linkages and, for our purposes may be treated as a national market Coordinated through brokers and dealers in New York City transactions in Government securities and in Federal funds are made nationwide Large borrowers and lenders in money centers make transactions directly Smaller participants in more remote locations use correspondent banks and offices of national brokerage firms Daily quotations for these financial instruments appear in newspapers nationwide

The subsequent portfolio adjustments to the availability of reserves and to the Federal funds rate, however, are likely to vary among regions Banks in different regions respond differently to a change in the Federal funds rate, based on the availability of deposits and the demand for loans in their respective regions Hence, the impact of national monetary policies on regional spending and saving decisions will depend on regional financial practices and regional economic conditions Regional variations in credit availability are reflected in loan deposit ratios the higher the ratio, the less availability of additional credit

Policy Simulations

We simulated three alternative monetary policies using the econometric model Although we discuss only this set of policies, the model is capable of analyzing other types of policy changes—fiscal policies as well as monetary policies

A brief discussion of the methods of policy simulation is in order There are two types of simulations within-sample and out-of-sample Within-sample simulations produce timepaths of the endogenous variables (explained by the model) for the time period over which the model was estimated If the actual values of the variables exogenous to the model are used for the within-sample simulation, then comparing the simulated and the actual values of the endogenous variables is one means of evaluating the reliability of the model This particular simulation is referred to below as the baseline An out-of-sample simulation reproduces timepaths of the endogenous variables over a time period not used in the estimation of the model typically a forecast This type of simulation requires a forecast of all the model's exogenous variables It also requires an assumption of no structural change Simulations discussed in this section are all within-sample We did not produce out-of-sample simulations because the recent change in banking regulations almost certainly will change the structure of the regional financial equations

A clear statement of the policy questions is key to using an econometric model for policy analysis How much and in what direction will a given policy change affect a set of variables explained by the model? Note that the answer requires two simulations First, we run a baseline simulation, using the historical values of the policy variable (and all other exogenous variables) Second, we run an alternative simulation using the new values of the policy variable (the new value equals the historical value plus the policy change), while holding the exogenous variables at their historical values Comparing the second simulation with the baseline produces the estimated effect of the policy change Multiequation econometric models are normally used to produce point estimates of the effects of a policy change If the coefficients in the model are unbiased, then these estimates are unbiased In principle, the models could also be used to produce confidence interval estimates for the policy effects This is costly, however, especially for large models, and is rarely done We have produced only point estimates for the simulations presented below

Using our model, we addressed two specific policy questions First, for the 14 quarters from the third quarter of 1974 (1974 3) to the fourth quarter of 1977 (1977 4)—the latest period over which data were available for all variables in the model—what would have been the regional effects of a general tightening of monetary policy? More specifically, would some U S regions have suffered more than others, and would nonmetro regions suffer relatively more or less than metro regions? There are two simulations of this question one of a temporary change and the other of a permanent change Second, over the same period, what would have been the regional effects of a general expansion of nonmetro credit assuming the overall monetary policy was unchanged?

The Overall Reliability of the Model

The validity of the policy simulations depends on the overall reliability of the model Figures 2 and 3 plot the baseline values relative to the historical values for two key variables—personal income and total employment—for each region In the simulations discussed below, we use the historical values of the Federal funds rate to produce the baseline We use this procedure in this validation exercise as well

The model underpredicts the trend of economic activity for the United States as a whole, although the model overpredicts the trends in the metro South (U S and Census region totals are not shown in the accompanying tables

and figures but are occasionally discussed in the text) These figures demonstrate that the model is not fully calibrated Even so, the current version of the model stays within a reasonable percentage for most of the trends, the largest prediction errors occur in the metro West where our calibration problems are the greatest (see fig 2 and 3)

An assessment of the goodness-of-fit of the model is subjective A comparison with a similar model would be helpful but, in this case, no other regional financial models are easily comparable We believe the overall fit of this model is good enough to justify using it to analyze policy alternatives relative to the baseline of the model such as those later discussed However, results of alternative policy simulations can be further refined What follows is a beginning, not a conclusion Even so, the insights into rural and regional impacts of national policy appear to be sufficiently robust to warrant sharing them with others

The Regional Effects of a Tightening of Monetary Policy

The key indicator of monetary policy in the model is the Federal funds rate, an endogenous variable There are several ways we could implement a tightening of policy We could change the coefficients on the variables assumed to be the targets for the Federal Reserve For example, if we increase the coefficient on the inflation variable, the rise in inflation over the simulation period would lead to a higher Federal funds rate Alternatively, we could increase the constant term of the Federal funds equation and allow the Federal Reserve reaction coefficients to remain constant This procedure, however, would build in contradicting behavioral assumptions, the constant-term increase in the funds rate would increase unemployment and, thus, lead to an offsetting decrease in the funds rate (the coefficient on unemployment in the funds rate equation is negative) We could have set either total U S demand deposits or the Federal funds rate exogenously, depending on which of the two is taken as the target for monetary policy We chose to make the Federal funds rate exogenous

The baseline used the historical values of the funds rate, whereas the alternative simulation added exogenously to the historical values of the funds rate Two tight money simulations were tried—a temporary and permanent one The temporary policy increases the funds rate by 1 percentage point only in 1974 4 and it returns to historical levels thereafter The permanent policy increases it by 1 percentage point above the historical level in each quarter starting in 1974 4 These effects of the alternative simulations are expressed as a percentage of the baseline simulation Table 1 presents the effects on six key variables of the permanent tight monetary policy as of 1977 4 The six variables are personal income, total employment, manufacturing employment, housing starts, total deposits, and the commercial loan-to-deposit ratio We discuss results of the temporary policy, but they are not shown in the table The direction was the same for both policies, and the magnitude of change was small relative to the permanent policy

As expected, the model estimates that the tightening of monetary policy leads to a decline in national real personal income By 1977 4, 14 quarters after the increase in the Federal funds rate, national income is 3 5 percent below baseline when the tightening is permanent When the interest rate increase is temporary, income falls by only 0 5 percent by 1977 4 The slight adverse effect in the first quarter of the temporary simulation slowly accumulates so that the economy gradually falls further below the baseline, even though monetary policy was restored in the second quarter to its baseline level For the permanent tightening case, U S metro income declines by 3 7 percent by 1977 4, or slightly more than the nonmetro decline of

Table 1—Tight monetary policy Simulated levels of six variables, in the fourteenth quarter of the simulation (1977 4)

Economic variable	North Central		Northeast		South		West	
	Metro	Nonmetro	Metro	Nonmetro	Metro	Nonmetro	Metro	Nonmetro
	Percent of baseline							
Real personal income	96 4	100 1	96 8	95 9	98 4	95 3	91 5	95 3
Total employment	98 1	99 6	98 1	96 7	98 9	98 3	91 8	97 9
Manufacturing employment	96 2	96 2	96 4	96 5	96 4	97 6	77 9	96 6
Housing starts	76 0	98 6	70 8	74 5	93 4	85 3	481 7	100 6
Total deposits	94 2	97 9	94 9	86 4	95 2	94 3	83 8	94 2
Commercial loan/ deposit ratio	102 2	98 9	102 5	100 8	100 8	100 2	118 0	101 4

Figure 2

Real Personal Income by Region, Baseline Simulation

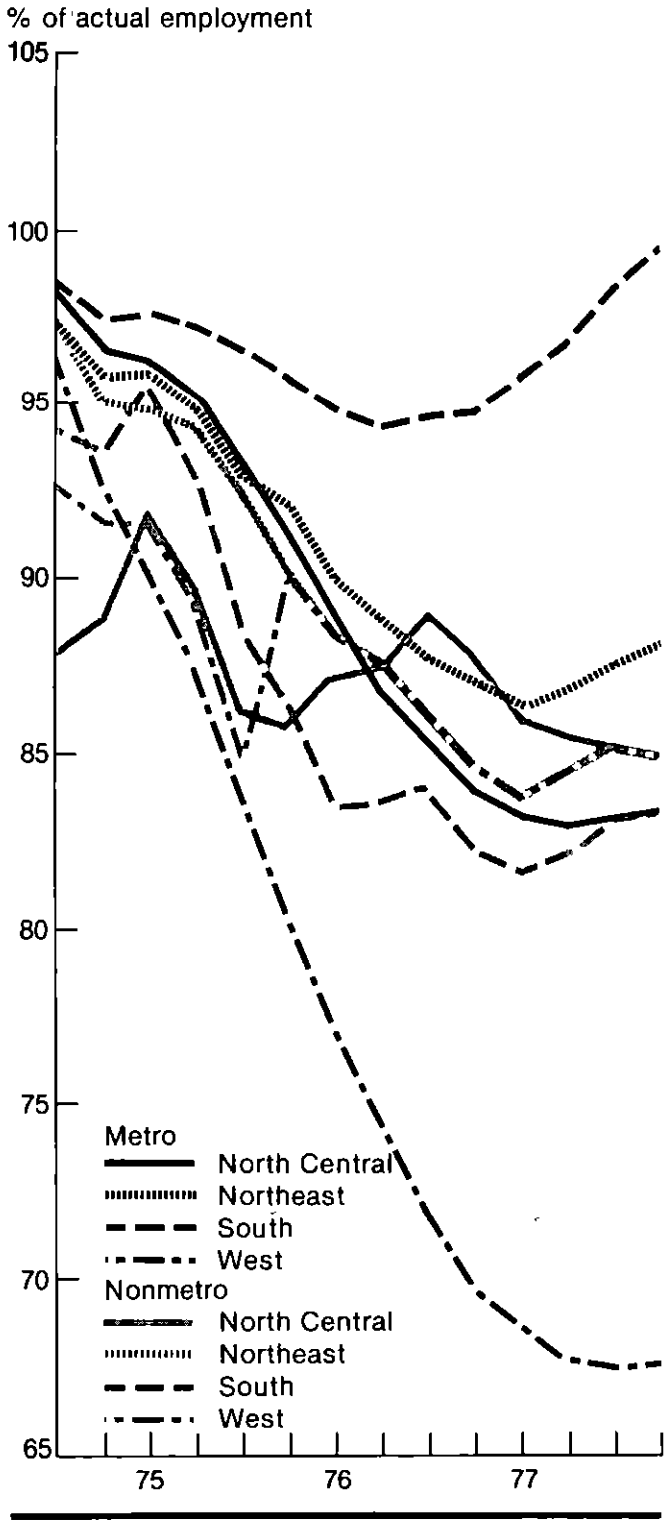
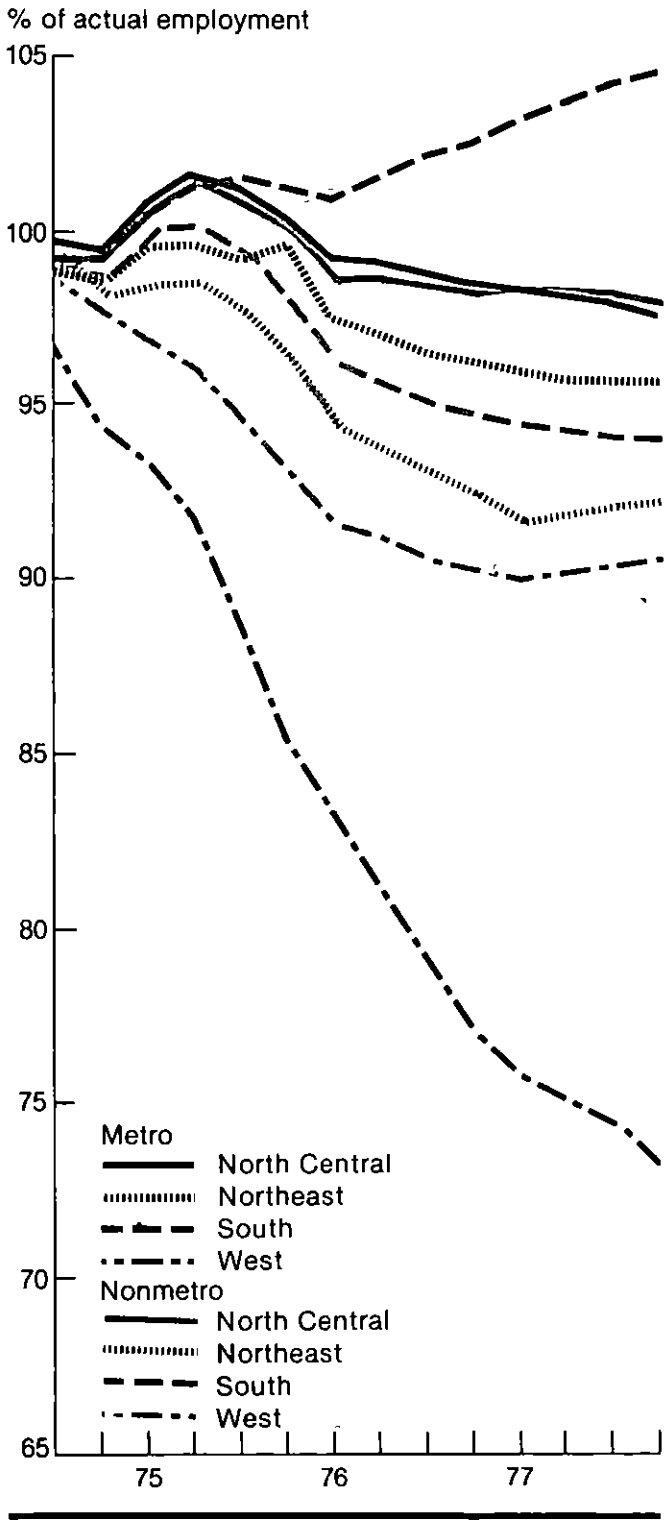


Figure 3

Employment by Region, Baseline Simulation



3 2 percent, largely because of a severe contraction simulated for the metro West

Income and employment changes by region in response to a permanent tightening of monetary policy are shown in figures 4 and 5, the 1974 4 levels appear in table 1 The metro West was most adversely affected, possibly a reflection of poor calibration of the model The nonmetro North Central region was least affected Among the other six regions, the nonmetro areas tended to contract more than the metro areas in income and employment

The decline in personal income nationally is caused by the fall in employment By 1977 4, for the permanently tight monetary policy, employment nationally is 2 4 percent below baseline, and manufacturing employment is 4 6 percent below baseline Although manufacturing employment declines by 5 5 percent nationally in metro areas, heavily weighted by a simulated severe contraction in the metro West, it falls by only 3 0 percent in nonmetro regions The regional declines in manufacturing employment are more severe than the declines in total employment Manufacturing employment was particularly hard hit in the metro West, according to simulation results in table 1 The equation explaining manufacturing employment in the metro West involves elastic respones to changes in regional credit whereas the regressions for the other seven regions indicate inelastic responses

Housing starts in different regions are primarily determined by real personal income and by the change in the stock of real mortgages, both in the region and the adjoining region In turn, mortgages were determined by the stocks of deposits in commercial banks and thrift institutions A rise in the Federal funds rate results in a decline in the stock of total deposits, the sum of demand, time, savings, and thrift deposits When monetary policy is permanently tightened, total national deposits decline by 6 6 percent below baseline by 1977 4 This decline in deposits, which is not offset by an equally large decline in the price level (the GNP deflator is 1 6 percent below baseline by 1977 4), leads to a decline in real mortgages and a corresponding decline in housing starts National housing starts declined by more than 20 percent by 1974 4

Before discussing the effect on housing starts across regions, we briefly review the effect of monetary policy on housing in the model Refer to figure 1 The first-round decline in regional housing, caused by the drop in local deposits and mortgages as the national funds rate is raised, generates feedback effects Regional construction employment declines reducing personal income The decline in local personal income further reduces demand for housing It also reduces the flow of savings into deposits, which causes a further contraction in mortgages and, therefore, housing starts The housing start equations were not completely satisfying Hence, the regional pattern that emerges must be viewed cautiously

Metro housing starts decline by 30 percent, while nonmetro starts decline by less than 10 percent by 1977 4 The equations for housing starts in the metro West produce bizarre results Both the baseline and alternative simulations produce negative values for housing starts over the forecast period The values become negative in 1975 1 for the alternatives and become negative in 1975 2 for the baseline In consequence, the ratios switch from positive to negative to positive in the first four quarters of the simulation comparisons and they rise to dubious heights by the final quarter The three regions in which housing starts were most adversely affected by the tight monetary policy were the metro Northeast, nonmetro Northeast, and metro North Central

Table 1 presents the effects of the monetary tightening on the total deposits and on the loan-deposit ratios Subnational loan-deposit ratios are a proxy for regional credit conditions in the model When monetary policy is tight, deposits are reduced relative to loans and the loan-deposit ratio rises The loan-deposit ratio is a regional indicator of the tightness of money For the permanently tight money policy, the national loan-deposit ratio is 4 8 percent above baseline by 1977 4 The ratio in nonmetro regions peaks at 1 0 percent above baseline in 1976 and falls to only 0 5 percent above baseline by 1977 4 This indicates that nonmetro credit conditions are affected only slightly by a general tightening of monetary policy The metro loan-deposit ratio rises smoothly to 6 7 percent above baseline by 1977 4, indicating that a general credit tightening mostly falls on metro regions The loan-deposit ratio rose most in the metro West The very high level reached there may indicate that further calibration of the model is needed However metro regions consistently show tighter monetary conditions than nonmetro regions, according to the loan-deposit ratio indicator for each of the four Census regions The nonmetro North Central region, which displayed the least adverse effects on income and employment, did not experience a credit squeeze in response to the national policy

The Regional Effects of a Credit Shift

The second type of experiment we performed was to shift credit from metro to nonmetro regions We made several assumptions First, the increased credit to nonmetro regions is initially distributed across nonmetro demand deposits Each of the four nonmetro regions received the same percentage increase in demand deposits in 1974 4 Second, the increased credit to nonmetro regions was not financed with expansionary monetary policy Hence, we hold the Federal funds rate in this experiment

Figure 4

Real Personal Income by Region, Permanent Tightening of Monetary Policy

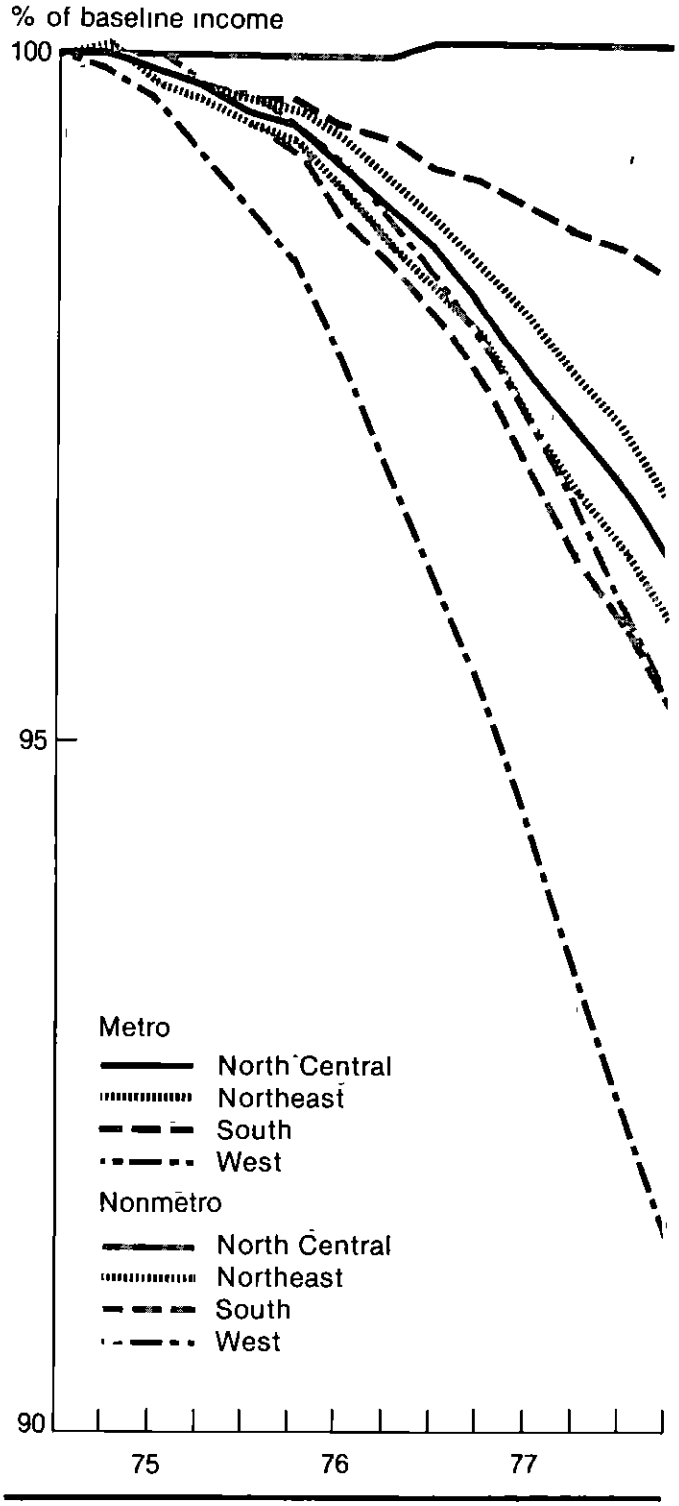
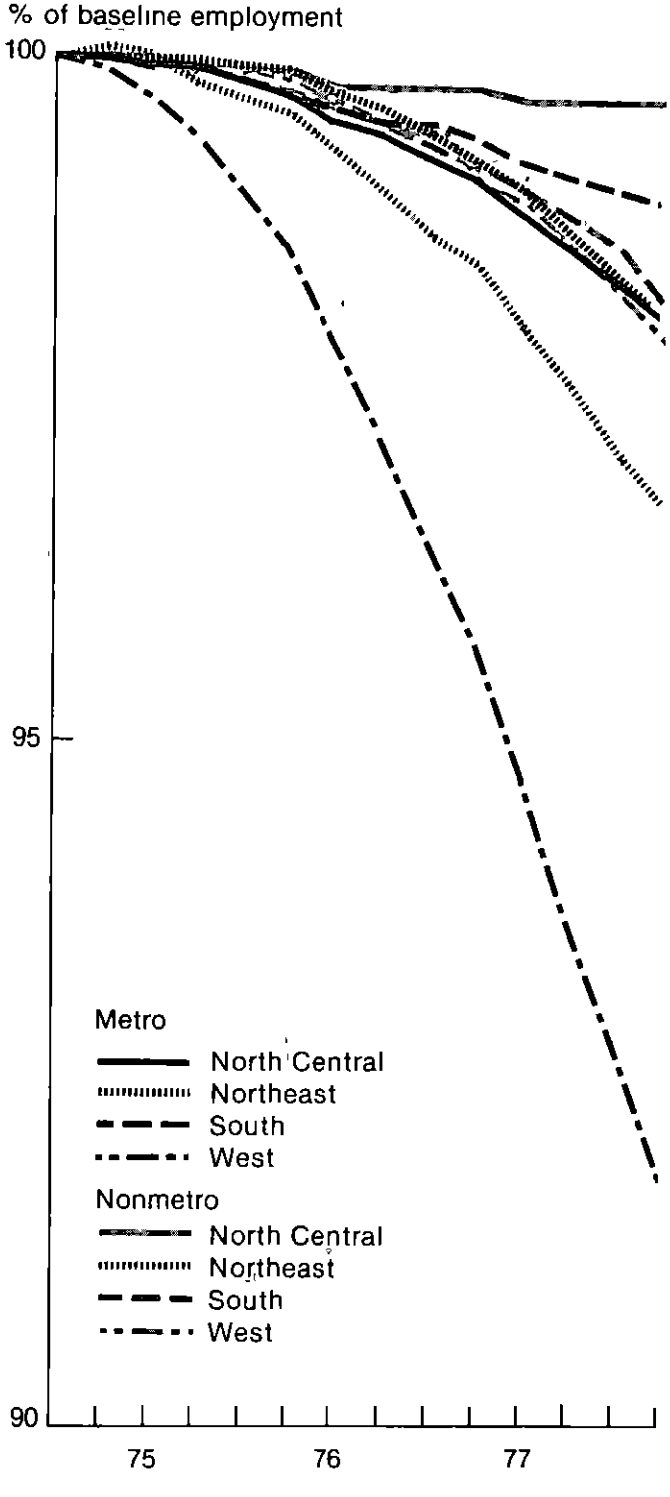


Figure 5

Total Employment by Region, Permanent Tightening of Monetary Policy



at its baseline values Third, the increased credit to nonmetro regions is financed by bond sales to holders of demand deposits in metro regions, and the sales are distributed according to the relative size of the region's metro demand deposits Each of the four metro areas incurs the same percentage decrease in demand deposits in 1974 4 to offset the increase in nonmetro deposits These assumptions imply for the sake of analytic simplicity something not true in practice—that national credit is inelastic so that nonmetro increases are exactly offset by metro decreases In practice, of course, nonmetro credit might be increased without an offsetting decrease in metro credit

Effects of this experiment across the four Census regions depend on the metro-nonmetro mix within the regions The South and North Central regions gain approximately $1 9 and $1 8 billion of credit, respectively, as these regions had relatively less of their deposits in metro banks The Northeast and West lose approximately $2 5 and $1 1 billion of credit, respectively, as their metro deposits were relatively large The overall shift of credit from metro to nonmetro areas is approximately $9 5 billion

Results of this experiment are presented in table 2 and in figures 6 and 7 National real personal income declines by more than 2 percent (compared with baseline) by 1977 4, resulting from the demand deposit shift The small increase in personal income in nonmetro regions—about 1 percent above baseline by 1976, but back to zero by 1977 4—is more than offset by the more than 3-percent decline in metro regions

Total national employment declines in response to the deposit shift, although not quite so much as personal income declined The relative decline in the loan deposit ratio in nonmetro regions makes these regions more competitive in manufacturing, and manufacturing employment in rural areas consequently grows relative to the baseline However, metro manufacturing employment declines 5 percent

Income and employment rise in nonmetro regions in the early quarters of the simulation as intended by the policy Two additional effects are clear from figures 6 and 7 First, income and employment in metro regions decrease as an immediate result of the policy Second, early gains in nonmetro regions fade in later quarters Response of metro regions to a change in monetary policy tends to be more elastic than response in nonmetro regions and it is more heavily weighted in the national totals Therefore, the decrease in metro economic activity tends to more than offset the gain in nonmetro activity, thus decreasing national totals The nonmetro economy is linked to the national economy, and as the level of national economic activity declines over time, it pulls the nonmetro regions down with it

The metro West had the greatest decreases in income and employment while the nonmetro North Central region maintained the greatest long-term advantage, according to table 2 The nonmetro North Central region experienced a sustained rise in income throughout the simulation whereas income in the other three nonmetro regions began to recede about 1 year after the policy was initiated The nonmetro parts of the North Central and Southern regions experienced a sustained rise in employment throughout the simulation whereas employment in the other two nonmetro regions was below the baseline about 2 years after the policy was initiated For each of the four Census regions, the nonmetro regions were relatively better off than the adjacent metro regions as a result of the policy But the nonmetro regions all subsequently receded from initial surges in economic activity

The increase in demand deposits in 1974 4 pulls up nonmetro total deposits by almost 6 percent immediately

Table 2—Rural loan policy Simulated levels of six variables, in the fourteenth quarter of the simulation (1977 4)

Economic variable	North Central		Northeast		South		West	
	Metro	Nonmetro	Metro	Nonmetro	Metro	Nonmetro	Metro	Nonmetro
	Percent of baseline							
Real personal income	97 6	104 2	97 7	98 1	96 8	98 0	94 1	96 9
Total employment	98 8	101 5	98 4	99 1	98 1	101 1	94 1	99 0
Manufacturing employment	96 6	97 9	96 4	99 1	96 3	102 1	82 5	98 5
Housing starts	84 8	98 5	81 5	88 4	89 2	92 7	294 9	100 9
Total deposits	96 7	104 4	96 9	99 8	95 6	103 8	90 7	102 0
Commercial loan/ deposit ratio	101 4	92 6	103 7	94 3	102 1	93 7	111 9	93 3

Figure 6

Real Personal Income, by Region, Rural Loan Policy

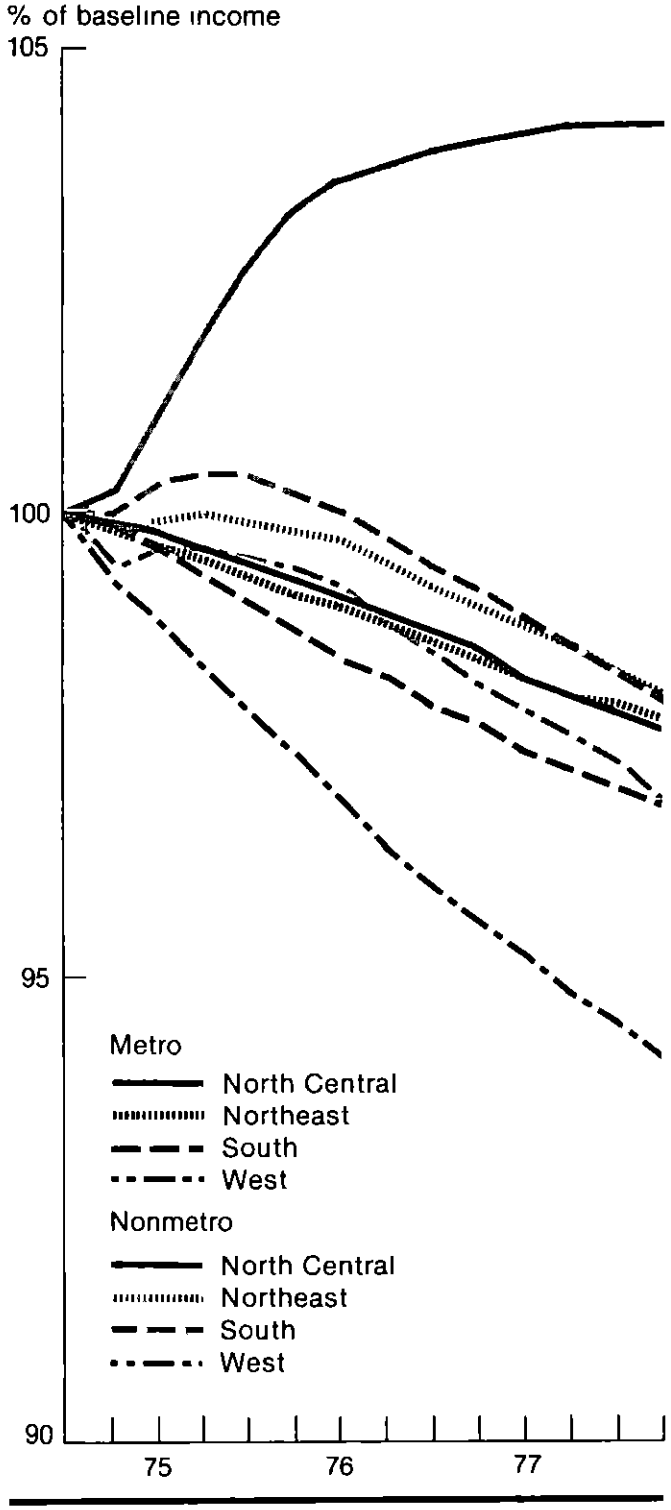
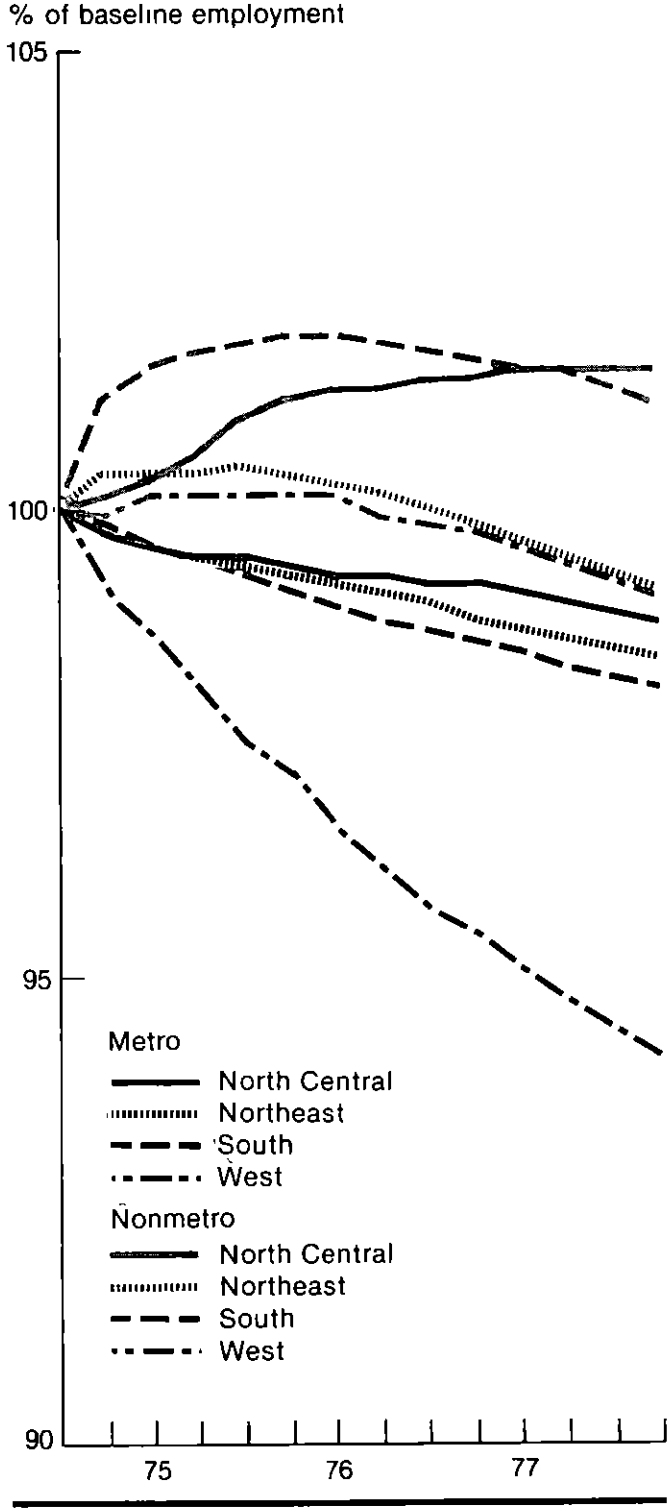


Figure 7

Total Employment by Region, Rural Loan Policy



Similarly, total deposits decline by 1 5 percent in metro regions in 1974 4 Because mortgages are driven by deposits, they shift in a similar fashion If mortgages flowed without interference across regions, a deposit-mortgage shift should have little effect on the distribution of housing starts The empirical results of the model indicate regional imperfections in the mortgage market Rural housing starts slightly increase in 1974 4 and 1975 1 while they sharply decrease in the same periods in metro regions The decline in nonmetro housing starts by 1977 4 relative to the baseline reflects our finding that nonmetro expansionary effects from the deposit shift are more than offset by metro contractionary effects Nonmetro credit availability, as indicated by the loan/deposit ratios, remained favorable relative to metro credit availability at the end of the simulation The decline in nonmetro economic activity from early highs was not caused by a nonmetro credit crunch but, through the linkages of nonmetro regions to metro and national markets, by the metro credit crunch

Conclusions

An important methodological conclusion of this study is that constructing multiregional models which account for monetary impacts is both feasible and relevant The model divides the United States into eight geographic regions—four metro and four nonmetro In addition to its regionalization, the model explicitly introduces a financial as well as a real sector into each region The regions are linked to each other as well as to national financial and real markets Financial and real markets are simultaneously determined at the national and regional levels These features give the model unique capability to analyze how national financial conditions affect economic activity in metro and nonmetro regions

The empirical results demonstrate responses to changes in national monetary conditions that vary regionally Urban areas tend to respond more elastically than rural ones Consequently, during extended periods of tight monetary policy, most induced contraction in income and employment will be in urban places Some rural areas are relatively isolated from a national credit crunch and can show growth while major urban areas experience a setback

The findings are important not only for their implications for rural welfare but also because they support the contention that money matters, in the sense that national monetary conditions affect not only financial and price variables but also the real flow of income and employment

Rural development based on financial credit policies alone can have the intended shortrun effects of increasing rural income and employment But, the unintended shortrun urban side-effects and their longrun national consequences suggest that it is in the national interest to have rural development programs which depend on other inducements to growth besides credit availability Rural responses to changing financial conditions are more inelastic than urban responses Differences in elasticity reflect structural differences in the operating characteristics of smaller, rural banks compared with larger, urban ones Hence, if $1 of additional rural access to funds is exactly offset by a $1 decrease in urban access, the induced rural growth will likely be more than offset by the urban decline The consequent decline of the aggregate level of business activity affects both rural and urban prospects A slack in the national real aggregates accelerates the urban decline, and it can also induce unintended subsequent losses in economic activity large enough to offset intended initial rural gains