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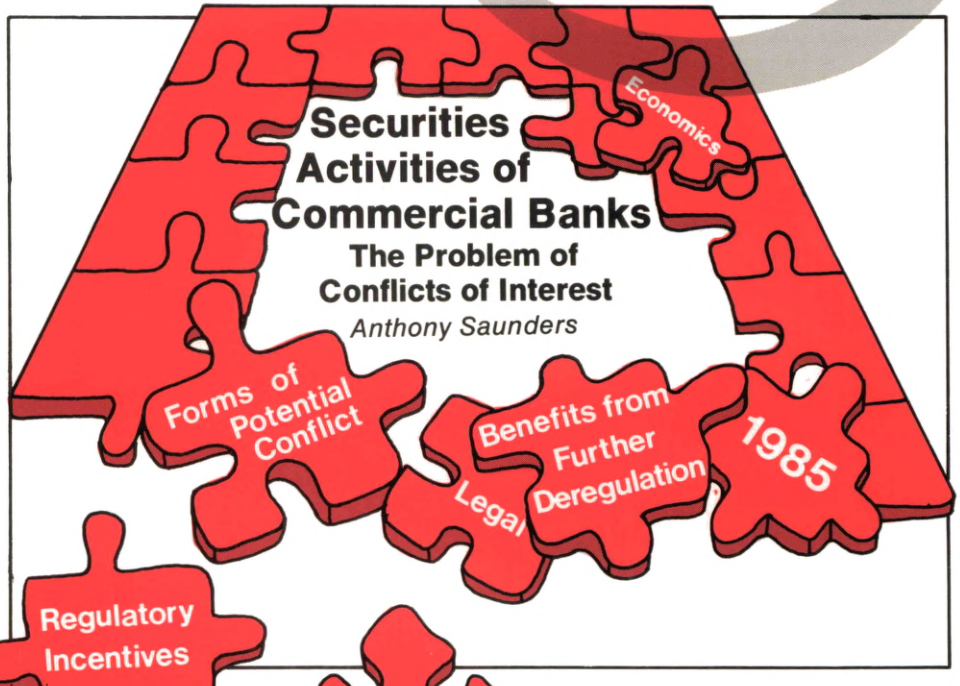
Securities Activities of Commercial Banks

The Problem of Conflicts of Interest

Anthony Saunders



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Do Public Policies Affect County Growth?

*Gerald Carlino and Edwin S. Mills**

INTRODUCTION

Between 1970 and 1980, people and jobs moved in unprecedented numbers from the Eastern, Northeastern and North Central regions to the Southeastern, Western and Rocky Mountain regions of the country. For example, in that period, population shrank 13.4 percent in Philadelphia County and employment fell by 18.2 percent, while in Dade County (containing Miami) Florida, population grew by 28.2 percent and employment increased by 29.6 percent. Comparisons as dramatic as these could be matched or exceeded for many other places in the country. In addition to this "frostbelt-to-sunbelt" movement, the 1970s witnessed a new trend where people and manufacturing jobs moved from metropolitan to more rural counties. This "rural revival" reinforced the ill effects that suburbanization of households and firms continued to place on central cities, especially large older ones.

To what extent have public policies influenced these movements of people and jobs? Differences in regional growth rates are commonly attributed to differences in the costs of doing business and

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the costs of living, such as differences in local taxes. But regions also differ in terms of their benefits, such as good schools and neighborhoods. Public policymakers can and do influence many of these costs and benefits. Municipal governments control local taxes which influence the quality of schools and the level of crime control. And certain state and even federal government policies have local effects. Industrial Development Bonds (IDBs), as well as right-to-work laws, which may influence the degree of unionization, are avenues for state government influence. The interstate highway network, a federal program, may also contribute to the redistribution of people and jobs among regions. Whether controllable at the local, state, or national government levels, these factors can be referred to broadly as policy variables.

Economic theory generally supports the commonly held view that differences in costs and benefits, including those fostered by public policies, are important in accounting for differences in regional growth rates. Theory, however, also points to complexities in the way these costs and benefits interact. And theory alone cannot reveal the size of their effects. Therefore, an empirical analysis is required to sort out the degrees of the effects of public policies on population and employment movements. The results of such an analysis show that, during the 1970s, variables subject to control or influence by governments had only minimal, if any, effects on population and total employment growth. In addition, these variables did not significantly affect manufacturing employment. These findings help shed some light on issues raised in other studies that take somewhat narrower approaches to analyzing differences in regional growth.

BROADENING THE FOCUS OF STUDIES OF REGIONAL GROWTH

If differences in regional growth were simply and directly attributable to differences in regions' costs and benefits for people and firms, then a comparison among regions would be straightforward. But where does such a simple comparison lead? Consider, for example, the data for the South, a booming region (see Table 1). In the 1970s, wage rates, per capita taxes, percent of the labor force that was unionized, and crime rates were all substantially lower in the South than in other major regions of the U.S. But the West has also been a rapidly growing area, even though its wage rates, per capita taxes and crime rates were higher than any other region. Perhaps the growth in the West is due in part to higher levels of educational attainment (as measured by median school years) and the greater density of the interstate highway network in the West than in any other region. But median schooling and highway density tend to take their lowest values in the South, yet the South has experienced rapid growth. In sum, it may very well be that these factors affect regional growth, but their relationships are far too complex to capture with a simple one-to-one comparison.

Instead, the effect of each factor should be measured while holding other factors constant. To do this we use a statistical technique called multiple regression analysis, which allows you to look at all of the possible forces for which you have data simultaneously. Because many explanatory variables are included, you can pick out the effects of any one factor on growth while holding all other factors constant.[1]

Using this technique, previous research has focused on one of three kinds of movements of jobs and people—from frostbelt to sunbelt, from central city to suburb, or from metropolitan to nonmetropolitan areas. Studies that investigate some of the effects of local conditions on movements among major regions, like frostbelt

[1]While multiple regression analysis helps measure these effects, it does not tell us anything about the direction of causation. For example, suppose the analysis shows that employment growth and high income are strongly correlated in an area—that is, when other things are equal, counties that show one usually show the other. This could imply that growth of employment leads to higher incomes in that area; but it could also imply that higher incomes lead to higher employment growth.

TABLE 1
A SIMPLE COMPARISON AMONG MAJOR REGIONS

	AVERAGE VALUES			
	Northeast	**Midwest**	**South**	**West**
Hourly wage rate (1972)	$3.51	$3.37	$2.89	$3.80
Annual per capita taxes (1972)	$208	$200	$120	$254
Percent of labor force unionized (1970)	29.1	27.3	17.7	25.6
Annual crimes per 100,000 people (1970)	2,794	2,260	2,011	3,751
Educational attainment[a] (1970)	11.8	11.2	10.2	12.0
Interstate highway density[b] (1982)	23.0	10.3	11.8	27.7

SOURCE: Calculated from the data set referenced in Gerald A. Carlino and Edwin S. Mills, "The Determinants of County Growth," Federal Reserve Bank of Philadelphia Working Paper, No. 85-3 (May, 1985).

[a]Median school years.

[b]Miles of highway per square mile of land area in a county.

to sunbelt, date back to the early 1960s.[2] Most of this research also focuses on employment, especially manufacturing employment. The predominant finding is that differences in the local economic environment, especially public policy conditions such as levels of taxes, policies to combat crime, and so forth, do not have much influence on the distribution of business activity among major regions of the nation. Studies that have focused on the location patterns of business activity between cities and suburbs within each region, however, do find that differences in public policies were among the major causes of the suburbanization of business activity.[3] Finally, studies of the metropolitan-nonmetropolitan movement of jobs and people have not tested the effects of public policy, but they do suggest that manufacturing employment led the "rural revival" of the 1970s.[4]

In order to get a more complete picture of regional growth, the analysis can be broadened in several ways. To begin with, all three levels of regional movement—frostbelt-sunbelt, city-suburb, and metro-nonmetro—can be con-

[2]See John Due, "Studies of State-Local Tax Differences on the Location of Industry," *National Tax Journal*, Vol. 14 (June 1961), pp. 163-173; for a more recent analysis, see Roger Schmenner, *The Manufacturing Location Decision: Evidence from Cincinnati and New England*, (Washington, DC: U.S. Dept. of Commerce, GPO, 1978).

[3]Alberta Charney, "Intraurban Manufacturing Location Decisions and Local Tax Differentials," *Journal of Urban Economics*, Vol. 14, No. 2, (September 1983), pp. 184-205; William Fox, "Fiscal Differentials and Industrial Location: Some Empirical Results," *Urban Studies*, Vol. 18, (February 1981), pp. 105-111; Edwin S. Mills, "Metropolitan Central City Population and Employment Growth During the 1970's," Federal Reserve Bank of Philadelphia, Working Paper No. 83-7, (September, 1983); Michael Wasylenko, "Evidence on Fiscal Differentials and Intrametropolitan Firm Location," *Land Economics*, Vol. 56, (May 1980), pp. 339-349.

[4]Gerald A. Carlino, "Declining City Productivity and the Growth of Rural Regions: A Test of Alternative Explanations," *Journal of Urban Economics* (July, 1985).

sidered by examining data at the county level, and by including roughly 3,000 of the counties in the continental U.S. In addition, manufacturing employment can be studied separately. Finally, the analysis can be enriched by considering the effects of population growth on employment growth and vice versa.

JOBS AND PEOPLE AFFECT EACH OTHER

Other things equal, jobs attract people and vice versa. In choosing where to live, households try to get the most satisfaction they can from consuming goods and services, including public services, given their after-tax incomes. Therefore, they are attracted to areas with fast job growth, because those places offer the best prospects for employment and income growth. Firms, on the other hand, try to maximize profits, the difference between revenue and cost. Thus firms choose a location because it enhances revenue, lowers cost, or both. Rapid population growth in an area leads to increased demand for locally produced goods and services. This increased demand means faster revenue growth for firms that sell in the area. In addition, this increased demand draws new firms and, in turn, more people.

Not all the linkages between firms and households work in this mutually reinforcing way, however. In some cases past growth can deter rather than reinforce future growth. For example, fast employment and population growth in an area causes rents to rise, as more firms and people compete for a relatively fixed amount of land (or, at least, for land that is attractively sited for transportation purposes). Thus, population and employment growth are mutually enhancing from households' and firms' revenue perspectives. But for households and firms alike, past population and employment growth can lead to higher rents that impede future growth.

In general, employment and population growth in different areas continues until these reinforcing and deterring effects are in balance. Local rent levels, as well as wages, rise and fall in response to past employment and population growth rates, and thereby determine the rate of growth in future periods. Thus, households migrate until living standards (adjusted for nonfinancial factors) are equalized across places. Firms either move to, start up, or expand in areas with high profits, and they leave, or contract, in those which offer low profits, until rates of profit are equalized among locales.

Including the interaction between jobs and people helps to capture both the direct effects of various factors on regional or local employment growth, and their indirect effects on local employment that occur through local population growth. If the indirect effects are fairly large, they can substantially influence employment growth. For example, if a policy directly promotes local population growth, then the following sequence unfolds: the increased population affects local employment, which then affects population, which then affects employment, and so on. At each successive round these interactive or indirect effects get smaller and smaller and finally settle down. The same sequence holds for policies that directly affect local employment.

Understanding the interaction of local employment and population can help local policymakers form better economic development strategies. Local government programs designed to increase local employment are often aimed at attracting new employers to the area. But, depending on how increases in local population affect local employment, different strategies to increase employment could operate in quite different ways. Some local programs that might be thought not to have much value in attracting local employment could substantially increase local employment indirectly by attracting people to the area. Since programs to promote local growth can be costly, and since the interaction of employment with population takes time to occur, local policymakers would benefit from understanding how effective different development strategies are at attracting employment directly versus indirectly. Therefore, such

interactions should be taken into account when analyzing the effects of public policies on regional growth.

HOW PUBLIC POLICIES AFFECT JOBS AND PEOPLE

Several factors influenced by public policy affect both population and employment growth directly because they represent costs or benefits to both households and firms. These include crime rates, educational attainment, taxes, and interstate highway density.

The quality of local government's provision of services is important in the location decisions of households and firms. For example, the quality of local police protection influences an area's *crime rates.* Since people fear being victims of crime, they are likely to avoid working and living in areas with high crime rates. High crime rates also drive up firms' insurance premiums, and hence the cost of doing business, and may result in slower employment growth.

Local policies on schooling may influence an area's level of *educational attainment.* High educational attainment by the resident population is likely to attract people and perhaps jobs as well. High educational attainment undoubtedly stands for several amenities that create prime residential areas (such as high income and good schools), which should attract households. High educational attainment in an area also may be attractive to firms, since it signals a highly skilled labor force.

There is a cost side, however, to providing these services—*local taxes.* And both firms and households tend to shun areas with high taxes. In sum, households and firms are attracted to areas that offer a high level and quality of these public services at low cost (taxes).

The development of the *interstate highway network* has steadily increased the accessibility of many areas to one another as well as to major markets. Increased accessibility is important to both households and firms, since it lowers costs in terms of both the money and the time spent on traveling. Increased accessibility should therefore stimulate the growth of local population and jobs. Local officials can encourage or discourage highway building. So although interstate highway building is a federal program, local policymakers are not without influence in this matter.

Other policies tend to affect firms directly and households only indirectly, that is, via employment's effect on population. Two that we consider are the *degree of unionization* and *IDBs.* While many factors can influence the degree of unionization in an area, state policies can limit it through right-to-work legislation. In general, right-to-work laws provide that people need not belong to a labor union to get or keep a job, and also that people may not be denied a job because they belong to a union. Nineteen states, most of which are in the South, have such laws.

Since the degree of unionization varies from state to state partly because of right-to-work laws, to some degree it can be considered a policy variable, although one that operates at the state rather than local government level. In general, a higher degree of unionization may repel employers for several reasons: unionized workers tend to earn higher than average wages, unions can impose rigidity on firms' ability to adjust quickly to changing conditions, and they can disrupt production during periods of strikes. So greater unionization would be expected to reduce local employment growth.

Similarly, *Industrial Development Bonds* (IDBs) are another public policy variable available to state governments. IDBs have been used by many states to attract employment by offering loans below going market interest costs to firms that agree to locate an operation within the state issuing the IDB. Reduced interest charges are possible because lenders are not required to pay taxes on the interest payments they receive from IDB borrowers. Only two states, Idaho and Washington, had issued no such bonds by 1981, whereas Pennsylvania led the nation in the volume of tax exempt financing. Greater issuance of IDBs would be expected to increase local employment growth.

While some public policy variables could affect one group (local population or employment) directly, they nonetheless could have effects on the other group indirectly, as is the case with IDBs and the degree of unionization. To understand the total (direct and indirect) effects it is important to incorporate the interaction between these two groups when empirically analyzing regional growth.

MEASURING THE DIRECTION AND DEGREE OF THE EFFECTS

This analysis of the impact of certain public policies on local employment and population growth is based on a larger study of the determinants of county growth in the U.S. That study estimated the effects of a wide range of factors, including several public policy variables, on county employment and population to allow for interaction between employment and population growth (see the APPENDIX p. 13). As a result, both direct and indirect effects of the public policy variables were calculated.[5]

The study was based on data collected for roughly 3,000 counties in the continental U.S.[6] These data included employment, resident population, educational attainment, taxes per capita, crimes per 100,000 people, the percent of the nonagricultural labor force that belongs to unions (available only by state), miles of interstate highways per square mile of land area in the county, and the total value of IDBs outstanding (also available only by state). Other variables were used to account for regional differences in employment or population due to noneconomic factors (for example, climate) for which data were not available.[7] A statistical analysis (multiple regression analysis) of the relationships among these factors was used to determine how county population and total employment—and, separately, county population and manufacturing employment—were affected during the 1970s by the other factors included in the study, including the public policy variables.[8]

One problem with analyzing the results from multiple regression analysis is that the variables are generally measured in different units. For example, per capita taxes are measured in *dollars*, and median schooling is measured in *years*. To facilitate the comparison of the effects of different variables, we must standardize our findings. A common approach couches relationships in percentage terms—the percent change in one variable associated with the percent change in another. This unitless measure is known as an elasticity. An elasticity for employment growth, for example, tells us the percentage change in employment given a

[5]For details of the estimation process underlying the results given in the Appendix, together with caveats, see Gerald A. Carlino and Edwin S. Mills, "The Determinants of County Growth," Federal Reserve Bank of Philadelphia Working Paper No. 85-3, (May 1985).

[6]Not all counties in the continental U.S. were included in this study because of lack of available data in some cases. Of the 3,137 counties in the U.S., this study includes 2,964.

[7]Our analysis relies on data found in *County Business Patterns* to measure area employment. These data gauge area employment using establishment location, the appropriate measure. One problem with *County Business Patterns* data is that coverage is limited to employees covered by the FICA act. Thus, those not covered by Social Security (largely government, railroad, agriculture, and domestic services) fall outside of *County Business Patterns* scope.

Population figures, as well as many of the explanatory variables, come from the Census Bureau's *City and County Data Book Tape*. The tape contains resident population, educational attainment, taxes per capita, and other census data by county.

In an effort to increase the scope of our enquiry, we supplemented the census data with information from other sources. This includes the FBI index of major crimes per 100,000 people; percent of the nonagricultural labor force that belongs to unions (available only by state); the miles of interstate highways per square mile of land area in the county; and the total value of IDBs outstanding (also available only by state).

[8]In the estimation procedure, the variables to be explained, county population and employment, were expressed as the end-of-period (1980 for population and 1979 for employment) values, whereas the explanatory variables are measured at beginning-of-period values (1970 when possible). Inclusion of only pre-1980 values of the explanatory variables prevents them from literally being affected by population and employment which are expressed in end-of-the-1970s values. This was not possible to do for IDBs and the interstate highway variable, which use 1981 and 1982 values, respectively.

percentage change in any one of the explanatory variables, while holding all other explanatory variables constant, and likewise for population elasticities. Elasticities facilitate comparisons of the influence that a specific change in a variable exerts on population versus employment. They allow us to compare, for example, the differential impact of a 10 percent increase in educational attainment on population and employment even though each variable is scaled differently.

The Interactive Effects of Population and Employment. A major finding of this study is that an increase in county population growth significantly increases county employment (for a summary of all the direct effects, see Table 2). For example, a 10 percent increase in a county's 1970 population resulted in a 4.9 percent increase in the county's total employment in 1979, and a 4.1 percent increase in the county's manufacturing employment for 1979.[9] The 4.1

[9]The precise interpretation of these results is that a 10 percent increase in the county's 1970 population, relative to the sample mean of all the counties, resulted in a 4.9 percent increase in the county's total employment in 1979, again relative to the sample mean. Note that in the results, a 10 percent increase in the *level* of population is being interpreted as an increase in population *growth*. The equations were not estimated using growth rates directly.

TABLE 2

DIRECT EFFECTS OF A 10 PERCENT INCREASE IN INTERACTIVE AND PUBLIC POLICY VARIABLES[a]

	PERCENT CHANGE		
	County Population	County Total Employment	County Manufacturing Employment
Interactive County Variables			
Population, 1980	—	4.9	4.1
Total Employment, 1979	1.1	—	—
Manufacturing Employment, 1979	0.3[b]	—	—
Public Policy County Variables			
Per Capita Local Taxes, 1972	-1.4	—	—
Crime Rate per 100,000 People, 1975	-0.2[c]	—	—
Educational Attainment, 1970	5.9	3.8	-0.6[c]
Interstate Highway Density, 1982	0.2	0.3	0.1[c]
Percent of Labor Force Unionized, 1970	—	-0.6[c]	-1.6
IDBs, 1981	—	0.2[c]	0.3[c]

[a]Elasticity estimates from semi-structural equations, using two-stage least-squares multiple regression.

[b]Estimated in an equation system that used county manufacturing employment rather than total employment.

[c]The estimated value is not significantly different from zero.

percent increase in county manufacturing employment is not significant in a statistical sense, however. In other words, the interaction of county manufacturing employment and county population is less certain. Because the effect of county population growth on a county's total employment growth is fairly large, public policies that substantially affect county population but have no direct effect on county employment nevertheless have an important indirect effect on county employment. Further, policies that enhance both county employment and population directly have an amplified effect on county employment, again through population.[10]

The direct effect of an increase in county employment on county population, however, is relatively small. A 10 percent increase in base period (1969) county total employment led to only a 1.1 percent increase in county population during the decade. So policies that affect only county employment directly have little indirect effect on county population growth.

Taking the interaction of county employment and population into account, the direct, indirect, and total effects on county employment of the public policy variables can be compared (Table 3). The total effect (Column 3) is the sum of direct (Column 1) and indirect effects (Column 2). The indirect effects are calculated by multiplying the direct effect of the public policy

[10]This study does not consider the impact of public policies on county *unemployment rates* directly. Public policies that are designed to increase county employment and draw population (or vice versa) may ultimately increase the county's unemployment rate. This could happen if a change in the county's labor force exceeds the number of new jobs created by that policy. A check of the results of this study suggests that, in general, policies that stimulate county employment do not result in increased county unemployment rates.

TABLE 3

COUNTY TOTAL EMPLOYMENT
The Effects of a 10 Percent Increase in Public Policy Variables

	Direct Effect[a]	+	Indirect Effect (through population)	=	Total Effect[b]
Local Taxes	—		-0.7		-0.7
Crime Rate	—		0.1[c]		0.1[c]
Education	3.8		3.2		7.0
Interstate Highways	0.3		0.2		0.5
Percent Unionized	-0.6[c]		—		-0.6[c]
IDBs	0.2[c]		—		0.2[c]

[a]From structural equation estimates, Table 2.
[b]From reduced form estimates.
[c]The estimated value is not significantly different from zero.

variable on county population by the effect of population on county employment.

Taxes and Crime Rates. In principle, taxes and crime should affect both county employment and population directly. The data available on local taxes and crime, however, were not appropriate for analyzing a direct effect on employment. Local taxes per capita was the only tax measure consistently available at the county level, which is an appropriate policy variable for household decisionmaking, but not for firms. The correct tax measure for total and manufacturing employment is the county tax rate, which is not available. Similarly, the crime rate variable is measured per 100,000 people and is not measured by firms. As a result, the direct effects of both local taxes per capita and major crimes per 100,000 people were estimated only for county population. The effects of taxes and crime on county total employment and manufacturing employment show up only indirectly through population's interaction with employment.

For taxes, the -0.7 percent indirect effect on a county's total employment is equal to the -1.4 percent effect of taxes on county population times the 0.5 percent effect of county population on employment. Because per capita taxes have no direct effect on county employment, the total effect on county employment is equal to the indirect effect. For a 10 percent increase in local taxes per capita, then, the decline in county employment is quite small—less than 1 percent.[11] Unlike taxes, the crime rate's indirect effect on county employment is not even statistically significant. Because the direct effect of crime on county population is essentially zero (in a statistical sense), the indirect effect on county total employment is also zero. Thus, the total effect of crime on county employment is zero also. These findings are broadly consistent with those reported in other studies.[12]

Education and Highways. Unlike taxes and crime, educational attainment and interstate highway density affect *both* county population and employment directly. Not only is there a direct effect of education and highways on county employment, but since these policy variables also influence county population growth directly, there is also an indirect effect through county population on employment.

Median school years attained by the resident population represent a major attraction to nonresidents. Our results show that a 10 percent increase in educational attainment (from 10.9 years to 12 years) leads directly to a 5.9 percent increase in county population. That same 10 percent increase also boosts county employment by 7 percent, both directly (3.8 percent) and indirectly, via a county's population increase (3.2 percent)—see Table 3. These findings characterize educational attainment as an important public policy instrument for promoting the growth of local population and employment, a conclusion supported by a broad range of studies analyzing the positive effect of educational attainment on local growth.[13]

Highways. County population and employment also respond to the availability of the interstate highway network, but to a smaller extent. A 10 percent increase in a county's interstate highway density would lead to only a 0.5 percent increase in total employment—0.3 percent through a direct employment effect, and 0.2 percent through an indirect population effect.

Unionization and IDBs. In contrast to educational attainment and highways, other local policy variables such as degree of unionization

[11] Our results do suggest that reductions in local taxes per capita, which draw population, result in increases in a county's labor force that exceed the number of new jobs created. This is the only policy variable that, on average, would cause county unemployment rates to rise.

[12] See Edwin S. Mills, "Metropolitan Central City Population and Employment Growth During the 1970's," Federal Reserve Bank of Philadelphia, Working Paper No. 83-7, (September, 1983); and Edwin S. Mills and Richard Price, "Metropolitan Suburbanization and Central City Problems," *Journal of Urban Economics*, (forthcoming 1985).

[13] See Mills, and Mills and Price, ibid.

and Industrial Development Bonds affect county employment only directly. But neither of these factors had statistically significant effects on employment, nor were their estimated effects large in absolute size. A 10 percent increase in the fraction of the area's work force that is unionized reduced a county's total employment by 0.6 percent—a rather small response. Likewise, a 10 percent increase in the value of IDBs outstanding resulted in only a 0.2 percent increase in a county's total employment. This lack of response to IDBs might be explained by the fact that since so many states offered them, they were of little *relative* advantage to firms.

Public Policy and Manufacturing. The separate analysis of county population and manufacturing employment suggests that the policy variables had essentially no impact on county manufacturing employment (Table 4), which corroborates earlier work in this area.[14]

[14]See Due, "Studies of State and Local Tax Differences...," and Schmenner, *The Manufacturing Location Decision.*

Of the variables we considered, only the degree of unionization, which may be influenced by right-to-work laws, significantly affects county manufacturing employment. Specifically, a 10 percent increase in the degree of unionization resulted in a 1.6 percent reduction in county manufacturing employment.

CONCLUSION

This study explores how public policies influenced the distribution of population, total employment, and manufacturing employment among counties in the 1970s. This research indicates some general conclusions about the relative importance of several public policies for county employment growth; however, the limitations of the data suggest that precise statements about the magnitudes of the effects are probably not warranted. In addition, specific policies that are designed to increase county employment and population may result in an expansion of its labor force that exceeds the number of new jobs created by such policies. As

TABLE 4

COUNTY MANUFACTURING EMPLOYMENT
The Effects of a 10 Percent Increase in Public Policy Variables

	Direct Effect	+	Indirect Effect (through population)	=	Total Effect
Local Taxes	—		-.02		-.02
Crime Rate	—		-.01		-.01
Education	-0.6[a]		-.00		-0.6[a]
Interstate Highways	0.1[a]		.00		0.1[a]
Percent Unionized	-1.6		—		-1.6
IDBs	0.3[a]		—		0.3[a]

[a]The estimated value is not significantly different from zero.

a result, one must be careful not to infer that county employment growth always leads to reduced county unemployment rates.

What we do find is that variables that depend on public policies, such as taxes, crime rates, and Industrial Development Bonds (IDBs), exert little impact on either county population or total employment growth. Indeed, the study points to an interesting irony: IDBs, which were intended to promote local growth, had even less of an effect on local population and total employment than did interstate highways, which were constructed for wholly different purposes—although the effect of highways was also small. More strikingly, with the exception of right-to-work laws which influence the degree of unionization, public policies seem to have had no effect on county manufacturing employment whatsoever.

Instead, we find that the features about a county that are most positive for local employment growth are its people and their level of educational attainment. That is, county population seems to attract county employment more than county employment attracts county population. Moreover, the level of educational attainment proved to be the most powerful of all the public policies. This finding, together with the small effects of other public policies on county employment, runs counter to many local development strategies that are directed only at attracting businesses to their regions. Given the condition of most local budgets, using public policies to gain a moderate increase in local employment may require a substantial share of public expenditures. Instead, limited public funds may be better spent on educating, retaining, and attracting population, provided they also create sufficient jobs so that unemployment rates do not rise.

APPENDIX

Steinnes and Fisher develop a theoretical model of interaction between regional population and employment that reduces to:[a]

(1) $E^* = A_E(P) + B_E(S)$

(2) $P^* = A_P(E) + B_P(T)$

where E and P are regional employment and population, S and T are vectors of exogenous variables that affect E and P, and asterisks indicate equilibrium values. A_E and A_P are coefficients of the endogenous variables and B_E and B_P are vectors of coefficients of exogenous variables; subscripts indicating counties are suppressed. These two equations are called a semi-structural model because the wage, rent, and other endogenous variables in the original model have been solved out.

Following Mills and Price, regional population and employment are assumed to adjust to equilibrium with distributed lags:[b]

(3) $E = E_{-1} + \lambda_E (E^*-E_{-1})$

(4) $P = P_{-1} + \lambda_P (P^*-P_{-1})$

where subscript -1 refers to the value of the indicated variable lagged one period, a decade in our data, and λ_E and λ_P are speed of adjustment coefficients with $0 < \lambda_E, \lambda_P < 1$.

[a]Donald N. Steinnes, and Walter D. Fisher, "An Econometric Model of Intraurban Location," *Journal of Regional Science*, Vol. 14, February 1974, pp. 65-80.

[b]Edwin S. Mills, and Richard Price, "Metropolitan Suburbanization and Central City Problems," *Journal of Urban Economics*, (forthcoming, 1985).

Equations (1) and (2) can be used to solve for E^* and P^* in terms of only the exogenous variables in the model.

Substituting (1) and (2) for E^* and P^* in (3) and (4), and rearranging terms, gives

$$(5) \quad E = \lambda_E A_E P + \lambda_E B_E S + (1 - \lambda_E) E_{-1}$$

and

$$(6) \quad P = \lambda_P A_P E + \lambda_P B_P T + (1 - \lambda_P) P_{-1}$$

which are simultaneous equations in the observable endogenous variables E and P. Each depends on the other endogenous variable, on a set of exogenous variables, and on its own lagged value.

THE EMPIRICAL MODEL

The variables that were considered in the empirical model include the public policy variables discussed in the text, plus other variables that affect county employment and population, and regional dummy variables that are intended to capture noneconomic factors (such as climate) that affect households' or firms' decisions to locate in different areas. These other variables are discussed more thoroughly in a technical paper by the authors.[c]

In order to implement the model empirically, (5) and (6) are assumed to be linear in their arguments

$$(7) \quad P_i = A_O + A_1 E_i + A_2 P_{i-1} + A_3 PB_i + A_4 I_i + A_5 T_i + A_6 CR_i + A_7 LA_i + A_8 MS_i + A_9 CC_i + \sum_{j=10}^{11} A_j NM_i + \sum_{k=12}^{19} A_k R_i$$

$$(8) \quad E_i = B_0 + B_1 P_i + B_2 E_{i-1} + B_3 PB_i + B_4 I_i + B_5 U_i + B_6 LA_i + B_7 IDB_i + B_8 CC_i + \sum_{j=9}^{10} B_j NM_i + \sum_{k=11}^{18} B_k R_i$$

where

P_i = 1980 population in county i

E_i = 1979 total employment in county i

P_{i-1} = 1970 population in county i

E_{i-1} = 1969 total employment in county i

PB_i = percent black in i in 1970

I_i = interstate highway density (miles of interstate per square mile of land area) in i by 1982

T_i = local government taxes per capita in i in 1972

[c]See Gerald A. Carlino and Edwin S. Mills, "The Determinants of County Growth," Federal Reserve Bank of Philadelphia, Working Paper No. 85-3, (May 1985).

CR_i = Crime rate per 100,000 people in i in 1970

U_i = Union membership as a percent of employees in nonagricultural establishments, by *state,* 1970

LA_i = square miles usable land area in county i.

MS_i = median school years attained in i in 1970

IDB_i = total value of Industrial Development Bonds issued through 1981 by state

CC_i = Center City dummy variable assigned a value of one if county i contains a central city, zero otherwise.

NM_j = two metropolitan-nonmetropolitan dummy variables
The first of these dummies is one if the county is adjacent to a metropolitan one. The second is one if the county is neither metropolitan nor adjacent. Thus, metropolitan counties are the base case.

R_k = regional dummies, where $R_i = 1$ if the county falls in the i-th region; i takes the values

New England
Middle Atlantic
East North Central
West North Central
East South Central
West South Central
Mountain
Pacific
South Atlantic is the base case

In both (7) and (8), the dependent variables refer to end-of-period values, whereas most of the independent variables are at beginning-of-period values. This reduces the simultaneity and reduces direction of causation issues, since end-of-period values of the dependent variables cannot affect beginning-of-period values of the independent ones. Beginning-of-period values for IDBs and interstate highway density were not available, so 1981 and 1982 values, respectively, were used in those cases.

Equations (7) and (8) were estimated by two-stage least-squares techniques. The results of these regressions are presented in Table A.1.[d] The estimated coefficients for the county population column are those that interact with a county's total employment. Quite similar coefficient estimates were obtained for the county population equation that interacted with county manufacturing employment (Column 4). These estimated coefficients for county population interacting with manufacturing are not presented in Table A.1 to save space.

The estimated coefficients in Table A.1 are used to compute the estimated elasticities presented in Table 2 of the text. These estimated parameters (Table A.1) were also used to obtain the reduced form estimates for county population, total employment and manufacturing employment. These reduced form results (available from the authors on request) were used to compute the elasticities reported in Tables 3 and 4 of the text.

[d]In addition, the regressions were run in double-log form, and the main results were essentially the same, particularly for the employment equations.

SEMI-STRUCTURAL EQUATION ESTIMATES OF DETERMINANTS OF COUNTY GROWTH

	County Population	County Total Employment	County Manufacturing Employment
Constant	-10.08221	-8.9378*	-1.1534
Population, 1970	0.8698*		0.0390
Population, 1980[t]		0.1599*	
Total Employment, 1969		0.7417*	
Total Employment, 1979[t]	0.3308*		
Manufacturing Employment, 1969			0.6604*
Square Miles of Land Area	0.0040*	-0.0006*	-0.0028
Percent Black, 1970	-0.2289*	-0.0752*	-0.0355*
Interstate Highway, 1982	0.1172*	0.0499*	0.0056
Per Capita Local Taxes, 1972	-0.0576*		
Percent Unionized		-0.0627	-0.0547*
Industrial Revenue Bonds, 1981		0.0012	0.0005
Crime Rate, 1975	-0.0006		
Education, 1970	3.9543*	0.8224*	-0.0420
New England	-13.0530*	-5.6233	0.0983
Middle Atlantic	-20.6356*	-15.9645*	-3.4863*
East North Central	-15.3736*	3.6478*	0.9940
West North Central	-6.0509*	-0.5831	-0.3517
East South Central	-15.3736*	-3.6478*	0.3994
West South Central	-13.1736*	-1.9551	-0.1326
Mountain	-15.9635*	1.5203	0.2621
Pacific	11.0105*	0.4825	1.1865
Exurban	-10.4084*	2.2122*	0.9770
Rural	-12.1158*	2.4869*	0.8595
Central City	8.5025*	5.3237*	0.6776
R-square	.9849	.9806	.9709

[t]Estimated using two-stage least-squares multiple regression.

*Denotes that the coefficient is statistically significantly different from zero.

Securities Activities of Commercial Banks:
The Problem of Conflicts of Interest

*Anthony Saunders**

The 1980s have witnessed an increasing trend towards bank deregulation. One important aspect of this trend has been the growth in the securities activities of banks and bank holding companies. These activities have taken several forms, including operating discount brokerage houses, selling commingled IRAs, and acting as advisors to closed-end mutual funds. However, one activity which banks are still expressly prohibited from entering (under the 1933 Glass-Steagall Act) is underwriting and dealing in corporate securities—stocks or bonds. Despite this, many large banks are vigorously lobbying Congress to be allowed back into securities underwriting (and, therefore, for the abolition of the Glass-Steagall Act).

Allowing banks to engage once again in corporate securities underwriting may well have important social benefits. First, it would probably ease the access of small firms into the capital market; commissions on the initial public offerings of these firms would decline, since increased competition would likely lower the very high underwriting fees. Indeed, a number of studies have shown that existing underwriters have persistently underpriced new offerings by small firms and have charged fees and commissions exceeding 10 percent of the gross

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revenues from the issue.[1] Second, allowing bank holding companies' subsidiaries to underwrite securities may enhance their ability to diversify, which could significantly help stabilize bank holding companies' earnings.[2]

These benefits are sufficient to warrant a serious look at relaxing restrictions on corporate securities underwriting, particularly in today's financial environment. Indeed, banks and bank holding companies contend that advances in management controls and information technology can mitigate the problems of conflict of interest that, in part, gave rise to the restrictions. Regulators, however, remain concerned that allowing banks into securities underwriting raises questions regarding bank safety and soundness and heightens the potential for conflicts of interest. While potential conflicts of interest are present in virtually all buyer-seller relationships, they may be particularly acute problems in the context of a multiproduct (or multi-activity) bank or bank holding company with a great diversity of customers.[3] Indeed, in the period leading up to the 1929 stock market crash, conflicts of interest in the securities activities of several major banks received considerable publicity and were a major factor prompting the restrictive Glass-Steagall provisions.

A BRIEF HISTORY AND BACKGROUND OF BANK SECURITIES ACTIVITIES

Prior to 1933, large banks were heavily engaged in securities underwriting. Although under the 1864 National Bank Act national banks were not authorized to underwrite securities directly, they avoided this restriction by establishing state-chartered securities affiliates. These affiliates played a major role in underwriting bonds issued by large railroad and industrial companies in the late nineteenth and early twentieth centuries, as well as in helping distribute government bonds, called Liberty Loans, in World War I. In 1927 the McFadden Act was passed. While this Act is perhaps best known for its prohibitions on interstate banking, it also legalized national banks' underwriting activities by giving the Comptroller of the Currency the right to define approved securities. As a result, between 1927 and 1929 the share of national banks and their affiliates involved in new bond underwritings more than doubled from 22 percent in 1927 to 46 percent in 1929.[4]

The financial panic and great stock market crash of 1929, after which large numbers of banks failed or froze the convertibility of deposits (nearly 10,000 in the 1929-33 period alone), led to a number of contemporary investigations into its causes. One of the most influential of these investigations was undertaken in 1933 by the Senate Banking and Currency Committee and its counsel, Ferdinand Pecora. Pecora documented a considerable number of abuses that had occurred between large banks and their securities affiliates and customers in the pre-1929 period. For example, banks had made loans to purchasers of securities to help artificially fix securities prices; they had dumped "bad" securities with correspondents or in trust accounts; and they had engaged in insider trading. Indeed, publicity surrounding the Pecora hearings created an environment in which it was widely felt that greedy bankers were in part to blame for the crash, and that a sound banking system would result only if commercial banking activities were rigidly separated from investment banking activities.[5]

[1] See for example, the study by Stoll (1976).

[2] See the studies by Wall and Eisenbeis, and Saunders (1983).

[3] This organizational structure, in which a separately capitalized bank is linked to a separately capitalized securities underwriting affiliate through a holding company appears to be the most likely format should any future deregulation take place.

[4] See Flannery (forthcoming).

[5] More recent evidence on the causes of the crash, however, have centered blame on the Federal Reserve's restrictive monetary policies (see Friedman and Schwartz

The Glass-Steagall Act, passed in 1933, made it a felony for an organization that receives deposits to engage at the same time "in the business of issuing, underwriting, selling or distributing of stocks, bonds, debentures or other securities." The Act did allow four exceptions: municipal general obligation bonds; U.S. government bonds; private placements; and real estate loans.

For some thirty years commercial banks appeared content to accede to the restrictive intent of the Glass-Steagall Act. But, by the beginning of the 1960s, banks perceived they were earning a declining proportion of profits from traditional bank activities compared to their permitted nonbank activities. Moreover, they were often at the frontier in the computerization of financial products. These features of a changing financial environment led a group of large banks to challenge "gray areas" in the Glass-Steagall Act. This, in turn, brought them into conflict with the securities industry. As a result, the last twenty years have witnessed an almost continuous state of legal combat between commercial banks and their securities industry adversaries regarding the permissible securities activities of commercial banks (see LITIGATION HIGHLIGHTS).

Today, commercial banks legally can undertake a whole variety of agency functions on behalf of individual clients. These include buying and selling stocks, safekeeping securities, providing quotes on prices of securities, and switching funds between bank accounts and stock accounts. In addition, they continue to underwrite municipal general obligation bonds, as well as U.S. government bonds and Eurobonds (bonds issued outside of the U.S.). Thus, along with open-ended mutual funds and

(1971)). For a more extensive discussion of commercial banks' securities activities before 1933, see Flannery (forthcoming), and Sametz, et al., (1979).

LITIGATION HIGHLIGHTS

The legal battles over securities underwriting are too numerous to document fully, but the trends in the arguments and in the courts' decisions can be seen from looking at a few of the highlights. In 1963, following a ruling by the Comptroller of the Currency, a number of banks began underwriting municipal revenue bonds (in addition to the permitted general obligation bonds). The major argument here was that municipal *revenue* bonds barely existed at the time of the Act's passage (only approximately 3 percent of all municipal bonds issued in 1933 were revenue bonds) so that the Act did not apply to these instruments. However, in the case of Baker, Watts and Co. vs. Saxon in 1966, this underwriting activity was expressly prohibited as being contrary to the intent of Glass-Steagall. Similarly, in 1962 Citibank began selling shares in an open-ended mutual fund managed by the bank. This was challenged by the securities industry, arguing that Citibank had a direct "salesman's stake" in such a fund and that this was contrary to the intent of Glass-Steagall. In 1971, in Investment Company Institute vs. Camp, this activity was also declared illegal. In more recent legal disputes, commercial banks have had greater success, especially where it has been easier to establish that the bank has been providing an "agency function," rather than dispensing advice in the activity concerned. Thus banks were allowed to establish *automatic* investment services in 1977 and banks and bank holding companies were authorized to acquire discount brokerage houses in 1984. Although commercial paper was ruled a security in 1983, the district court, in A.G. Becker and the Securities Industry Association vs. the Federal Reserve Board, asked the Fed to make an initial determination of whether certain commercial paper activities constitute underwriting or whether they are permissible for bank holding companies. In June 1985, the Board decided that Bankers Trust's assistance to commercial paper issuers in private placement did not constitute underwriting so long as the bank did not promote the issue widely, take an ownership interest in the issue, or extend credit directly or indirectly to the issuer to compensate for unsold amounts. The court will review the Fed's opinion.

revenue bonds, underwriting and dealing in corporate securities remains the last major bastion of the securities industry.[6]

WHY SO MUCH CONCERN ABOUT CONFLICTS OF INTEREST?

Any further advances banks make into securities activities, and in particular, into securities underwriting, will hinge largely on the answer to a crucial question: if banks are allowed to engage in such activities, will the types of abuse and conflicts observed in the 1930s re-emerge and will they be as extensive? Any serious evaluation of this question has to look at the incentives and disincentives in *today's* legal, economic, and regulatory environment, and not that of the 1930s. An example of one change is that a whole body of securities laws and regulations has been passed since 1933 (for example, the Securities Act of 1934 which established the Securities and Exchange Commisson). And today, the technology of disseminating and monitoring information is vastly superior to that of the 1930s.

But, even given these improvements in regulation and surveillance, serious problems could still ensue if conflicts of interest are exploited. First, public disclosure of a conflict of interest might lead to a loss of confidence in the bank and its management, resulting in an erosion of deposits (and revenue) which ultimately affects a bank's stability or safety and soundness. In the extreme, a loss of confidence by depositors could result in a run on the bank and lead to its eventual demise—even if the bank were "solvent" before the adverse information was publicly disclosed. Realistically, however, it seems likely that only pervasive and widespread abuses that were extensively publicized would lead to catastrophic runs. Second, exploitation of certain conflicts, such as unsound inter-company loans between a bank and its securities subsidiary, for example, could work directly to weaken the bank irrespective of any indirect confidence or disclosure effects. Third, conflict exploitation raises important questions of equity. Specifically, small, less sophisticated firms, correspondent banks, investors, and uninsured depositors appear to be more susceptible to exploitation through conflicts of interest than larger ones. In a sense, these concerns are closely linked to regulators' interest in protecting the welfare and savings of small investors, especially since small investors often have less access to information than larger investors and are unable to switch assets without bearing relatively high transaction costs, such as service fees. Of course, the more accurate, cheap, and widely disseminated information is, and the more competitive financial and banking markets are, the less easy it becomes to exploit smaller firms, and the less weight should be attached to this "equity" issue.

TYPES OF POTENTIAL CONFLICTS

The lobbying by commercial banks to be allowed back into securities underwriting, and their expansion into other securities activities, has helped improve our understanding of the types of potential conflicts of interest that might arise. The nine potential conflicts discussed below either have been raised at Congressional hearings leading up to the Glass-Steagall Act in the early 1930s, or have been suggested more recently by industry observers or by the securities industry in opposing bank involvement in private debt placements, open- and closed-end mutual funds, and other securities-related activities.[7] Although it is difficult to classify the conflicts precisely, a unifying theme among

[6] In June 1985, the Federal Reserve Board concluded that Bankers Trust could continue to act as an agent and advisor to corporations in the private placement of commercial paper with a small group of institutional investors. If this position is accepted by the courts, banks will be able to participate in the limited distribution of commercial paper without violating the Glass-Steagall prohibition on underwriting corporate securities.

[7] See, for example, Investment Company Institute (1979), New York Clearing House Association (1977), and Securities Industry Association (1977).

them is that each conflict is related to problems of asymmetric information (where one party has more information than the other), or the abuse of monopoly power, or both.

The Conflict Between the Promotional Role of the Investment Banker and the Commercial Banker's Obligation to Provide Disinterested Advice to Depositors. When a commercial bank affiliate underwrites securities, bankers may have incentives to encourage depositors or other customers (such as correspondent banks) to buy these securities. As a result, bankers may play a promotional role on behalf of the securities affiliate, a role which is in conflict with the best interests of its customers. For example, a customer might have chosen an alternative investment, with a superior risk-return trade-off, had a banker proffered "disinterested" advice. This potential conflict, it should be noted, is not confined solely to securities underwriting, but pertains to all "nonbank" activities undertaken by a bank holding company.

Using the Bank's Securities Affiliate to Issue New Securities to Repay Unprofitable Loans. A bank may use the underwriting ability of its securities affiliate to transfer risk from itself to the bondholders (or equity holders) of a corporate loan customer. The scenario which is usually conjured up is that of a bank holding a partly collateralized risky loan. In order to avoid an expected loss on the loan, the bank may induce a loan customer to issue new bonds (or equity) through the bank's securities affiliate and use the cash proceeds to pay off the loan. Thus, the bank eliminates its default risk exposure, and its affiliate earns a fee on the underwriting.

It is not clear that this potential conflict is very likely to materialize. For example, why would any but a highly risk-averse bank prefer this arrangement to simply restructuring loan repayments? Further, it is not obvious that any incentives exist for the risky loan customer to take part in such a scheme, particularly since either its stockholders or bondholders (or conceivably both) stand to lose.

Economic Tie-ins of Different Holding Company Products. A bank may use its potential leverage over customers, through its lending function and as a guarantor (for example, via stand-by letters of credit), to coerce them into buying other products. Specifically, threats of credit rationing, curtailing or refusing to renew credit lines, and increasing the cost of loans could all be used to "tie" existing customers to other products of the holding company, such as securities underwritings by its affiliate.[8]

Placing Unsold Securities in the Bank's Trust Accounts. This potential conflict might arise if the securities affiliate of a bank holding company has securities in its inventory that can only be sold off at a loss to outside investors. To avoid such losses, the affiliate may seek to place the securities, at prices favorable to the affiliate, in other parts of the holding company, for example, with the trust accounts of the affiliated bank. This conflict is unlikely to occur with large institutional trust or pension fund accounts, since owners of these accounts monitor their performance closely; however, this monitoring may be absent in the management of smaller personal trusts over which banks, as trustees, have considerable discretionary power.

Director Interlocks between Bank Holding Companies and Non-Financial Firms. With the ability of bank securities affiliates to underwrite debt and equity issues, the potential conflicts arising from director interlocks between banks and other firms (when a bank director also serves on the boards of non-financial corporations) may become more important. The combination of director interlocks and large holdings of corporate stock in bank trust departments, together with the ability of a bank holding company affiliate to offer underwriting services, may increase the potential for conflicts of interest.

[8]However, as Posner (1976) has argued, the market conditions under which a monopolist would rationally exploit a tie-in are quite restrictive.

For example, decisions made in the boardroom, such as whether to finance with loans or bond issues, bonds or equity, and which underwriter to choose, may all be influenced either directly or indirectly by the presence and voting powers of bank directors.

Bank Loans to Support the Price of a Security. In acting as an underwriter, the securities affiliate may want its underwriting effort to be seen to be as successful as possible. This may be especially true for new entrants into the underwriting business. As a result, bank loans may be made at relatively favorable rates to third-party investors on the understanding that part, or all, of these funds would be used to purchase certain new issues underwritten by the affiliate and its syndicates. In such a case, bank loans could be used to support the prices of those securities, sending favorable but misleading signals to the market regarding the true performance of the underwriter. Further, such a cheap loan policy might undermine bank profits, and thereby the safety and security of its uninsured depositors and the FDIC, which backs the insured depositors.

Imprudent Loans to Issuers of Securities Underwritten by the Affiliate. In this case a new issue of bonds is underwritten by a bank affiliate and subsequently either the investment projects financed by the proceeds fail, or there is some other negative impact on the issuing firm's (customer's) cash flow which serves to increase its default risk. As a result, the bank may make new loans to the firm to keep it from failing, and thus avoid possible litigation costs arising from bondholders' claims against the securities affiliate and holding company (relating to information disclosure and lack of due diligence in the original underwriting prospectus). If the new loans of the bank are subordinated (that is, junior—paid off last in the event of default) to the claims of existing bondholders, the market value of the firm's bonds—including those just issued—will tend to rise. This is because the assets of the firm have expanded, while the stock of senior or unsubordinated bonds remains unchanged.[9] Implicitly, bank management is subsidizing the risky claims of the issuing firm's bondholders in conflict with the best interests of its depositors and the FDIC by threatening the bank's safety and soundness through imprudent loans.

The Bank May Make Direct Loans to Its Securities Affiliate. If the securities affiliate is separately capitalized, it might seek to increase leverage through loans from the banking arm of the holding company. Although direct loans from a bank to its affiliate are subject to a ceiling of 10 percent of bank capital, (like loans to any unaffiliated firm or individual) and must be backed by more than 100 percent collateral, it is still possible that such loans could be made at less than an appropriate risk-adjusted interest rate. In such a case, the protection of bank depositors, via earnings, would be weakened. Or, loans could be made to a third party (such as another bank) and re-lent by the third party to the securities affiliate—perhaps for a direct fee or an increase in compensating balances held with the third party—in order to circumvent the 10 percent-of-capital loan ceiling.

Informational Advantages Regarding Competitors. As bank holding companies and other financial and non-financial firms cross traditional market and product boundaries, they encounter increasing competition. Since bank-affiliated underwriters may become privy to inside information regarding firms whose securities they underwrite, this information could be disseminated to other affiliates of the holding company, including the bank, in order to generate a competitive advantage in lending, leasing, and so forth.

CONFLICT CONTROL

The potential conflicts of interest that have been identified suggest that conflicts of interest would be pervasive if banks were allowed back

[9] Although the aggregate of junior plus senior debt has increased.

into securities underwriting. But several "controls" exist which would limit the exploitation of potential conflicts. These controls have three dimensions: economic, regulatory, and legal.

Economic Controls.

The Structure of Financial Compensation Schemes in Bank Holding Companies. Most of the conflicts described require some form of collusion or coalition between the managers of the bank and the securities affiliate. In addition, most involve a probable trade-off between short-run and long-run profits for the holding company. Thus a crucial question is: what are the economic incentives (salary or compensation structures) that make managerial collusion more or less likely? There is a growing recognition that managerial interests may diverge from those of stockholders.[10] One reason is that managers' short tenure, relative to the expected life of the firm, may make them overly concerned with short-run profits. By contrast, stockholders will be more concerned with the long-run value of the firm, or with the value of the firm as a going concern. Under such conditions, managers may have greater incentives to exploit conflicts for short-run opportunities than if they shared the long-run profit interests of shareholders.

This short-run outlook of managers suggests that the structure of managerial compensation schemes could be very important for conflict control. Specifically, a compensation scheme in which financial rewards for managers in the bank and the securities affiliate were kept separate—such as in separate profit centers—and in which stock or equity bonuses played a significant part, would work toward reducing the incentives for bank and securities affiliate managers to form coalitions. In turn, such a scheme would better align managerial interest with those of stockholders. By comparison, a salary scheme that linked bank and securities affiliate managers' compensation to the *consolidated* current profits of the holding company would both accentuate the different time horizons between managers' and stockholders' interests and create incentives for bank and securities affiliate managers to create coalitions to ensure that the current consolidated profits of the holding company are maximized.[11] Under this scheme any collective bank-securities affiliate activity, such as product or service "tie-ins," which produce an increase in holding company profits, would directly benefit both managerial teams. In sum, by creating separate profit centers and linking compensation partly to the long-run performance of the holding company, for example, through stock bonus schemes, stockholders can impose a degree of *internal* control over managerial incentives to exploit conflicts of interest. It also might be noted that stock bonus plans now play an increasingly important role in both investment and commercial bank compensation packages.

When there are no *internal* controls (or "carrots") which limit managers' incentives to exploit conflicts, or if those controls are weak, there are at least three *external* "market" control mechanisms (or "sticks") that limit managers from diverging too far from maximizing long-run holding company profits through conflict exploitation for short-run gains. These are: the market for corporate control, the market for bank and securities affiliates' products and services, and the monitoring role of bond rating agencies.

The Market for Corporate Control.[12] The idea underlying the market for corporate control is that the current managers of the banking and securities affiliate arms of the holding company

[10] See Jensen and Meckling (1976), for example.

[11] For example, an incentive may exist for bank management to make subsidized loans to the securities affiliate or a third party if the net profit generated by the affiliate's activities more than compensates for any loss in bank revenues or profit.

[12] See Jensen and Meckling (1976), and Jensen and Ruback (1983) for more detailed discussion.

are just two of many potential teams in the professional labor market offering their managerial services to the holding company's shareholders. Should existing managers overtly pursue short-run profits by exploiting conflicts, thereby adversely affecting or damaging the reputation of the enterprise, then shareholders will have an incentive to replace them with managers whose objectives are more closely aligned with their own long-run objectives. In addition, stockholders are increasingly seeking financial recourse in the courts against errant managers. For example, both Bank of America and Chase Manhattan are taking legal action against officers involved in, respectively, bad international loans and the failure of Drysdale Securities. Nevertheless, managerial change will only occur when the perceived benefits of managerial reorganization outweigh the expected costs involved. Often only a major crisis will cause managerial reorganization, although less dramatic personnel shifts can have the same effect.

The Market for Bank and Securities Affiliates' Products and Services. The ability of managers to exploit certain conflicts of interest is further limited by the degree of market power the bank or its affiliate managers have over customers—such as depositors, borrowers, and issuing firms. For example, tie-ins can only be exploited if the bank has a substantial degree of market power over the issuing firm in the provision of loans or other services. If a firm has a number of potential lenders and credit lines available, it is less likely to accede to bank pressure in that direction. Smaller firms or large firms in financial distress are likely to be the most susceptible to this type of pressure. Similar arguments can be made regarding the pressure to restructure debt. However, the deregulation of the financial system, together with the technological and information revolutions currently under way, imply that even smaller firms eventually will be able to escape or at least mitigate tie-ins and similar pressures. Indeed, in a fully competitive market in which all participants are fully informed, it would be impossible for any seller to exploit a potential conflict of interest that harms the buyer, since the buyer would be immediately aware of the situation and could switch to a competitor.

Bond Rating Agencies. The role of bond rating agencies such as Moody's and Standard & Poor's is to monitor externally and independently the financial performance of firms that issue bonds, and to provide investors with information regarding the default risk attached to those bonds. If carried out successfully, this monitoring would make it difficult for a bank-affiliated underwriter to unload a new issue of debt so that an issuing firm could pay off "bad" bank loans.

A critical question is how successful bond rating agencies are in detecting the default risk of firms issuing securities prior to the offering date. As there have been relatively few bond defaults in the last 40 years, studies of the default prediction ability of bond rating agencies have been unable to provide conclusive results.[13] However, when the sample period is extended back to incorporate the pre-World War II period, studies have shown that an inverse relationship exists between changes in bond ratings and default rates; that is, a higher bond rating is usually associated with a lower default rate.[14] Moreover, since bond rating agencies have to maintain a reputation—in order that their evaluations remain credible—they have to be correct on average. Thus, rating agencies provide the crucial function of improving the quality and increasing the quantity of information available to investors, which makes it more costly for banks or their affiliates to exploit conflicts.

The Value of Reputation and Long-Term Profit Maximization. So far, the controls have implicitly assumed that it is in the best interests of bank holding company stockholders to avoid conflicts

13 Although there has been a widely observed negative relationship between bond rating changes and bond yields.

14 See West (1973) for a review of these studies.

of interest, and have concentrated on factors that discipline managers. It is also important to analyze the role of market reputation in disciplining stockholders.

Given that stockholders, through boards of directors, want to maximize long-term profits, they will be vitally concerned with building and maintaining a good long-run reputation with their customers. Thus reputation, or the stock of "goodwill," can be viewed as an asset of the firm which has real value to existing shareholders and is reflected in binding commitments or implicit contracts with its customers.[15] In this view, banking and securities underwriting activities undertaken by a holding company with its customers are similar to economic games which take place in a repeated, or dynamic, market setting. While the holding company may earn a net profit in the short run from exploiting a conflict with a given customer, such as promoting the sale of tainted securities or tie-ins, in the long run the exploitation of conflicts, or breach of the implicit contract, may eventually impair the reputation of the holding company and its various affiliates, and damage its future growth and profit prospects.

Specifically, the customer who feels he has been exploited will seek to move his business to another institution, while adverse publicity will tend to deter new customers from forming permanent relationships with the bank or its securities affiliate. In particular, the greater the flow of information among customers, the higher will be the costs to holding company shareholders from conflict exploitation.

Regulatory Controls. In addition to economic disincentives, regulatory controls constitute a major restraint on exploiting conflicts of interest. Margin requirements and collateral requirements on loans to affiliates, combined with direct monitoring and examination by regulatory authorities, each impose *external* non-market constraints on conflict exploitation. Currently, margin requirements on securities purchases substantially limit the amount of credit (bank loans) that investors and brokers or dealers can use to purchase securities. Therefore, high margin requirements also substantially limit banks' ability to support the price of securities underwritten by their affiliates with third-party loans to individual investors. As noted earlier, direct bank loans to affiliates are subject to a ceiling of 10 percent of capital and must be backed by at least 100 percent collateral. Violation of these restrictions would lead to costly penalties being imposed on managers and shareholders if discovered by the SEC, the Federal Reserve, the FDIC or other regulatory agencies with examination authority. Regulatory examination and surveillance thus provides an additional disincentive to exploit conflicts. The more efficient are bank examiners, the higher is the expected cost of exploiting a potential conflict—with potential costs or penalties ranging from fines and criminal prosecution of bank officers to bank charter revocations.

As an external mechanism of conflict control, examination and surveillance would probably be most efficient if there were coordination between those examining the bank, its trust department, and the securities affiliate. This suggests that optimal surveillance might be achieved when each part of the holding company is examined by a single regulatory authority. If different regulatory agencies had examination powers and took an adversarial (rather than cooperative) stance over interagency information exchange, regulatory disincentives might be significantly weakened.[16]

[15]This view is developed in Bull (1983), Klein and Leffler (1981), and Telser (1980). As Bull has noted: "... authors have suggested that concern by the firm for its reputation or brand name ... may lead the employer [principal] to fulfill his part of the contract. In other words, an appeal is made to a third party, here the market rather than the court for enforcement" (p. 659).

[16]The Bush Task Force has proposed combining the federal bank regulators into a single entity, the new Federal

Legal Recourse. Bank and securities affiliate customers also have the option of turning to the courts in the event of a conflict exploitation, although the costs of legal action may often be prohibitive for the small investor, and the outcome far from certain. Such recourse has often been taken with respect to the trust activities of banks, when a customer (trustee) felt that the bank had violated its fiduciary responsibilities.[17] Also, class action suits in the courts are becoming more frequent in cases where investors feel that underwriters failed to exercise due diligence, such as in fully disclosing information prior to a new issue. This might be particularly pertinent in the case where banks are tempted to induce a firm to pay off its loans through a new issue. The bad publicity surrounding such court cases acts as a clear disincentive for securities firms to exploit conflicts, apart from the legal costs involved in defending such cases. An example of a class action suit is the one currently outstanding against Merrill Lynch and Salomon Brothers, alleging failure to show due diligence over issues of Washington Public Power Supply System bonds in 1982-1983.

SUMMARY AND OUTLOOK

As part of the trend toward bank deregulation, banks are lobbying to be allowed to underwrite corporate securities—an activity they are expressly prohibited from by the Glass-Steagall Act of 1933. The major source of this prohibition, both 50 years ago and today, is concern about possible conflicts of interest. In the debate about this issue, several potential conflicts of interest have been identified. Although they seem to suggest that the potential for conflict is fairly formidable, there are a number of economic, regulatory, and legal controls in place which create strong disincentives to conflict exploitation. This is especially so given *today's* security laws, regulatory structure, and improvements in information technology.[18] Moreover, regulatory and legal controls could always be strengthened if there were genuine concern that the current set of disincentives is not sufficiently strong. For example, new "Chinese walls" could be established between the securities affiliate and the bank, and between the securities affiliate and the bank's trust department. Thus, it seems that, suitably regulated, bank holding companies might be allowed to expand into corporate securities underwriting. Indeed, by allowing banks into securities underwriting, positive social benefits may well accrue. These benefits would include the ability of bank holding companies to diversify their earnings in a more optimal fashion, thereby enhancing bank safety and soundness. In addition, securities markets may become more efficient and competitive, with smaller firms finding access easier.

The current prospects for the abolition of Glass-Steagall are unclear. In recent sessions of Congress, numerous draft bills have been debated. These bills have incorporated provisions allowing banks to offer open-ended mutual funds and to underwrite both municipal revenue bonds and mortgage-backed securities, proposals which represent significant modifications of Glass-Steagall. However, no serious proposal has been made to allow banks back into domestic corporate securities underwriting despite the apparent success of large U.S. banks in underwriting corporate (dollar denominated) Eurobonds. Nevertheless, there is little doubt that this difficult issue will remain at the center of the "deregulation" debate.

Banking Agency, and transferring the regulation of securities activities of bank holding companies, and thus the securities affiliate, to the SEC—see *Inside the Administration* (1983).

17See Schotland (1980).

18The quality and quantity of corporate financial information available to outside investors is likely to be increased considerably in 1985 when the SEC puts its EDGAR System (Electronic Data Gathering and Retrieval System) into effect. Under this system companies will electronically file quarterly and annual reports with the SEC while investors, brokers and dealers will gain direct access to those files through their own office (or home) computer terminals. Thus information should be disseminated in a far more timely fashion and be available to a much wider audience.

REFERENCES

Bull, C., "Implicit Contracts in the Absence of Enforcement and Risk Aversion," *American Economic Review,* (1983), pp. 658-671.

Flannery, Mark J., "An Economic Evaluation of Bank Securities Activities Before 1933," in *Commercial Bank Penetration of the Corporate Securities Market,* Ingo Walter, ed. (NY: John Wiley & Sons, forthcoming).

Friedman, Milton, and Anna Schwartz, *A Monetary History of the United States, 1867-1960,* (Princeton, NJ: Princeton University Press, 1971).

Inside the Administration, Vol. 2, No. 25, December 16, 1983.

Investment Company Institute, *Misadventures in Banking: Bank Promotion of Pooled Investment Funds,* Washington, D.C., (1979).

Jensen, M.C., and W.H. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics,* (1976), pp. 305-360.

Jensen, M.C., and R.S. Ruback, "The Market for Corporate Control: The Scientific Evidence," *Journal of Financial Economics,* (1983), pp. 5-50.

Klein, B., and K. Leffler, "The Role of Market Forces in Assuring Contractual Performance," *Journal of Political Economy,* (1981), pp. 615-641.

New York Clearing House Association, *Commercial Bank Private Placement Advisory Services,* (April 1977).

Posner, Richard A., *Antitrust Law: An Economic Perspective,* (Chicago: University of Chicago Press, 1976).

Sametz, A., M. Keenan, E. Block, and L. Goldberg, "Securities Activities of Commercial Banks: An Evaluation of Current Developments and Regulatory Issues, "*Journal of Comparative Law & Securities Regulation,* (1979), pp. 155-194.

Saunders, A., "An Economic Perspective on Bank Uniqueness and Corporate Securities Activities," New York University Working Paper, (1983).

Schotland, R.A., Introductory Chapter to, *Abuse on Wall Street: Conflicts of Interest in the Securities Markets,* (Westport: Quorum Books, 1980).

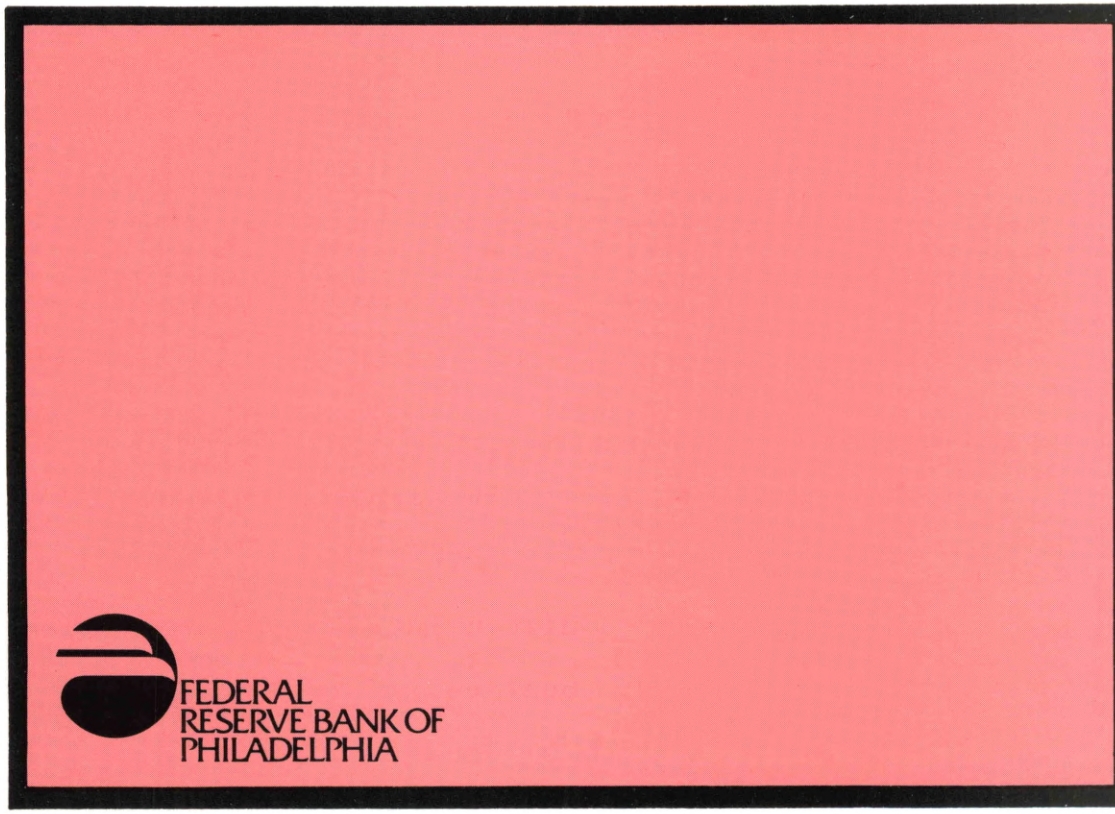
Securities Industry Association, *Private Placement Activities of Commercial Banks,* Memorandum to the Federal Reserve Board of Governors, (May 1977).

Stoll, Hans R., "The Pricing of Underwritten Offerings of Listed Common Stocks and the Compensation of Underwriters," *Journal of Economics and Business,* 28 (Winter, 1976), pp. 96-103.

Telser, L., "A Theory of Self-Enforcing Agreements," *Journal of Business,* (1980), pp. 27-44.

Wall, L., and R.A. Eisenbeis, "Bank Holding Company Nonbanking Activities and Risk." Paper presented to the Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago (1984).

West, R., "Bond Ratings, Bond Yields, and Financial Regulation: Some Findings," *Journal of Law and Economics,* (1973), pp. 159-168.



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