Wealth Effects of Banks' Rights to Market and Originate Annuities

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Abstract

We examine wealth effects, for banks and insurers, of bank rights to sell and underwrite annuities. The stock-price reactions to four court and regulatory decisions are consistent with expectations of bank gains at insurers' expense. Cross-sectionally, smaller, riskier insurers with higher distribution costs and substantial annuity business sustain larger wealth losses. Larger, riskier bank holding companies with fee-based and consumer business gain most, consistent with the extension of federal safety-net guarantees as a source of gains. Banking stock-price reactions to the Supreme Court's decision are opposite other findings, possibly reflecting unfulfilled expectations of a broader mandate for expanded bank rights.

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The United States, Congress, after lengthy and contentious debate, in 1999 passed the Gramm-Leach-Bliley financial modernization act, relaxing product-line restrictions imposed by the Glass-Steagall and Bank Holding Company Acts. A focal point of the debate was whether it was wise to permit the convergence of banking with other financial services, including securities activities and insurance products. How this convergence affects the stability of the financial system remains a significant public policy concern.[1]

This paper uses event-study methods to examine the impact of earlier more piecemeal convergence of financial services in which courts and regulators expanded bank rights to market and originate annuity products. The annuity market is of particular interest to banks due to revenue generating potential and cost-advantageous product fit.

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[1] For example, see the *Journal of Financial Services Research* symposium issue (Furlong and Kwan, 1999).

Other recent literature studies the effects of financial reform legislation, including the Gramm-Leach-Bliley Act (Carow and Heron, 2001).[2] A challenge in conducting such a study is that information tends to evolve slowly and in public view, hampering the ability to clearly identify a date on which salient developments "surprise" the financial markets (Binder, 1998; Cornett and Musumeci, 1999). Focusing on judicial and regulatory decisions reduces the dilution of an event's impact associated with publicly observable review, revision and debate.

The costs and benefits of legislative, regulatory, and judicial actions supporting financial convergence are assessed differently by members of different industry subsectors[3]. Bank executives tend to support such initiatives and foresee the potential to increase revenues and lower costs through direct sales of insurance products, through joint ventures with insurers, and ultimately, as "one-stop shop" financial conglomerates. Insurers express concern that banks have a cost advantage in retail distribution that banks could cut insurers out of the picture if the banks originate, as well as market, insurance products. Some insurance executives believe that their firms will

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[2] Earlier examples of such research include analyses of the passage of the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (Sundaram, Rangan, and Davidson, 1992), the FDIC Improvement Act of 1991 (Chen, Cornett, Mazumdar, and Tehranian, 1999), and risk-based deposit insurance (see Cornett, Mehran, and Tehranian, 1998).

[3] For further discussion, see Williams *et al.* (1997) and Hughes (1997).

benefit by having access to banks' lower-cost distribution system and expanded customer base, while others expect that insurers will become takeover targets for banks. A particular concern for bank and insurance regulators is that an expanded role of banks in insurance may be less than a zero-sum game and that modernization financially weakens, rather than strengthens, an affected industry. Another concern is that the expansion of the government bank safety net to insurance products will transfer wealth from taxpayers to financial institutions.

We document that bank holding company (BHC) stocks sustain statistically significant, negative average stock-price reactions to decisions that restrict bank annuity sales. Decisions that expand bank annuity rights evoke a positive stock-price reaction. Stocks of life-insurance holding companies (LIHC) show a statistically significant positive average price reaction to an early decision that restricted bank annuity sales, but insignificant reactions to later bank annuity announcements. Across the series of events, results suggest that initially, investors believed that expanded bank-annuity activity would be financially beneficial to banks and detrimental to insurers, consistent with a hypothesis of profit redistribution. As more information became available, stock market participants apparently continued to expect banks to benefit from expanded annuity activities, but not at the expense of insurers. This pattern is consistent with wealth creation from increased operational efficiency, expanded safety-net subsidies, or both.

Cross-sectional analysis reinforces this conclusion. It shows an information-driven shift from investor concern that banks would gain annuity market share at the

expense of insurers to recognition of wealth-creating efficiencies beneficial to specific segments of both industries.[4]

1. Background and hypotheses[5]

Tables 1 and 2 show the scope of the annuity market for insurers and banks, respectively. Individual annuities are an important source of revenue for both industries. Table 1 reports that in 1998, life insurers wrote $95 billion of individual annuities, or 21% of net premiums written. Table 2 reports that bank-generated individual annuity premiums in the same year were $19.6 billion, making up 63% of all insurance premiums that banks received.

Banks trace their desire to offer services traditionally available from insurance companies to external market pressure. (American Bankers Insurance Association, 1998). Banks face competition from nonbanks and are broadening their product lines to generate fee income and fulfill customer desires. Bank interest in insurance revenue grew as the inflationary pressures of the 1980s reduced interest margins and bank operating income. Of particular interest to banks was the opportunity to generate fee

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[4] We also considered the hypothesis that investors believed that allowing banks to sell annuities would threaten their tax-deferred treatment of annuity income. We found no evidence of such an investor perception.

[5] For another overview of bank insurance and annuity activities, see Williams, Feldstein and McSweeney (1997).

income from the sale of annuity products to their customers through platform sales, in which licensed bank employees sell insurance products directly to bank customers.

In 1990, in response to a request from NationsBank, the Office of the Comptroller of the Currency (OCC) issued two interpretations of federal law that expanded opportunities for banks to sell annuities. The first interpretation was based on section 92 of the National Bank Act (12 U.S.C. §92), which restricted national bank sales of insurance to "places" with populations of less than 5000. The OCC construed the statutory language to authorize banks to conduct insurance agency activities from a city or unincorporated, census-designated area of less than 5000 in population. Second, another provision of the National Bank Act, 12 U.S.C. §24 Seventh (1988 ed. and Supp. V) authorized banks to exercise "all such incidental powers as shall be necessary to carry on the business of banking." Relying on the incidental-powers clause, the OCC determined that annuities are not an insurance product, but an investment vehicle, the sale of which is incidental to the business of banking. This determination permitted national banks to sell annuities underwritten by insurers in any location, not just in small towns. Insurers challenged both interpretations in court.

In this paper, we analyze the wealth effects for the banking and insurance industries of four decisions concerning bank-annuity rights. The decisions are a federal appeals court ruling striking down the OCC's interpretations, a decision by the OCC further expanding bank annuity rights, a ruling by the state of New York's highest court permitting bank annuity sales, and a U.S. Supreme Court ruling that reversed

the federal appeals court.[6] Drawing on prior research and industry views, we develop and test two hypotheses about the distribution of financial industry benefits of adjustments in industry barriers. We call the alternative hypotheses: the market-disruption hypothesis and the market-synergy hypothesis.

The market-disruption hypothesis contends that profits on insurance activities will merely be rerouted from insurers to banks. One possibility is that banks would take market share from insurers due to a lower marginal cost of selling annuities. Another possibility is that bank obligations might be viewed as less risky than insurance-company obligations even though federal deposit insurance does not formally protect annuity investors. The market-disruption hypothesis predicts that the amount bank stockholders gain from opportunities to market and originate annuities is roughly equal to the amount that insurer stockholders lose. The converse predictions hold for decisions that decrease bank annuity rights.

The market-synergy hypothesis underscores the possibility that both banks and insurers can benefit from bank sales of annuities. For example, banks and insurers may gain through joint ventures that leverage banks' lower cost structure and depositor relationships to increase aggregate annuity profits. Banks might be disinclined to underwrite the annuities they sell, because they lack expertise in underwriting and managing the risks to capital associated with underwriting annui-

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[6] A contemporaneous paper by Carow (2001) investigates some of the same events as this one.

ties. Banks might rely principally on marketing agreements to sell insurer annuities to bank customers through platform sales by bank employees licensed for the purpose (Lonkevich, 1995). The market-synergy hypothesis predicts bank stockholder wealth to be positively affected, and insurer stockholder wealth not to be negatively affected, by decisions that increase bank annuity rights.

It should be noted that neither hypothesis implies that households necessarily gain from bank annuity rights. They could gain or lose either as taxpayers, through the expansion of government deposit-insurance liabilities, or as customers, depending on whether the fusion of banking and insurance creates monopoly power. For further discussion, see Carow and Kane (2001) and references cited therein.

The market-disruption and market-synergy hypotheses are not mutually exclusive. Each event can generate both synergy and disruption effects, with only the net effect on value rendered observable by event-study methods. Thus, our conclusions focus on whether one or the other effect proves dominant.

2. Events examined

Table 3 lists the event dates. The dates are identified by searching for the key word "annuities" in the headline or lead paragraph of *Wall Street Journal* articles in 1991-1995. Articles on four dates deal with new developments in the regulation of bank annuity sales.

2.1. Event one: Town-of-5000[7]

The first event that we examine is the Fifth Circuit Court of Appeals decision that annuities are insurance products and subject to the town-of-5000 rule. The ruling curtailed the right of national banks to sell annuities nationally. The court ruled that annuities are insurance products; consequently, a national bank could sell annuities only in small towns. The decision quashed the efforts of NationsBank and others to offer annuities from branches in larger cities. The *Wall Street Journal* report of the decision (Bacon, 1993) quoted a banking lawyer's view that the decision would "greatly undermine the value of the banking franchise."

If market estimates of future bank cash flows were conditioned on the expectation that national banks would be allowed to sell annuities in cities larger than 5000 population, we should see a negative stock-price reaction for the bank holding company sample. According to the market-disruption hypothesis, the announcement is good news for insurance companies; positive stock-price reactions thus are predicted for the insurance sample. In contrast, the market-synergy hypothesis predicts that the announcement is bad news for insurance companies and should be accompanied by a negative stock-price reaction for the insurance sample.

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[7] Nationsbank of North Carolina *v.* Variable Annuity Life-insurance Company (Fifth Circuit Court of Appeals, 998 F.2d 1295, 1993).

2.2. *Event two: New York Court of Appeals*[8]

In March 1994, New York's highest state court rendered a 6-0 decision that overturned existing regulations and gave state-chartered banks the right to sell annuity products directly to their customers, rather than through a third party. The decision was viewed as significant for New York's banking industry and as having possible national ramifications. Bank regulation experts quoted by the *Wall Street Journal* predicted that, because of the importance of New York, the decision might influence other state and federal decisions (Knecht and Scism, 1994). The *Journal* also quoted the New York Bankers Association's view that the ruling positively affected franchise value, because state banks would no longer have to share commission revenues with insurance agents.

The market-disruption hypothesis predicts a positive wealth effect for banks and a negative wealth effect for insurance companies. Under the market-synergy hypothesis, bank and insurer revenues should increase as a result of cooperative efforts in the marketing of annuities. Thus, the market-synergy hypothesis predicts a positive stock-price reaction for both the bank and insurance samples. The New York Court of Appeals ruling was consistent with the federal OCC contention that annuities are an investment product, not a form of insurance.

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[8] New York State Association of Life Underwriters v. New York State Banking Department (New York Court of Appeals, 1994).

2.3. Event three: Blackfeet National Bank[9]

On May 13, 1994, the *Wall Street Journal* reported that the OCC agreed to allow Blackfeet National Bank of Montana to originate and market a product that structured annuity-like payouts as deferred returns on a certificate of deposit. Upon opening such an account, the holder was to select a maturity date. At maturity, the holder had the option to withdraw up to two-thirds of the principal and accrued interest. The remaining balance would then be converted to a fixed life annuity payment at market interest rates. According to legal opinions obtained by the product's designer, American Deposit Corporation, no taxes would be due on the accrued interest during the deferral period. (Rehm, 1994.) The bank bore the actuarial risk created by a lifetime payment obligation, which the OCC recommended be hedged.

The OCC's action went beyond the previous decision authorizing national banks to sell insurer-underwritten annuities, because Blackfeet's product would be the bank's own deposit liability and therefore eligible for federal deposit insurance. The *Wall Street Journal* quoted statements from insurance industry associations predicting a potentially large negative impact on insurance-company sales (Knecht, 1994).[10]

Clearly, the OCC's decision is viewed as good news for banks and bad news for insurers under the market-disruption hypothesis. Thus, the hypothesis predicts a

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[9]OCC Interpretive Letter (May, 1994).

[10]Although similar CDs were subsequently marketed by several banks, the U.S. Court of Appeals for the 11th Circuit ruled in 1999 that the OCC acted improperly in permitting Blackfeet to underwrite a fixed life annuity.

positive stock-price reaction for the bank-holding company sample, but a negative reaction for insurers. The market-synergy hypothesis is not applicable to this decision. By effectively giving a bank the authority to originate federally insured annuities, the OCC left little room for synergy between banks and insurers.

2.4. Event four: Supreme Court VALIC ruling[11]

The culmination of the controversy over bank annuity sales occurred when the U. S. Supreme Court, in *NationsBank vs. VALIC*, reversed the Fifth Circuit, ruling that national banks may sell annuities. In the unanimous opinion written by Justice Ruth Bader Ginsburg, the court deferred to the OCC's expertise in determining that annuities should be classified as investments and that their sale is an activity incidental to the business of banking. The ruling provides legal certainty that national banks may directly market insurer-underwritten annuities in any location.

The market-disruption hypothesis predicts a positive stock-price reaction for the bank-holding company sample and a negative reaction for insurers. The market-synergy hypothesis predicts a positive stock-price reaction for both bank and insurer portfolios.

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[11] Nationsbank of North Carolina, N.A., et al. v. Variable Annuity Life-insurance Company, et al., 115 S. Ct. 810 (1995).

3. Data, Cross-Sectional Predictions and Methods

3.1. Life-insurance data and cross-sectional predictions

To construct the LIHC sample, we searched the Center for Research in Security Prices (CRSP), Standard & Poor's *Compustat,* and *Compact D/SEC* files for SIC codes identifying the life-insurance industry. We added insurers that the SIC code search did not reveal but that appear in life-insurance samples in published articles that use event-study methods. We checked *Moody's Bank and Finance Manual* to verify that the stocks were those of life insurers, life-insurance holding companies or multiline holding companies in which life-insurance assets are approximately equal to or greater than property-liability and other assets. Only firms with at least 300 daily returns (of 526 possible) on the CRSP files from January 4th 1993 to end of January 1995 enter the sample. The above criteria produce a sample of 59 life-insurance stocks.

From *Best's Insurance Reports* 1995, we collect yearend 1994 data on insurer characteristics that potentially affect the stock-price reaction for use in cross-sectional analysis. For holding companies with more than one life-insurance subsidiary (groups), we compute a weighted average of each characteristic. The weight for each subsidiary is its admitted assets as a fraction of the total admitted assets of all life subsidiaries in the group.

Under the market-disruption hypothesis, riskier insurers would be more threatened by competition from banks, especially if stock-market participants believe – or believe that consumers believe – that banks' government deposit guarantees cover annuities. Therefore, the market reaction to rulings expanding banks' annuity rights should be more positive for larger and financially stronger insurers. We meas-

ure financial strength by surplus as a fraction of admitted assets and by a dummy variable indicating an A.M. Best rating of A or better. Under the market-synergy hypothesis, riskier insurers would benefit more from cooperation with banks in the sale of annuities, implying less positive reactions for larger and stronger LIHCs.

Under the market-disruption hypothesis, greater dependence on annuity business and on expensive distribution methods implies greater vulnerability to bank competition. Therefore, these factors are predicted to be associated with a more negative market reaction to expanded bank-annuity rights. We measure dependence on annuities using annuity reserves as a fraction of admitted assets. Our proxy for high-cost distribution is the use of independent agents as the primary sales channel.[12]

The market-synergy hypothesis makes opposite predictions. Market synergy should allow insurers that specialize in annuities and that rely on independent agents to gain from banks' marketing of annuities. Cooperative efforts between insurers and banks have the potential to increase aggregate annuity sales and reduce insurer expenses by using banks' lower cost distribution systems. Consequently, under the market-synergy hypothesis, insurer stock price gains are expected to be an increasing function of annuity reserves and use of independent agents.

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[12] Carow (2001) suggests that agent resistance to competition is a barrier to an insurance company distributing its annuities through banks.

3.2. Bank holding company data and cross-sectional predictions

Searching the CRSP database for relevant SIC codes at the time of the bank-annuity decisions establishes the initial sample of bank holding companies. It is likely that small BHCs would already be taking advantage of the town-of-5000 rule to sell annuity products. Also, the smallest BHCs are less likely to have an extensive office network with high revenue potential and low marginal costs of distribution. Therefore, we restrict the sample to BHCs whose market capitalization exceeded $500 million on December 31, 1994. Ninety bank holding companies meet the criterion.

We collect yearend 1994 BHC characteristics that potentially relate to the stock-price reaction. Data on the geographic distribution and concentration of offices on June 30, 1994 come from the Federal Deposit Insurance Corporation (FDIC) deposit branch office reports.[13] Financial statement information for December 31, 1993 and December 31, 1994 is obtained from the *Disclosure* database. Consumer loans and total loans are collected from the FDIC call reports for the lead bank, defined as the largest bank in the holding company, as of December 31, 1994. Two BHCs leave the sample due to missing call reports, resulting in a final sample of 88 bank holding companies.

We construct cross-sectional variables to measure banks' potential distribution capacity and inclination to sell annuities. We posit that BHCs that are most restricted in their insurance activities have the most to gain from events that expand bank-

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[13] FDIC deposit information by branch is available once per year. June 30, 1994 was chosen because it occurs within the period of the events analyzed.

insurance activity. Consequently, we predict that larger BHCs and those with concentrated markets can generate more profits as a result of decisions that expand their rights to sell annuities. Thus, more positive market reactions should be associated with these characteristics under either the market-disruption hypothesis or the market-synergy hypothesis. Size is measured as the log of total assets. The fraction of deposits in the state in which the BHC has its largest presence measures concentration in its primary market.

We also conjecture that a BHC's profit potential is related to its propensity to develop an annuity business. Two proxies for propensity are the BHC's involvement in other businesses that generate noninterest income and the relative importance of current consumer-oriented business. The current importance of noninterest revenue streams is measured by total noninterest income relative to interest income. The ratio of consumer loans to total loans represents the relative importance of consumer business to the company. We expect more positive market reactions to decisions that expand bank-annuity rights to be associated with these characteristics under either the market-disruption hypothesis or the market-synergy hypothesis.

Previous research shows that weakly capitalized BHCs take increased risks due to the safety net created by deposit insurance. For stronger banks, the potential loss of charter value (value of net intangible assets) inhibits excessive risk-taking (Keeley, 1990, and John, John, and Senbet, 1991). Expanded bank annuity rights, if seen as an implicit or explicit extension of deposit-insurance guarantees to new lines

of business, would create more value for riskier banks. We measure risk using the residual standard deviation of stock returns.

3.3. Methods

We test the average stock-price reaction to each of the events using the multivariate regression model (MVRM) suggested by Schipper and Thompson (1983) and Binder (1985). The MVRM controls for cross-sectional heteroscedasticity and contemporaneous cross-correlation of the residuals. The MVRM approach extends the usual market model to a conditional return-generating process by adding a dummy variable corresponding to each event period. (See Karafiath, 1988 for a review of event study methods using dummy variable regression.) The event dates are identical for all the firms in this study, so we can estimate the MVRM by forming the stocks into a portfolio and estimating a single regression equation on the portfolio returns (Thompson, 1985). To increase the efficiency of the parameter estimates, we use portfolio weights based on the estimated full covariance matrix of residuals, **S**. The residuals used to compute **S** come from first-pass OLS regressions for each stock. The vector of portfolio weights is $\mathbf{P} = (\mathbf{1}'\mathbf{S}^{-1}\mathbf{1})^{-1}\mathbf{S}^{-1}\mathbf{1}$.

We estimate the following regression:

$$R_{pt} = \alpha_p + \beta_p R_{mt} + \sum_{k=1}^{K} \gamma_{pk} D_{kt} + \varepsilon_{pt}, \qquad (1)$$

where

R_{pt} = return on portfolio p on day t;

R_{mt} = return on the CRSP value-weighted NYSE-AMEX-Nasdaq index on day t;

α_p = intercept coefficient for portfolio p;

b_p = risk coefficient for portfolio p;

g_{pk} = daily effect of event k on portfolio p, k=1,2,…,K;

D_{kt} = dummy variable, equal to 1 during event period k and 0 otherwise;

e_{pt} = random disturbance which is assumed to be normal and independent of the return on the market and the event-period dummy variables.

To test the effects of firm characteristics on the stock-price reaction to the events, we use an econometric method that controls for cross-correlations among firms' stock returns and correlations between characteristics. It is important to control for such correlations in studies where all the firms have the same event dates and are in the same industry. The correlations are likely to be nontrivial, and tests derived under the assumption of zero correlation thus are more likely to be biased and inefficient than in a study where event dates are random across firms. The method is an extension of the approach pioneered by Sefcik and Thompson (1986), who use a different set of portfolio weights corresponding to each characteristic to re-estimate equation (1). The estimates of the g_{pk} then reflect the effect of the pth characteristic on the stock-price reaction to the kth event.

However, unlike the MVRM method we use for the first set of regressions in the paper, the Sefcik-Thompson procedure does not account for cross-sectional heteroscedasticity and cross-correlation of the residuals. Therefore, we use an extension proposed by Chandra and Balachandran (1992). Chandra and Balachandran report that the extension, called the Portfolio Constant Correlation Model (PCCM) test, is well specified and more powerful than the Sefcik-Thompson test. The only previous

application of the PCCM method in the finance literature of which we are aware is by Cowan and Power (2001).

To calculate the weights for the PCCM tests of firm characteristics, let

$$\mathbf{F} = [1 \quad \mathbf{X}_2 \quad \cdots \quad \mathbf{X}_P], \tag{2}$$

where $\mathbf{X}_p$ is an N×1 vector of the pth firm characteristic (N is the number of stocks in the portfolio). The vector of portfolio weights corresponding to the pth characteristic is the pth row of the P×N matrix

$$\mathbf{W} = \left(\mathbf{F}'(s\mathbf{C}s)^{-1}\mathbf{F}\right)^{-1}\mathbf{F}'(s\mathbf{C}s)^{-1}, \tag{3}$$

where s is a diagonal matrix, the nonzero elements of which are the residual standard deviations of the N stocks, and $\mathbf{C}$ is the constant correlation matrix of the raw returns of the stocks. (The diagonal elements of $\mathbf{C}$ are equal to 1 and the off-diagonal elements are all equal to the same estimated average pairwise correlation between any two of the N stocks.) We test the hypothesis that an event parameter g_{pk} is equal to zero using a t-statistic based on heteroscedasticity-consistent standard errors (White, 1980).

We check the sensitivity of our results to confounding events by examining the individual-firm Studentized event-parameter estimates from the first-pass OLS regressions. For every firm with a Studentized parameter estimate greater than 2 in absolute value, we check the *Wall Street Journal Index* for potentially confounding news reports but find none.

4. Results

4.1. Stock-price reactions

Tables 4 and 5 present the results for the stock-price reactions of the insurer and bank-holding company samples, respectively, to the four events. In the insurance sample, for the *Town-of-5000* event, in which the Fifth Circuit held that annuities are insurance, the event-coefficient estimate is a significantly positive 0.21%, representing a 0.63% cumulative average abnormal return for three-day event window. For the BHC sample, the coefficient estimate is –0.14% (–0.42% cumulative three-day abnormal return) and statistically significant. The results support the idea that in the absence of the Town-of-5000 decision, market participants expected fee-based revenues and profits from bank-annuity sales to increase at the expense of the life-insurance industry, consistent with the market-disruption hypothesis.

The average stock-price reaction to the *New York Court of Appeals* event is insignificant for both the bank and insurer portfolios. The state high court decision gave New York state-chartered banks the right to sell insurer-underwritten annuity products directly to their customers. A potential explanation for the lack of significance is that the ruling immediately affected only banks chartered in one state, and lobbying resources would have to be expended to achieve the wider effect. The result suggests that the expected lobbying costs and benefits were roughly equal in magnitude.

The third event analyzed is the OCC ruling that allowed *Blackfeet National Bank* of Montana to underwrite and market FDIC-insured annuity contracts. Industry observers opined that the ruling would be a greater threat to insurers than previous

Comptroller rulings because national banks were in effect being allowed to underwrite annuity-type instruments for the first time. Tables 4 and 5 report an insignificant stock-price reaction for the insurer sample, but a significantly positive coefficient of 0.22% (0.66% cumulative average 3-day abnormal return) for the BHC sample. The result supports the market-synergy hypothesis: investors expected that expanded bank-insurance activities would be value adding to banks, but not detrimental to insurers.

The last announcement is the Supreme Court decision in *NationsBank vs. VALIC*, reversing the Fifth Circuit. Tables 4 and 5 report no statistically significant wealth effect, though the coefficient estimate is negative for both insurers and banks. Comments in the financial and industry press around the decision often mention the hope that the court would use *VALIC* to provide comprehensive guidance concerning bank insurance activities under existing federal statutes. For example, an *American Banker* article argued that to sell annuities, banks at the time used "indirect, legally circuitous, and unnecessarily cumbersome distribution methods. Legal relief can now be hoped for from the Supreme Court. The court's decision… could result in the simplified and more efficient delivery of investment products *by and through* banks." (Roderer, 1994; emphasis added). Instead, the justices ruled narrowly on the OCC's authority to permit bank marketing of insurer-underwritten annuities. By confirming that the OCC had the legal right and regulatory expertise to determine that annuities are not insurance, the court avoided the question of whether banks could sell insurance except in small towns. Investors may also have expected that if the court

accepted the argument that annuities are not insurance, it would follow that banks could underwrite their own annuities. However, by deferring to the OCC, the court avoided the question of underwriting. Justice Ginsburg's opinion states that the issue at hand is whether banks may "serve as agents in the sale of annuities." Arguably, the uncertainty that the court left about the questions of insurance sales and underwriting offset the benefits to banks and insurers of expanding the annuity market.[14]

4.2. Cross-sectional analysis

The cross-sectional tests of the effects of firm characteristics on stock-price reactions appear in Tables 6 and 7. Table 6 reports that the stock prices of larger insurers decreased more, and those of insurers that market primarily through independent agents decreased less, in response to the Town-of-5000 ruling. Larger insurers experienced larger stock-price gains in response to the New York Court of Appeals, Blackfeet and Supreme Court rulings, and those using independent agents experienced smaller gains. (However, the size coefficient is statistically insignificant for the Blackfeet ruling and the independent agent coefficient is insignificant for the Supreme Court decision.) The results conform to the market-disruption hypothesis,

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[14] In 1999, in striking down the OCC approval of the Blackfeet National Bank product, the U. S. Court of Appeals for the 11th Circuit observed that the 1995 Supreme Court decision "focused on the ability of a national bank to broker annuities; our case turns on the ability of national banks to underwrite" fixed annuities. Blackfeet National Bank v. Nelson, 171 F.3d 1237 (1999).

which predicts that smaller insurers and those with higher costs of distribution would be most affected. Also, consistent with market disruption and the potential expansion of the depository safety net, the stock prices of insurers with more annuity reserves and those with below-A ratings decrease more in response to the *Blackfeet* decision. The product for which Blackfeet National Bank received approval would expand the depository safety net to an annuity. Such a subsidy could undermine insurer-issued annuities that lack government backing. Given the risk differential between the new bank annuity and the insurance annuity, insurance companies with greater annuity exposure and lower ratings would be expected to lose the greatest market share.

Table 7 reports cross-sectional tests of the effects of BHC characteristics on stock-price reactions. The table shows that the larger the total assets of the BHC, the larger the fraction of operating income from nonlending operations, and the larger the fraction of consumer business, the more negative the stock-price reaction to the Town-of-5000 decision. Larger BHCs were less likely to be able to sell annuities under the Town-of-5000 rule, so it is not surprising that investors expected them to be hurt more by the decision. The negative coefficient on consumer business supports the conjecture that investors saw annuities as a consumer product for banks.

Table 7 also reports that the reaction to the New York Court of Appeals decision is more positive for riskier banks and those chartered in New York. Investors apparently expected riskier banks to gain from perceived federal deposit insurance protection of annuity investors. The BHC stock-price reaction to the OCC's Blackfeet ruling is more positive, the larger and riskier is the BHC and the greater its concen-

tration of deposits in the largest office. Thus, investors expected large, financially weak, geographically concentrated BHCs to benefit most from the opportunity to increase revenues through expanded opportunities to underwrite and sell annuities. The result for riskier BHCs is again consistent with the expansion of the safety net to annuities as a source of bank-industry value gains.

Table 7 also reports that the market reaction to the Supreme Court *Valic* decision is more negative, the larger the BHC, the more concentrated its deposits, and the greater its fraction of consumer loans. The tenor of the BHC stock-price reactions to the Supreme Court decision is opposite to that of the Town-of-5000, New York and Blackfeet rulings: this time, investors marked down the stocks of BHCs more likely to profit from annuity rights. Again, investors may have been disappointed that the Supreme Court did not address the issue of bank underwriting of annuities.

5. Conclusion

We investigate the wealth effects generated by expanding and contracting bank rights to market and originate annuities. In response to a federal appeals court ruling restricting bank annuity sales, life insurers experience positive stock-price reactions and banking stocks experience negative reactions, on average. We also report a positive stock-price reaction, for banking stocks, to a decision by the Office of the Comptroller of the Currency to allow Blackfeet National Bank to issue its own federally insured, annuity-like deposit instrument. Cross-sectional tests show that the stock prices of smaller, financial weaker insurers with greater proportions of annuity business and those using independent agents are hurt more by the expansion of bank

annuity rights. Until the Supreme Court decision in *Valic*, the stocks of larger, riskier bank-holding companies with geographically concentrated deposits and greater dependence on non-lending activities or consumer business gained the most from the expansion of annuity rights. The results support the idea that the extension of the deposit-insurance safety net to annuities was a key source of the gains.

The stock-price pattern is reversed in the response to the *Valic* decision. We speculate that the reversal may have been due to investor disappointment that the Supreme Court did not address bank sales of insurance or bank-originated annuities, as opposed to bank sales of insurer-underwritten annuities. With the exception of the cross-sectional analysis of bank stock-price reactions to the Supreme Court decision, the results are consistent with a market-disruption hypothesis. Investors appear to have believed that bank profits from annuity sales would come at the expense of insurer profits.

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Table 1
Source of Premiums 1998 Life-Health Insurance Industry (in $ Billions)

Product Type	Net Premiums Written	Percent
Individual annuities	95.4	21.0
Group annuities	134.0	29.6
Ordinary life (individual)	99.2	21.9
Group life	24.4	5.4
Individual accident & health	24.9	5.5
Group accident & health	62.1	13.7
Other	13.5	2.9
Total	453.5	100.00

Source: A.M. Best Co., *Best's Aggregates & Averages, Life-Health,* 1999 Edition.

Table 2

1998 Bank Insurance Premiums (in $ Billions)

Product Type	Premiums in 1998	Percent
Annuities	$ 19.6	63.0
Commercial Lines	4.0	12.9
Credit Coverage	2.9	9.3
Personal Property/Casualty	2.9	9.3
Individual Health/Disability	0.9	2.9
Individual Life	0.6	1.9
Other	0.2	0.7
Total	31.1	100.0

Source: American Bankers Insurance Association, 1998 National Survey of Banks-in-Insurance.

Table 3
Event Dates

Variable Name	Dates	Description
Town-of-5000	08/31/1993	United States Fifth Circuit Court of Appeals rules that annuities are insurance products and subject to the "town-of-5000" restriction.
NY Court of Appeals	03/31/1994	Annuities are investments that state-chartered banks in New York have the authority to sell.
Blackfeet National Bank	05/13/1994	Blackfeet National Bank of Montana receives regulatory clearance to originate and sell annuity-like products without involving an insurance company.
Supreme Court *VALIC* Ruling	01/19/1995	Comptroller acted properly in ruling that national banks may sell annuities.

Table 4

Event Study of 59 Life-insurance Stocks: MVRM Regression of Daily Return on CRSP Value-Weighted Market Index and Indicator Variables for Court and Regulatory Decisions Affecting Banks' Right to Originate and Market Annuities in 1993–1995

Coefficients of the Town-of-5000, NY Court of Appeals, Blackfeet National Bank, and Supreme Court *VALIC* Ruling event dummy variables measure the average daily stock-price reactions to those events in the respective three-day event windows. Numbers in parentheses are heteroscedasticity-consistent *t*-statistics (White, 1980).

Variable	Coefficient
Intercept	0.0003 (2.14**)
CRSP VW Index	0.5828 (19.98***)
Town-of-5000	0.0021 (2.24**)
NY Court of Appeals	–0.0016 (–1.25)
Blackfeet National Bank	0.0003 (0.49)
Supreme Court *VALIC* Ruling	–0.0009 (–1.17)
F	102.48***
Adjusted R^2	49.2 %

The symbols *, **, *** denote statistical significance of two-tailed tests at the 10%, 5%, and 1% levels respectively.

Table 5

Event Study of 88 Bank Holding Company Stocks: MVRM Regression of Daily Return on CRSP Value-Weighted Market Index and Indicator Variables for Court and Regulatory Decisions Affecting Banks' Right to Originate and Market Annuities in 1993–1995

Coefficients of the Town-of-5000, NY Court of Appeals, Blackfeet National Bank, and Supreme Court *VALIC* Ruling event dummy variables measure the average daily stock-price reactions to those events in the respective three-day event windows. Numbers in parentheses are heteroscedasticity-consistent *t*-statistics (White, 1980).

Variable	Coefficient
Intercept	0.0001 (0.45)
CRSP VW Index	0.6582 (21.53***)
Town-of-5000	–0.0014 (–1.58*)
NY Court of Appeals	–0.0001 (–0.10)
Blackfeet National Bank	0.0022 (2.29**)
Supreme Court *VALIC* Ruling	–0.0007 (–0.37)
F	115.08***
Adjusted R^2	52.1%

The symbols *, **, *** denote statistical significance of two-tailed tests at the 10%, 5%, and 1% levels respectively.

Table 6

Cross-Sectional Analysis of Stock-Price Reactions: Life-insurance Sample

Coefficient estimates for $R_{pt} = a_p + b_p R_{mt} + \sum_{k=1}^{K} g_{pk} D_{kt} + e_{pt}$ run for each of K=5 portfolios; g_{pk} measures the average daily effect of the p^{th} characteristic on the stock-price reaction in the k^{th} three-day event window. Numbers in parentheses are heteroscedasticity-consistent t statistics (White, 1980). The symbols *, **, *** denote statistical significance of two-tailed tests at the 10%, 5%, and 1% levels respectively.

	Firm Characteristic Portfolio				
Intercept, Market Index or Event Dummy Variable	Log of Total Assets (*p=1*)	Surplus Rate (*p=2*)	Annuity Reserves ÷ Assets (*p=3*)	A.M. Best Rating below A (*p=4*)	1 = Uses Independent Agents (*p=5*)
Intercept (α_P)	–0.0001 (–1.92*)	–0.0003 (–0.72)	0.0009 (1.77*)	0.0001 (0.47)	0.0011 (2.06**)
CRSP VW Index (R_m)	0.0745 (5.22***)	–0.3634 (–3.76***)	0.3230 (3.59***)	–0.0986 (–1.55)	–0.1141 (–1.16)
Town of 5000 (γ_{P1})	–0.0007 (–1.85*)	0.0021 (0.57)	0.0077 (1.28)	–0.0024 (–0.55)	0.0078 (2.51**)
NY Court of Appeals (γ_{P2})	0.0012 (1.82*)	0.0131 (1.56)	0.0041 (0.93)	0.0034 (0.73)	–0.0040 (–1.78*)
Blackfeet National Bk (γ_{P3})	0.0009 (1.09)	–0.0024 (–0.39)	–0.0143 (–1.80*)	0.0047 (1.94*)	–0.0153 (–1.95*)
Supreme Ct *VALIC* (γ_{P4})	0.0005 (4.53***)	0.0018 (1.06)	0.0006 (0.33)	–0.0002 (–0.09)	–0.0034 (–1.30)
F	6.27***	5.19***	3.17***	1.12	1.69
Adjusted R^2	4.8%	3.8%	2.0%	0.0%	0.7%

Table 7

Cross-Sectional Analysis of Stock-Price Reactions: Bank Holding Company Sample

Coefficient estimates for $R_{pt} = a_p + b_p R_{mt} + \sum_{k=1}^{K} g_{pk} D_{kt} + e_{pt}$ run for each of K=6 portfolios; g_{pk} measures the average daily effect of the p^{th} characteristic on the stock-price reaction in the k^{th} three-day event window. Numbers in parentheses are heteroscedasticity-consistent t statistics (White, 1980). The symbols *, **, *** denote statistical significance of two-tailed tests at the 10%, 5%, and 1% levels respectively.

	Firm Characteristic Portfolio					
Intercept, Market Index or Event Dummy Variable	Log of Total Assets (*p=1*)	Risk (Residual Standard Deviation) (*p=2*)	1=New York Charter, 0=Other (*p=3*)	Fraction of Deposits in Largest State (*p=4*)	Fraction of Operating Income from Noninterest (*p=5*)	Consumer Loans as Fraction of Total Loans (*p=6*)
Intercept (α_P)	–0.0001 (–0.71)	–0.0219 (–0.77)	0.0002 (1.08)	0.0001 (0.33)	0.0001 (0.21)	0.0006 (0.83)
CRSP VW Index (R_m)	0.3135 (13.17***)	46.0741 (7.84***)	–0.0457 (–1.43)	0.0528 (0.70)	0.0514 (0.61)	0.2064 (1.52)
Town of 5000 (γ_{P1})	–0.0010 (–2.25**)	0.1668 (1.44)	–0.0013 (–1.53)	0.0016 (0.62)	–0.0042 (–2.36**)	–0.0063 (–2.66***)
NY Court of Appeals (γ_{P2})	0.0022 (1.33)	0.6052 (3.07***)	0.0022 (3.60***)	0.0001 (0.15)	0.0022 (0.34)	–0.0066 (–0.60)
Blackfeet National Bk (γ_{P3})	0.0023 (2.66***)	0.1529 (2.26**)	–0.0004 (–0.64)	0.0071 (3.62***)	–0.0075 (–0.54)	0.0057 (1.05)
Supreme Ct *VALIC* (γ_{P4})	–0.0024 (–2.37**)	–0.3487 (–1.17)	–0.0006 (–0.40)	–0.0050 (–2.64***)	–0.0032 (–0.63)	–0.0164 (–1.66*)
F	34.89***	15.88***	0.69	0.96	0.47	1.59
Adjusted R^2	24.4%	12.4%	0.0%	0.0%	0.0%	0.1%