ECONOMICS, POLITICS, AND POLICY CHANGE
Examining the Consequences of
Deregulation in the Banking Industry

GEORGE A. KRAUSE
West Virginia University and University of South Carolina

The regulatory politics literature contains two competing theories of policy change in the area of economic regulation: economic/technological change and the politics of ideas. This article focuses on the salient topic of commercial banking regulation as a laboratory for testing these propositions with regard to policy outcomes. The qualitative and empirical findings indicate that the instability facing the commercial banking industry comes from a combination of policy change as well as general and industry economic conditions. The author argues here, however, that policy change—in the form of deregulation—beginning with the passage of the Depository Institutions Deregulation and Monetary Control Act (DIDMCA) of 1980 appears to serve as the most important explanation for this instability. Furthermore, the results of this study suggest that this policy change does reflect politics (and not economics), thus suggesting that recent commercial banking instability has largely been due to a combination of new ideas and the changing ideological composition of relevant congressional banking subcommittee members during the 1970s.

Scholars purporting the politics of ideas theory of regulatory politics argue that the general growth of economic deregulation since the mid-1970s reflects a changing belief by elected officials, bureaucrats, industry, academicians, and the public on government's role in regulating private industry (Derthick and Quirk 1985a, 1985b; Eichler 1989; Quirk 1988; Wilson 1980). Those adhering to this viewpoint believe that political and institutional factors such as favorable appointments, legal authority, a rich intellectual environment, and public opinion have spurred economic deregulation. Others contend that changes in both economic conditions and technology have led to the

deregulatory phenomena of the 1970s and 1980s (e.g., Hammond and Knott 1988; Meier 1985; Noll and Owen 1983). According to this group of scholars, regulatory regimes for many industries became unstable due to rapid economic and technological changes that adversely affected industry stability. Therefore, deregulation served as a response to bring about regulatory regime (i.e., industry) stability.

Although deregulation occurred in many different industries during the late 1970s and early 1980s, the banking industry has been one of the industries most greatly affected. On the positive side, Cargill and Garcia (1982) note that deregulation has brought about benefits to consumers through increased competition, lower prices for bank services, higher interest paid on deposit accounts, and greater market efficiency.[1] At the same time, deregulation has had some negative effects on matters of public sector and policy interest. For instance, the increasing instability of the banking system has placed the FDIC deposit insurance fund on the brink of insolvency. This instability has made money markets much less stable, thus making it more difficult for the Federal Reserve System (Fed) to control intermediate targets used to conduct monetary policy (Evans 1984; West 1983).

Deregulation of U.S. financial institutions first came about during 1980 in the form of the Depository Institutions Deregulation and Monetary Control Act (DIDMCA). The intent of this legislation was threefold. First, this legislation gave thrift institutions the opportunity to become more competitively viable with nonbank financial intermediaries offering alternative financial instruments such as Money Market Mutual Funds (MMMFs) and pension funds by allowing them to pay higher rates of interest on deposits. Second, this legislation was designed to entice smaller banks to join the Fed, thus making it easier for the Fed to control monetary policy (Woolley 1984). Finally, large banks supported this legislation because it subjected smaller banks to the same reserve requirements that they had to follow (Woolley 1984). In sum, DIDMCA has served as the benchmark event that began the deregulatory process in the commercial banking industry.

The purpose of this article is twofold. First, in this article, I review and explore the arguments surrounding both economic/technological and political theories of economic deregulation. Second, multiple time series regression methods are employed to estimate the degree to

which economic conditions and/or policy change (i.e., deregulation–embodying politics) have played a significant role in affecting policy outcomes in terms of commercial banking system stability. The concept of stability is measured both as the annual number of FDIC insured bank failures and the corresponding total real dollar value of the insured deposits associated with these closed banks. Previous research by Meier and Worsham (1988) states that the Garn-St. Germain Act of 1982, which deregulated interest rates for commercial banks, was a major cause for the large increase in the number of bank failures in the 1980s.[2] This research, however, argues that the passage of DIDMCA in 1980 has served as the catalyst for instability in the banking system because it gave thrifts a competitive advantage over commercial banks by deregulating the interest rates that they paid on depository funds.

COMPETING THEORIES OF ECONOMIC DEREGULATION: THE CASE OF THE COMMERCIAL BANKING INDUSTRY

In this section, I address the two dominant theories of economic deregulation: economic/technological change and the politics of ideas. These theories are discussed regarding the salient policy area of financial regulation. This discussion attempts to serve as the theoretical foundation for the article by determining whether economics and technological change and/or political considerations (that have resulted in policy change) have contributed to commercial banking system instability.

ECONOMIC AND TECHNOLOGICAL CHANGE THEORY

Many scholars view changing economic conditions and technological innovations as being the main causes of economic deregulation.[3] According to this perspective, economic deregulation transpired because the balance of powerful interest group demands varied in response to these changing conditions (Carron 1983; Hammond and Knott 1988; Meier 1985). Economic and technological change had resulted in industry instability. There are three nonmutually exclusive

reasons why this change took place. The first explanation was premised upon the economic school of regulation that claimed that regulatory agencies had been protecting inefficient firms in the industry (MacAvoy 1979; Peltzman 1976; Posner 1974; Stigler 1971). Specifically, the regulatory scheme of the banking industry before deregulation was that of a self-interest model in which smaller and medium sized "favored" banks wished to perpetuate the status quo. The net result of this regulatory regime was that it created both inequity and inefficiency in the industry (Cargill and Garcia 1982, 1985; Carron 1983, 1985; Noll and Owen 1983). The purpose of deregulation in the commercial banking industry was to move away from protecting inefficient firms in the industry in order to create a more competitive environment for commercial banks.

The second explanation for regulatory change dealt with the increased competitive pressures for financial services facing the commercial banking industry due to technological change during the 1970s. These technological innovations made possible the flow of funds from banks to nonfinancial intermediaries. Customers took advantage of this situation by pulling their deposits out of banks in order to capitalize on the higher interest rates offered by these alternative financial instruments (e.g., MMMFs, pension funds, etc.). This resulted in a sharp decrease in the amount of funds that depository institutions could use for lending purposes, thus hampering the profitability of banks. These innovations also led to a sharp rise in the number of banks attempting to escape heavy federal regulation. This in turn made both the industry and regulatory environment more unstable, thus prompting regulators to change regulatory policy through deregulation (Gerston, Fraleigh, and Schwab 1988; Hammond and Knott 1988; Meier 1985). Technological innovations had an impact on industry stability by altering the economic environment for the commercial banking industry.

Finally, poor general macroeconomic conditions during the 1970s also contributed to industry instability and ensuing regulatory change. Specifically, high interest rates coupled with stagflation (i.e., high rates of inflation and low rates of economic growth) contributed to the problems facing commercial banks. In response to these poor conditions, it was thought by many in the banking industry that deregulation could help cure their ailments. In the face of these tough economic

TABLE 1
Correlations Among Economic Conditions and
Commercial Banking Stability Measures During the 1970s

Relationship	Correlation Coefficient	Probability Level
Bank closings		
Bank closings, real interest rate	−0.24	0.51
Bank closings, GNP	−0.61*	0.06
Bank closings, inflation	0.31	0.39
Value of real deposits for bank closings		
Value of bank closings, real interest rate	0.09	0.82
Value of bank closings, GNP	0.30	0.39
Value of bank closings, inflation	0.32	0.38

NOTE: $N = 10$.
*$p < .10$.

times, large-sized firms within the industry began to desire entry into nonbanking markets (Noll and Owen 1983).

Though these final two arguments may have some validity as an explanation for policy change, the correlation results exhibited in Table 1 do not lend strong support for them. Specifically, I examine the correlations between system instability and economic conditions facing the banking industry (see the appendix for variable descriptions). The results of these correlations suggest strongly that economic conditions were not significantly associated with commercial bank system instability during the decade of the 1970s. Out of the six correlation coefficients, only one (i.e., for the bank closings and GNP variables) was statistically significant at the .10 level. By and large, these results indicate that fluctuations in general and industry economic conditions are not related to commercial banking stability. The economic/technological school's claim that general and industry economic conditions of the 1970s resulted in policy change because of a rise in commercial banking system instability does not appear to hold true given the evidence presented here.

THE POLITICS OF IDEAS THEORY

This theory of economic deregulation argues that procompetitive deregulatory policies came about due to the changing political and

policy landscape surrounding economic regulation (Derthick and Quirk 1985a, 1985b; Eichler 1989; Quirk 1988; Wilson 1980).[4] According to this viewpoint, there were a number of factors that contributed to the politics of regulatory change. One such factor was a sluggish economy. Not only did firms within industries react to these general economic conditions as previously mentioned, but many policymakers and academicians also felt that the marketplace was burdened with too many restrictive regulations. Much of this sentiment came from the negative view policy actors had concerning regulation largely as a result of their educational experiences and professional training (Wilson 1980). In an attempt to reverse the trend toward more stringent regulation, actors were receptive to altering their views on regulatory policy (Derthick and Quirk 1985b).[5] In response to the burgeoning market for nonbank financial services, the deregulatory response of the late 1970s and 1980s was intended to stabilize the banking system.

A second factor supporting the politics of ideas thesis was the changing beliefs of key political participants (Wilson 1980, 384). In the area of commercial banking, the regulatory preferences of key policy actors changed. For instance, a content analysis performed on presidential statements in the various years of the *The Public Papers of the United States Presidents* (1949-1989) revealed that President Carter's policy views on commercial bank regulation appeared to be pro-regulatory in nature during the first 2 years of his administration; however, a pro-deregulatory fervor was exhibited in the final 2 years of his administration.[6] Also, the composition of policy actors appeared to have changed somewhat during this turbulent period. For example, the changing ideological composition of the relevant banking subcommittees in both the Senate and the House during the late 1970s and early 1980s may explain part of the widespread support for deregulation of the commercial banking industry during this period.[7]

General political influence has also had an impact on regulatory change in the commercial banking industry in two different ways. First, the executive branch during the final 2 years of the Carter administration and early part of the Reagan administration employed administrative strategies in pursuit of deregulation through various means including the appointment of individuals who shared their

pro-deregulatory ideals (Eichler 1989).[8] Second, the passage of both
DIDMCA and Garn-St. Germain showed that Congress felt that
procompetitive regulatory policies were the main thrust behind in-
creasing the viability and competitiveness of the banking industry. The
purpose for both of these legislative acts was to break down the
artificial regulatory barriers that faced financial intermediaries con-
cerning nonbank competitors such as pension funds and credit unions.
Both the executive and legislative branches concurred that deregula-
tion would lead to greater competition and increased profitability for
financial intermediaries. Noll (1985) states that during this time the
focus of regulation shifted away from societal goals (such as serving
the public interest and stability of the banking industry) solely toward
market efficiency.

The final factor lending credence to the politics of ideas theory was
the nature of the larger political landscape. The political environment
was ripe for change before economic and technological factors began
to trouble the commercial banking industry, as evidenced by the
numerous reform proposals that took place between 1971 and 1978.
First, the Hunt Commission in December of 1971 made strong recom-
mendations that would have removed certain key constraints on com-
petitive behavior among depository institutions. These recommenda-
tions consisted of removing Regulation Q rate ceilings on savings and
time deposits, broader powers in acquiring and utilizing funds for
nonbank depository institutions, and the removal of geographic re-
strictions laid down by the combination of the McFadden Act of 1927,
the Glass-Steagall Act of 1933, and the Banking Act of 1935 just to
name a few. The Financial Institutions Acts of 1973 and 1975 both
incorporated a number of recommendations made by the Hunt com-
mission; however, both legislative proposals were defeated in Con-
gress. Cargill and Garcia (1985) note that these initial efforts to reform
financial regulation set the tone and direction for the reforms that were
to be eventually adopted (e.g., DIDMCA and Garn-St. Germain).[9] In
closing, the changing nature of the political and policy landscape led
to an increased demand for economic deregulation. This rise in de-
mand for economic deregulation of the commercial banking industry
resulted in the introduction and passage of both DIDMCA in 1980 and
Garn-St. Germain in 1982.

VARIABLE SELECTION AND HYPOTHESES

In the previous section, I discussed the explanations in previous research for economic deregulation of the commercial banking industry in the early 1980s. This research attempts to move forward on this topic by examining the end result of policy change (i.e., policy outcomes). Specifically, the purpose of this study is to explore whether economic conditions and/or DIDMCA legislation served to create an environment in which the banking industry has become inherently more unstable. As mentioned earlier, the stability of the industry is operationalized as: (a) the annual number of FDIC insured banks that were closed due to financial difficulties (hereafter denoted *bank closings*) for the period between 1943 and 1991, and (b) the total real dollar value of FDIC insured deposits for banks closed due to financial difficulties measured in thousands of dollars (hereafter *value of bank closings*) for the same time period.[10] Both dependent variables serve as a measure for banking industry stability that reflects policy outcomes.[11] The longitudinal trends for each measure of commercial banking system (in)stability are located in Figure 1 and Figure 2, respectively.

Although DIDMCA of 1980 was gradually phased in, it is argued here to be both the main and initial catalyst of instability, whereas the Garn-St.Germain Act of 1982 further exacerbated the problem. Graphically, both Figures 1 and 2 support this notion as both measures of bank instability examined herein increased dramatically before the enactment of Garn-St.Germain could have had an impact.[12] Visual inspection of Figures 1 and 2 appear to show that deregulatory intervention in the commercial banking industry corresponds with a significant rise in both of the measures of commercial banking system instability. One can infer from these graphs that the banking industry has experienced instability since the early 1980s. The DIDMCA policy intervention is operationalized as a dummy variable that takes on a value of 0 before the specified intervention point and 1 thereafter.[13]

To test for the possible effects of economic and technological change on industry instability, the economic variables employed in the analysis cover both general and industry economic conditions. Economic growth, measured as the annual percentage growth in real GNP (denoted GNP), should be positively related to commercial banking industry stability. As the economy grows at a faster pace, greater
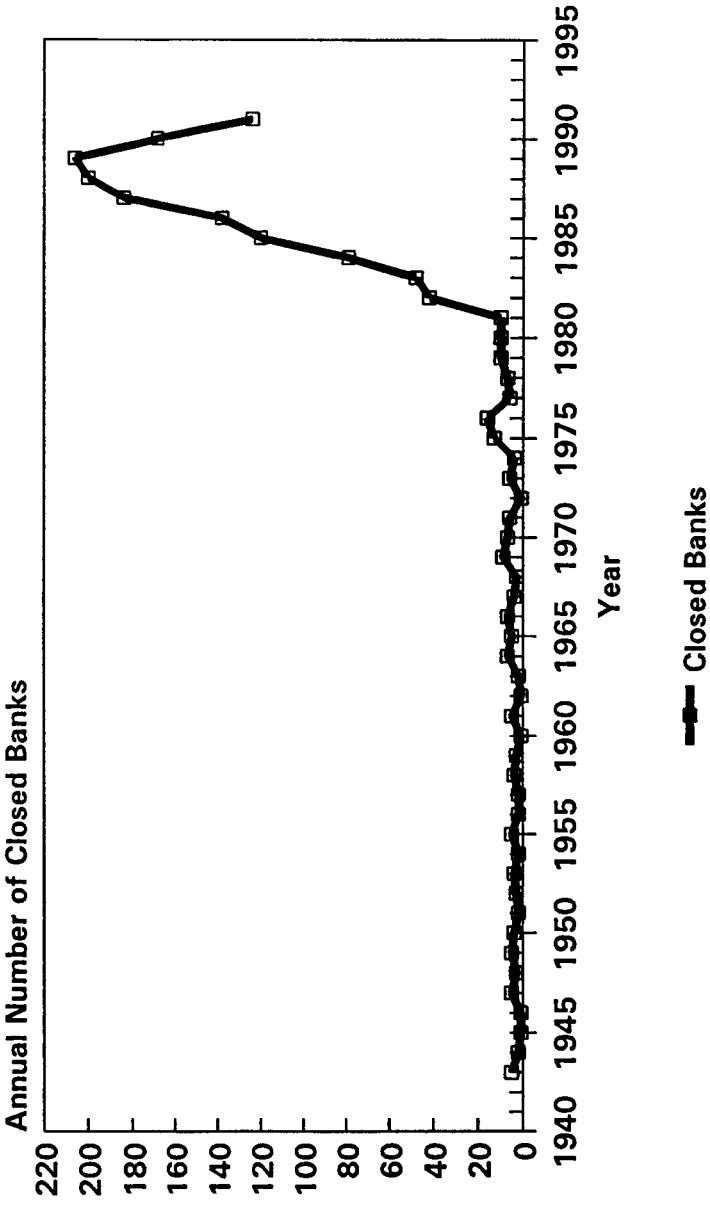
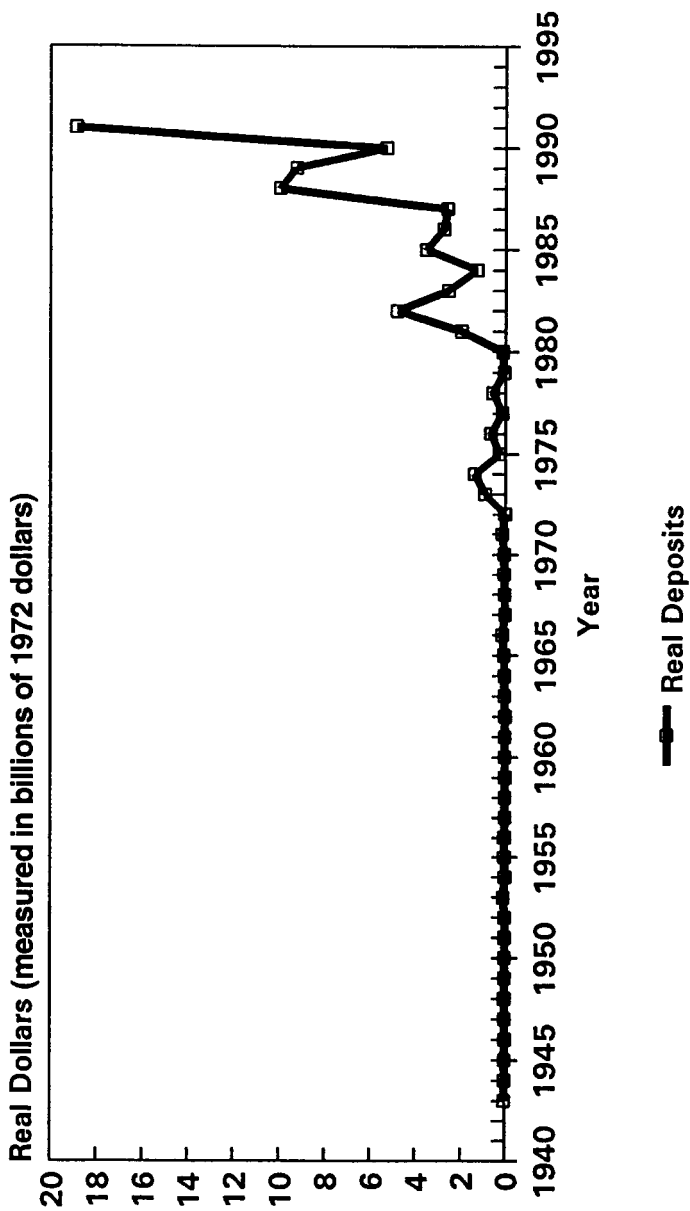**Figure 1:** Annual Number of Closed Banks (1943-1991)

Figure 2: Real Deposits for Closed Banks (1943-1991)

stability should ensue for the commercial banking industry. Conversely, economic growth should be negatively related to each of the dependent series. The inflation rate, measured as the annual percentage change in the consumer price index, should be positively associated to each of the dependent variables. Thus, as the inflation rate rises, stability of the commercial banking industry should decline. Finally, the profitability of the banking industry, measured as the annual real interest rate for commercial lending purposes (denoted *real interest rate*), should be negatively associated with each of the dependent measures. In other words, as the commercial banking industry becomes more profitable, stability for the industry should rise.[14]

Although it is quite obvious that both dependent measures began to rise significantly in the early 1980s, statistical analysis must be conducted to formally determine what is driving the sudden increase in commercial banking system instability since the early 1980s. The purpose of this article is to answer the following question: Are economic conditions, policy change, or both exerting an impact on commercial banking system (in)stability? In other words, simple visual inspection of the figures discussed earlier cannot necessarily (a) determine whether DIDMCA served as the main catalyst for significant instability in the banking industry, (b) quantify the rate of DIDMCA's impact on banking system instability, and (c) assess the degree to which variations in economic conditions significantly influence the stability of the commercial banking industry as suggested by those from the economic/technological school.

METHODOLOGY

To assess the role played by economics and policy choices (i.e., deregulation) on the stability of the commercial banking system, I employ time-series multiple regression methods. There were three issues that had to be considered when modeling these processes. First, nonstationary time series (i.e., one containing a unit root) possess an infinite mean and/or variance, thus invalidating common tests of statistical inference. Each series was examined to determine whether it contained a unit root by employing the Dickey-Fuller test (D-F).[15] Second, in appropriate situations, models were corrected for serial

correlation by explicitly modeling the process accordingly.[16] Third, there was a distinct possibility that there may have been a structural change in behavioral relations between economic conditions and commercial banking system stability as a result of commercial bank deregulation. Ignoring the possibility of structural change, one could acquire an inaccurate account of these relations because the independent variables may have different slopes in the pre-and post-deregulation periods. In order to account for this possibility, the models for both bank closings and the financial value of bank closings were specified with interaction terms that would capture any slope changes in these economic variables that would transpire following deregulation. This was done by multiplying each economic (independent) variable by the relevant intervention dummy discussed in the previous section.

As a result of this operation, each model contains three components.[17] First, the complete model covers the entire sample period and contains tests of significance and goodness-of-fit for the entire sample period. This model takes the following form:

$$Y_t = b_0 + b_1 \text{GNP}_t + b_2 \text{Inflation}_t + b_3 \text{Real Interest Rate}_t + b_4 \text{Deregulation}_t + \qquad (1)$$
$$b_5(\text{GNP}_t \times \text{Deregulation}_t) + b_6(\text{Inflation}_t \times \text{Deregulation}_t) +$$
$$b_7(\text{Real Interest Rate}_t \times \text{Deregulation}_t) + e_t$$

where both the relevant dependent measure of commercial banking system stability (Y_t) and each of the independent measures are defined in the previous section and in the data appendix. The coefficients associated with the interaction terms can be interpreted as deviations from the coefficients for the pre-deregulation series. The *pre-deregulation* model produces parameter estimates for the pre-deregulatory period. This model takes the following form:

$$Y_t = b_0 + b_1 \text{GNP}_t + b_2 \text{Inflation}_t + b_3 \text{Real Interest Rate}_t + e_t \qquad (2)$$

where the same variable definitions hold as in Equation 1. Finally, the *post-deregulation* model provides parameter estimates for the pre-deregulatory period. This model has the following form:

$$Y_t = (b_0 + b_4) + (b_1 + b_5)\text{GNP}_t + (b_2 + b_6)\text{Inflation}_t + \qquad (3)$$
$$(b_3 + b_7)\text{Real Interest Rate}_t + e_t$$

where the parameter estimates for the pre-deregulation and post-deregulation are summed to provide a parameter estimate for the post-deregulation series. In addition, the relative impacts of these independent variables on both measures of commercial banking stability were analyzed in order to capture the importance attached to each independent variable. These relative impacts were assessed via the method proposed by Achen (1982). This technique involves multiplying each parameter estimate (b_i) by its corresponding variable's mean value ($\overline{X}$). Each relative impact is also expressed as a percentage of the total (absolute value) impact of all independent variables specified in the complete model.

FINDINGS

The regression results for the bank closings model are reported in Table 2. Before discussing the parameter estimates and their significance, a few notes on the summary statistics (i.e., goodness-of-fit and diagnostics) are in order. The noise model was specified as an ARMA (2,2) process so as to eliminate significant residual correlation. The insignificant ARCH test statistic reveals that the potential problem of autoregressive-conditional heteroskedasticity often present in time-series data does not exist. The goodness-of-fit statistics suggest that the specified model contains a high level of explanatory power and is well specified as evinced by the large adjusted R^2 and the highly significant F statistic, respectively.

Turning to the analysis of the parameter estimates and their statistical significance, these results demonstrate that economic conditions have played a significant role in explaining variations in commercial banking system (in)stability for the entire sample period as well as in both the pre- and post-deregulatory periods. Furthermore, the highly significant Wald statistic lends additional evidence to the assertion that parameter estimates (or slopes) of the interaction terms are significantly different from their pre-deregulatory values.[18] This indicates that there was a structural change in the relationship between the economic variables and the number of bank closings, and that this change occurred in the post-deregulatory period. It should be noted

TABLE 2
The Determinants of Commercial Banks
Closed Due to Financial Difficulties (1943-1991)

Independent Variables	Complete Model	Pre- Deregulation Period	Post- Deregulation Period
Constant (b_0)	−2.64 (−0.43)	−2.64	109.78
GNP (b_1)	−0.44*** (−2.80)	−0.44	3.31
Inflation (b_2)	1.63** (2.42)	1.63	−4.08
Real interest rate (b_3)	2.23*** (3.27)	2.23	−1.51
Deregulation (b_4)	112.42*** (4.99)		
GNP × Deregulation (b_5)	3.75[a]*** (3.53)		
Inflation × Deregulation (b_6)	−5.71[a]*** (−2.99)		
Real Interest Rate × Deregulation (b_7)	−3.74[a]** (−2.00)		
AR(1)	2.02[a]*** (13.34)		
AR(2)	−1.29[a]*** (−8.98)		
MA(1)	−0.91[a]*** (−5.90)		
MA(2)	0.40** (2.17)		

NOTE: Dependent variable: Bank closings. T statistics are in parentheses; R^2 = .99; adjusted R^2 = .98; F statistic = 264.56***; DW = 2.08; ARCH: $\chi^2(1)$ = 1.12; LM: $\chi^2(1)$ = .62 (Godfrey-Breusch test for 1st-order serial correlation).
a. Joint significance of interaction terms: Wald Test: $\chi^2(3)$ = 23.44***.
*p < .10; **p < .05; ***p < .01.

that the parameter estimates for real interest rate (b_3), the GNP-deregulation interaction (b_5), and the inflation-deregulation interaction (b_6) are in the unexpected direction. This is not a major deficiency because (a) the central purpose of this study is to assess the relative impacts of economic conditions and policy change on commercial

TABLE 3
The Relative Impact of Economic Conditions and Policy Change on Commercial Banks Closed Due to Financial Difficulties (1943-1991)

Independent Variables	Complete Model ($bi \times \overline{X}$)	Percentage of Total Impact (absolute value)
GNP	−1.51	3.13
Inflation	7.27	15.09
Real interest rate	5.15	10.69
Deregulation	22.48	46.66
GNP × Deregulation	2.36	4.90
Inflation × Deregulation	−4.51	9.36
Real Interest Rate × Deregulation	−4.90	10.17

NOTE: Dependent variable: Bank closings.

banking in(stability); and (b) the parameter estimates (or slopes) of the interaction terms can be interpreted as deviations from the pre-deregulatory parameter estimates of which the level of significance cannot be determined when summed with the corresponding parameter estimate from the pre-deregulatory series. The unexpected direction for the real interest rate variable suggests that bank profitability is associated positively with industry instability. A possible explanation for such a result may be that greater profit margins will result in an increase in bank closings as large firms (through economies of scale) are better able to parlay this rise in the real commercial lending rate into company profits more easily than small and medium sized competitors, making it more difficult for these latter firms to successfully compete in the marketplace. The significant and large positive parameter estimate associated with the commercial banking deregulation variable clearly demonstrates that policy change has played a major role in affecting industry stability. Controlling for all other independent variables, bank closings increased by about an average of 113 banks per annum in the post-deregulatory period.

To assess accurately the true magnitude of these variables on bank closings, the relative impacts of these variables must be analyzed. In Table 3, the results that assess the relative impact of economic conditions and policy change (i.e., deregulation) on the annual number of commercial bank closings are reported. These findings reveal that the

The Determinants of Total Real Dollar Value of Deposits for Commercial Banks Closed Due to Financial Difficulties (1943-1991)

Independent Variables	Complete Model	Pre-Deregulation Period	Post-Deregulation Period
Constant (b_0)	−183267 (−0.23)	−183267	15839430
GNP (b_1)	−5730 (−0.07)	−5730	−1700164
Inflation (b_2)	56213 (0.44)	56213	−1896578
Real interest rate (b_3)	40106 (0.34)	40106	416021
Deregulation (b_4)	16022697*** (5.56)		
GNP × Deregulation (b_5)	−1694434[a]*** (−3.70)		
Inflation × Deregulation (b_6)	−1952791[a]** (−2.58)		
Real Interest Rate × Deregulation (b_7)	375914[a] (0.47)		

NOTE: Dependent variable: Value of bank closings. T statistics are in parentheses; $R^2 = .70$; adjusted $R^2 = .65$; F statistic = 13.60***; DW = 1.91; ARCH: $\chi^2(1) = 1.16$; LM: $\chi^2(1) = .72$ (Godfrey-Breusch test for 1st-order serial correlation).
a. Joint significance of interaction terms: Wald Test: $\chi^2(3) = 22.10$***.
*$p < .10$; **$p < .05$; ***$p < .01$.

policy change variable has a much greater impact on bank closings (46.6% of the total impact) than any single economic variable. More importantly, these results clearly indicate that policy (regulatory) change has had approximately twice as large an impact on bank closings than all economic variables together in the post-deregulatory period (46.6% to 24.43%).

In Table 4, I display the results from the multiple regression analysis of the real annual total dollar value of deposits associated with the number of banks closed due to financial difficulties. The summary statistics reported at the bottom of the table indicate that both residual correlation and autoregressive conditional heteroskedasticity do not pose a problem for this model. The respectable adjusted R^2 (.65) and

TABLE 5
The Relative Impact of Economic Conditions and
Policy Change on Total Real Dollar Value of Deposits for
Commercial Banks Closed Due to Financial Difficulties (1943-1991)

Independent Variables	Complete Model $(\mathrm{b}i \times \overline{\mathrm{X}})$	Percentage of Total Impact (absolute value)
GNP	−19654	0.26
Inflation	250710	3.31
Real interest rate	92645	1.22
Deregulation	3685220	48.64
GNP × Deregulation	−1050549	13.87
Inflation × Deregulation	−1913735	25.26
Real Interest Rate × Deregulation	563871	7.44

NOTE: Dependent variable: Value of bank closings.

the significant F statistic (13.60) suggest that the model is specified in an adequate manner. Unlike the results for the number of bank closings, these results indicate that not one of the baseline economic variables exerts a statistically significant effect on the stability of the commercial banking system for the complete model. Two of the three parameter estimates for the interaction variables and the coefficient for real interest rate variable have an unexpected sign.[19] The significance associated with the GNP-deregulation and inflation-deregulation interactions indicate that the relationship between these variables and the financial value of bank closings is significantly altered in the post-deregulatory period. Further, the significant Wald test statistic reveals that the pre- and post-deregulatory parameter estimates for these economic variables are different from one another. The policy change variable (representing the effects of deregulation) indicates that the annual real total dollar of deposits from these bank closings rise by an average of a little more than $16 billion per year in the post-deregulatory period. As mentioned earlier, the relative impacts of these independent variables cannot be assessed merely by examining these coefficients given the different units of measurement that characterize the variables included in this model.

In Table 5, the relative impacts for each independent variable on the value of bank closings for the complete sample period is reported. The results indicate that economic variables in the pre-deregulatory

period have a negligible effect on variation in commercial banking system stability as measured by the value of bank closings. Also, policy change (deregulation) once again accounts for the single most powerful impact on the value of bank closings (48.64%). This variable, however, only accounts for a slightly greater percentage of the total impact than the sum of the post-deregulatory economic variables (48.64% to 46.57%). These findings reveal that policy change is the important factor in explaining commercial banking instability in the post-deregulatory period, although its margin over economic variables is much smaller for the value of bank closings relative to that actual number of bank closings.

DISCUSSION

The descriptive and quantitative findings reported in this article suggest several inferences with respect to commercial banking stability since the early 1940s. First, economic variables have played a significant role in affecting commercial banking instability. These impacts have been noticeably stronger in the post-deregulatory period. Second, policy change in the form of deregulation (beginning with DIDMCA) has had a major adverse impact on the stability of the commercial banking system in terms of both bank failures and the total real dollar value associated with these failed banks. Furthermore, the findings suggest that deregulation has had a stronger absolute relative impact on commercial banking (in)stability since the early 1980s than general and industry economic conditions combined. Finally, the evidence from Table 1 and Note 3 cast doubt on economic/technological arguments that contend that poor general economic and industry conditions during the 1970s (that led to a rise in commercial banking instability) were the reasons policy change transpired. If anything, the descriptive and quantitative evidence presented in this article indicates that politics (in the form of ideas and changing ideological composition of relevant congressional banking subcommittee members) is responsible for policy change. Thus it appears that policy change (embodying politics) has been more responsible for recent commercial banking system instability than economic conditions.[20]

From a more substantive perspective, deregulation has created a more unstable situation in the commercial banking industry. The qualitative evidence suggests that both Congress and the Carter and Reagan administrations, respectively, failed to foresee the consequences for both of these legislative acts that became law. Consistent with the politics of ideas theory, this lack of foresight seems to be largely attributable to the massive change in attitudes regarding regulation on the part of those involved in the policy process. A popular explanation for the failure of commercial bank deregulation involves a federal deposit insurance scheme that fails to differentiate among banks that hold a greater proportion of their loan portfolios (i.e., assets) vis-à-vis their commercial bank competitors. The net result of this deregulation has been that unequal risk, yet equal insurance coverage, has promoted risk taking on the part of banks. Moreover, the degree of risk has been spread across the board for all banks due to the greater competitive pressure they face for deposit funds today. Many in the policy arena have embraced the idea of a variable rate deposit insurance scheme that would give banks a disincentive to engage in a high proportion of risky loans.

Besides addressing the issue of variable rate federal deposit insurance, policymakers are attempting to revamp Federal Deposit Insurance Corporation (FDIC) insurance in three ways. First, some wish to make it impossible for depositors to be insured for multiple accounts that exceed a total over $100,000. Second, others wish to decrease the maximum level of deposit insurance from $100,000 per account to some unspecified lower value. These two means of revamping federal deposit insurance could have negative implications such as massive withdrawal of funds from well-endowed depositors who wish to put their resources in some other form of safe and liquid government insured asset and possibly shake public faith in the strength of the U.S. monetary system. Both of these negative implications could lead to even more risk-taking behavior on the part of banks due to a shortage of depositor funds, thus leading possibly to failure for many weak institutions. Finally, some policymakers suggest that deposit insurance should become privatized in order to achieve greater efficiency; however, others believe that the nation's financial system requires a government safety net for macroeconomic purposes (Evans 1984; West 1983).

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APPENDIX

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Dependent Variables

Bank Closings: The annual number of banks closed due to financial difficulties.

Value of Bank Closings: The annual real dollar value of deposits held by banks closed due to financial difficulties measured in thousands of dollars.

Independent Variables

GNP: The annual percentage growth in real GNP.

Inflation: The annual percentage change in the consumer price index (CPI).

Real Interest Rate: The annual real interest rate for commercial lending purposes. This variable taps into the profitability of the commercial banking industry.

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NOTES

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1. Two examples of specific benefits as a result of deregulation were: (a) the introduction of checking accounts to reward savers; and (b) the proliferation in the number of nonbank financial intermediaries offering traditional bank services (e.g., thrifts, insurance companies, brokerage firms, credit unions, etc.) while retaining 11,000 commercial banks in the system.

2. Although Garn-St. Germain has had a substantial negative impact on the stability of the banking system, much of this instability took place before the effects of this legislation could be felt through the system. Thus Garn-St. Germain has had the effect of exacerbating banking system instability.

3. With the exception of Meier (1985), the economic/technical change school ignores the fact that bank profitability, measured as the average rate of return on assets, remained relatively stable before the dawn of deregulation. During the period from 1970 to 1979, this measure of profitability ranged from 0.71 to 0.89 (Federal Deposit Insurance Corporation 1943-1988; 1971-1980).

4. Policymakers and regulators originally thought that deregulation would slow down the rate of financial disintermediation of funds by creating a level playing field in the financial services industry.

5. Quirk (1988) adds to this argument by stating that strong political influences by both elites and unorganized groups responsive to general interests also played an important role in deregulating many industries during the 1970s and 1980s including the financial services industry.

6. The results of the content analysis indicate that President Carter's views were weakly pro-regulatory in both 1977 and 1978 but became successively more pro-deregulatory in 1979 and 1980, respectively.

7. Standardized (by the entire House and Senate, respectively) median ADA scores fell significantly from +16 in the 1949-1969 period to +5 in the 1970-1979 period in the House while modestly dipping from +8 to +5 in the Senate over the same period.

8. This line of reasoning is consistent with James Q. Wilson's (1980, 387) view that significant change in the political environment of regulatory agencies occurred in a relatively short amount of time.

9. It is important to note that these early attempts to deregulate bank regulation were initiated before the industry began to complain about the economic and technological conditions that they had to confront.

10. In this analysis, I am only concerned with deposit-insured institutions for two reasons. First, these insured banks comprise almost 95% of all bank deposits in the banking system. Second, and even more importantly, these banks are influenced significantly by the political process because they are in the public domain through government-insured deposit status.

11. The correlation coefficient for the relationship between number of bank closings and the dollar value of these bank closings is 0.73.

12. DIDMCA represents the beginning of the bank deregulatory process. This legislative act resulted in the advent of instability in the commercial banking system.

13. The intervention for the number of bank closings was lagged by 2 years, whereas the intervention for the financial value of bank closings was lagged by 1 year. The imposition of intervention delays is quite reasonable because the impact of the DIDMCA was not felt immediately. Theoretically, there are two reasons for justifying such a model specification. First, commercial bank deregulation (beginning with the DIDMCA) was phased in gradually. Second, the notion that DIDMCA could have worked its way through the banking system in an instantaneous manner seems implausible. Furthermore, one can argue that the passage of the Garn-St. Germain Act in October of 1982 probably did not have much of an impact on aggregate banking system stability until 1984 at the earliest, thus allowing the impact of the DIDMCA a 2- or 3-year head start.

14. A technological variable was not employed here because past research implies that it will affect the profitability of the banking industry. Moreover, the stability of the commercial banking industry will be related to this profitability. Thus any effects of technological change would be manifested through the industry profitability variable.

15. The D-F tests were employed to answer this question. The D-F coefficients for each series are as follows: number of bank closings = 0.81; financial value of bank closings = 1.08; GNP = 0.39; inflation = 0.57; real interest rate = 0.73; interaction between GNP and deregulation = 0.73; interaction between inflation and deregulation = 0.77; and interaction between real interest rate and deregulation = 0.88. Each of these coefficients were significantly different from rho = 1 at the 1% level according to the critical values generated by Engle and Granger (1987). These results indicate that each variable is a stationary time series.

16. This entailed the diagnosis of OLS residuals to find out whether autoregressive (AR), moving average (MA) process, or both (ARMA) is in effect and to determine its appropriate order.

17. For more information on this technique, the interested reader can refer to Gujarati (1988, 446-50).

18. Preliminary specifications for both sets of models, which did not account for the structural change between economic conditions and commercial banking system instability, yielded results that were inferior (in terms of both hypothesized relationships and statistical significance) to those reported in Tables 2 and 4. The CUSUM and CUSUM^2 residual plot tests for parameter instability (not reported here) cast doubt on the validity of findings for specifications where structural change is not accounted for in an explicit manner. The results of these tests are consistent with the notion of structural change found in the significant Wald test statistics and interaction terms found in both complete models.

19. Regarding the importance of relative impacts and interaction parameter estimates representing deviations from pre-deregulatory period discussed in the previous model, the same disclaimer holds here as well.

20. Though one can argue that economic and technological change may have meshed with politics (e.g., ideas and changing ideological composition of relevant congressional banking subcommittee members) thus resulting in policy change, the empirical and anecdotal evidence clearly reveals that the former concepts have not been significantly related to policy change.

REFERENCES

Achen, Christopher H. 1982. *Interpreting and using regression*. Beverly Hills, CA: Sage.

Cargill, Thomas F., and Gillian G. Garcia. 1982. *Financial deregulation and monetary control: Historical perspective and impact of 1980 act*. Stanford, CA: Hoover.

———. 1985. *Financial reform in the 1980s*. Stanford, CA: Hoover.

Carron, Andrew S. 1983. The political economy of financial regulation. In *The political economy of deregulation*, edited by Roger G. Noll and Bruce M. Owen. Washington, DC: American Enterprise Institute.

———.1985. *Reforming the bank regulatory structure*. Washington, DC: Brookings Institution.

Derthick, Martha, and Paul J. Quirk. 1985a. *The politics of deregulation*. Washington, DC: Brookings Institution.

———. 1985b. Why regulators chose to deregulate. In *Regulatory policy and the social sciences*, edited by Roger G. Noll. Berkeley, CA: University of California Press.

Eichler, Ned A. 1989. *The thrift debacle*. Los Angeles, CA: University of California Press.

Engle, Robert F. and Clive W. J. Granger. 1987. Co-integration and error correction: Representation, estimation, and testing. *Econometrica* 55:251-76.

Evans, Gary R. 1984. The evolution of financial institutions and the ineffectiveness of modern monetary policy. *Journal of Economic Issues* 18(2): 439-48.

Federal Deposit Insurance Corporation. 1943-1988. *FDIC Annual Report*. Washington, DC: Federal Deposit Insurance Corporation.

———. 1971-1980. *FDIC Bank Operating Statistics*. Washington, DC: Federal Deposit Insurance Corporation.

Gerston, Larry N., Cynthia Fraleigh, and Robert Schwab. 1988. *The deregulated society*. Pacific Grove, CA: Brooks/Cole.

Gujarati, Damodar N. 1988. Basic econometrics. 2d ed. New York: McGraw-Hill.

Hammond, Thomas H., and Jack H. Knott. 1988. The deregulatory snowball: Explaining deregulation in the financial industry. *Journal of Politics* 50(1): 3-30.

MacAvoy, Paul W. 1979. *The regulated industries and the economy*. New York: Norton.

Meier, Kenneth J. 1985. *Regulation: Politics, bureaucracy and economics*. New York: St. Martin.

Meier, Kenneth J., and Jeff Worsham. 1988. Deregulation, competition, and economic changes: Assessing the responsibility for bank failures. *Policy Studies Journal* 16(3): 427-39.

Noll, Roger G., ed. 1985. *Regulatory policy and the social sciences*. Berkeley: University of California Press.

Noll, Roger G., and Bruce M. Owen. 1983. The political economy of regulation: An overview. Chap. 2 in *The political economy of deregulation*, edited by Roger G. Noll and Bruce M. Owen. Washington, DC: American Enterprise Institute.

————. 1983. Conclusion: Economics, politics, and deregulation. Chap. 9 in *The political economy of deregulation*, edited by Roger G. Noll and Bruce M. Owen. Washington, DC: American Enterprise Institute.

Peltzman, Sam. 1976. Towards a more general theory of regulation. *Journal of Law and Economics* 19:211-40.

Posner, Richard A. 1974. Theories of economic regulation. *Bell Journal of Economics* 5:335-56.

The Public Papers of the Presidents of the United States. 1949-1989. Washington, DC: U.S. Government Printing Office.

Quirk, Paul J. 1988. In defense of the politics of ideas. *Journal of Politics* 50(1): 31-41.

Stigler, George J. 1971. The theory of economic regulation. *Bell Journal of Economics* 2(1): 3-21.

West, Robert Craig. 1983. The evolution and devolution of banking deregulation in the United States. *Journal of Economic Issues* 17(2): 361-67.

Wilson, James Q. 1980. The politics of regulation. In *The politics of regulation*, edited by James Q. Wilson. New York: Basic Books.

Woolley, John T. 1984. *Monetary politics: The Federal Reserve Bank and the politics of monetary policy*. New York: Cambridge University Press.

George A. Krause is currently a Ph.D. candidate in the Department of Political Science at West Virginia University. Beginning in the Fall of 1994, he will be an assistant professor in the Department of Government and International Studies at the University of South Carolina. His previous research has appeared in the American Journal of Political Science. *He is currently writing a dissertation that attempts to encompass the various perspectives of political-bureaucratic relations into an integrated framework. His primary areas of interest include administrative politics, public policy, regulatory politics, political economy, and quantitative methodology.*