Share-Price Reaction To Supervisory Goodwill Litigation: The CalFed Case

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Abstract

More than 100 savings and loans are currently involved in supervisory goodwill litigation against the federal government, with total claims approaching fifty billion dollars. These claims arise from a provision in the 1989 Financial Institutions Reform Recovery and Enforcement Act (FIRREA) that phased out the use of supervisory goodwill to satisfy bank capital requirements. California-based savings and loans such as Glendale Federal and California Federal sought damage awards of two billion dollars each. This paper uses a standard event-study analysis framework to estimate the abnormal returns to litigation interests issued by California Federal. Unlike equity shares in publicly-traded firms, the value of these litigation interests is determined solely by the damage award in the California Federal supervisory goodwill litigation. California Federal's secondary litigation interests, which represent a residual claim on the damage award, exhibit statistically significant abnormal returns in response to seven announcements affecting the expected final damage award in the litigation.

Introduction

"The federal government should be able to change requirements when they have proven to be disastrous and contrary to the public interest. The contracts between the federal government and savings and loan owners when they acquired failing institutions in the early 1980's are not contracts written in stone." (Rep. Rostenkowski, 135 Congressional Record 12077 (1989))

"In its present form, FIRREA would abrogate written agreements made by the U.S. government to thrifts that acquired failing institutions by changing the rules in the middle of the game." (Rep. Ackerman, 135 Congressional Record 12145, (1989))

Nearly everyone is familiar with the term "savings and loan crisis" as a label for the widespread failure of thrift institutions in the United States during the 1980's. The estimated cost of the savings and loan debacle to the federal government now stands at approximately $165 billion, but this figure might substantially understate the final cost due to ongoing litigation between over 120 thrifts and the federal government. The potential cost of this supervisory goodwill litigation to the federal government could reach $50 billion. (Stephen Labaton, p. 1) The litigation stems from provisions in 1980's mergers between healthy and failing and thrifts, whereby acquiring thrifts could treat the difference between the purchase price paid for the failing thrift and its value as supervisory goodwill. Treating the difference between purchase price and value as goodwill, an intangible asset to be amortized over 35-40 years is common under purchase accounting. In the case of mergers between healthy and insolvent thrifts in the 1980's, however, the Federal Home Loan Bank Board (FHLBB) and Federal Savings and Loan Insurance Corporation (FSLIC) allowed acquiring thrifts to use supervisory goodwill to satisfy regulatory capital requirements. Subsequently, the 1989 passage of FIRREA required the rapid phasing out of supervisory goodwill as regulatory capital.

The removal of supervisory goodwill as allowable bank capital left many institutions in violation of capital compliance. Some institutions sold off assets, retrenched lending and issued securities to raise the necessary bank capital. Many institutions were unable to meet the new capital requirements, and were seized by regulators. Even thrifts who survived the removal of supervisory goodwill often shrank in response to asset sales, and subsequently faced higher borrowing costs. At the time FIRREA was passed in 1989, almost one-third of the capital in the savings and loan

industry was supervisory goodwill. (*Glendale Federal Bank* v. *United States*, 43 Fed. Cl. 390 (1999))

Many savings and loans had explicit supervisory assistance agreements with the government that allowed for the use of supervisory goodwill as regulatory capital. Citing the phasing out of supervisory goodwill under FIRREA as a breach of contract, several savings and loans brought suit against the United States in the Federal Court of Claims. The bellwether supervisory goodwill case was the Winstar case, originally filed in 1990. Over the next six years, the Winstar case moved through the federal court system to the Supreme Court. In a 7-2 decision issued on July 1, 1996, the Supreme Court ruled that the passage of FIRREA violated earlier contractual obligations entered into by the FHLBB and the FSLIC. The Supreme Court ruling served as the precedent for the subsequent wave of supervisory goodwill lawsuits, many of which still await court dates.

This paper explores the wealth effects of litigation announcements pertaining to California Federal Bank's supervisory goodwill litigation claims. California Federal issued two litigation interest securities whose value is determined by the final damage award in the supervisory goodwill litigation, which allows for the accurate calculation of the wealth effect of litigation-related news. Focusing on the litigation interests removes the influence of both firm-specific and industry-specific events unrelated to the litigation. By studying the litigation interests of only one firm, we can accurately measure the change in shareholder wealth caused by case-specific announcements. Applying the event-study analysis methodology to the litigation interests of a particular firm represents a substantial improvement over previous portfolio approaches to measuring the effects of supervisory goodwill litigation. Litigation events resulting in substantial revisions of the damage award generate significant abnormal returns, particularly for California Federal's secondary litigation interests, which represent residual claims on the damage award. For events such as the judge's damage awards in the Glendale and California Federal cases, the change in shareholder wealth is less than the changes predicted by theory. This anomaly may be explained by the substantial uncertainty surrounding the timing and final damage award in the case.

Economic Background

The savings and loan crisis resulted from acute and sustained spread compression between interest rates on assets and the thrifts' costs of funds.[1] Savings and loans held as their primary assets long-term, fixed-rate mortgages issued when inflation rates were low. Unanticipated increases in inflation triggered rising interest rates, which increased the cost of attracting deposits. When short-term deposit rates rose above interest rates on long-term mortgages, savings and loans incurred losses. The General Accounting Office estimated that more than 435 thrifts failed between 1981 and 1983.[2] (GAO (1987), p. 12)

In response to mounting losses at savings and loans, regulators eased restrictions on lending and deregulated interest rates paid to depositors under the Depository Institutions Deregulation and Monetary Control Act of 1980. At the same time, capital requirements were lowered. The FHLBB lowered the capital reserve requirement from five to four percent of assets in November 1980, followed by a subsequent drop to three percent in January 1982. The FHLBB further allowed savings and loans to calculate capital compliance using newly developed Regulatory Accounting Principles (RAP) in place of Generally Accepted Accounting Principles (GAAP). Regulatory Accounting Principles authorized the use of various accounting gimmicks that either treated potential liabilities as assets or double-counted assets in an effort to meet capital requirements.[3] By 1984, the difference in reported net worth in the savings in loan industry due solely to the adoption of RAP stood at close to $9 billion, which meant that the capital cushion of savings and loans was overstated by nearly $9 billion. (GAO (1989), p. 108)

The FSLIC did not act to close failing savings and loans because it lacked the resources necessary to close all thrifts that were insolvent under GAAP. In 1985, the total reserves of the FSLIC were approximately $4.55 billion, whereas the cost of resolving failed thrifts exceeded $15.8 billion. (GAO (1989), p. 108) To defer the costs of resolving failed thrifts, regulatory agencies such as FHLBB and FSLIC encouraged healthy thrifts to acquire insolvent ones. As an inducement, regulators agreed to allow the supervisory goodwill created in these mergers to be counted as capital for regulatory purposes.

To acquire failed institutions with negative net worth, healthy savings and loans clearly required consideration. Supervisory goodwill allowed thrifts to acquire long-lived regulatory capital. By acquiring supervisory goodwill, savings and loans could expand their asset base through loan creation that would not have been possible had real capital been used to satisfy regulatory requirements. Acquiring savings and loans recognized that supervisory mergers proposed by regulators made sense only if the acquiring institution received supervisory goodwill as capital. In many cases, the acquiring savings and loan would have had substantial negative net worth in the absence of supervisory goodwill. Another attractive feature of supervisory mergers was that savings and loans were permitted to acquire savings and loans in other states, a merger which would have violated interstate branch banking restrictions at the time.

By 1989, nearly a decade of regulatory forbearance had left the FSLIC with a shortfall of more than $85 million. In August 1989, Congress took action to re-regulate the savings and loan industry by passing FIRREA. For thrifts involved in the supervisory mergers of the 1980's, the most important FIRREA provision was the requirement to "maintain core capital in an amount not less than 3 percent of the savings association's total assets and defined core capital to exclude unidentified intangible assets such as goodwill." (Office of Thrift Supervision, p. 38) The bill did include a transition rule permitting thrifts to count "qualifying supervisory goodwill" toward half of the core capital requirement, but this allowance was phased out by 1995.[4]

Legal Background of the California Federal Case

In February 1982, California Federal acquired the following Georgia- and Florida-based insolvent thrifts through supervisory mergers: Peach State, United, Guaranty, and First Sylvania. These transactions were subsequently referred to as the Southeast merger. California Federal assumed $305 million in net liabilities from the Southeast merger, which it recorded as supervisory goodwill. The supervisory goodwill acquired in this transaction was to be amortized over a 35-year period.

In September 1982, California Federal acquired Brentwood Savings and Loan through another supervisory goodwill merger. Under the Brentwood merger, California Federal assumed $315 million in net liabilities, all of which it was allowed to record as supervisory goodwill to be amortized over 35 years. Prior to the consummation of the Brentwood merger, California Federal specifically requested approval from FHLBB to amortize supervisory goodwill resulting from the merger using the straight-line method over the useful life of 35 years.[5] In October 1982, California received approval from FHLBB to amortize the acquired supervisory goodwill over the 35-year period. (*California Federal Bank* v. *United States*, 39 Fed. Cl. 753 (1997))

At the time FIRREA was passed in 1989, California Federal had approximately $390 million in unamortized supervisory goodwill remaining. The Office of Thrift Supervision ordered California Federal to phase out supervisory goodwill in five steps between December 1989 and January 1995. Under the original agreement between FHLBB and California Federal, the goodwill would not have been eliminated until 2017. To maintain capital compliance, California Federal sold off assets and shrank in size. New capital was raised through a restructuring in 1992, a convertible stock offering in 1993, and rights offering in 1994. (*California Federal Bank* v. *United States*, 43 Fed Cl. 445 (1999), p. 16) These transactions raised more than $400 million in capital to replace the $390 million in supervisory goodwill. In 1992, California Federal filed a breach of contract suit against the government, claiming that the 1989 passage of FIRREA breached earlier agreements reached between the savings and loan and government regulators in the context of promoting supervisory mergers. California Federal sought damages under three separate theories of contract breach: restitution, reliance and expectations. Court records indicate that California Federal sought up to $1600 million in damages under restitution. California Federal argued that it was entitled to receive the money that the FSLIC saved from not having to liquidate failed thrifts as well as the investment income the FSLIC earned on the funds it retained. In addition, California Federal sought up to $725 million in damages under the reliance theory of contract breach, also known as "wounded bank damages." The removal of supervisory goodwill weakened the thrift and frustrated its lending. In particular, California Federal had to reduce its lending, faced higher deposit insurance premiums and was forced to pay higher interest rates to attract depositors. Finally, California Federal sought up to $1640 million in expectancy or lost profits damages. (Chamberlain and Destino, p. 1) In the damages phase of the supervisory goodwill litigation, the trial

judge could award damages based on any or all of the above theories of damages.

In a 1997 Court of Federal Claims decision, Judge Loren Smith found that a contract between regulators and California Federal regarding the treatment of supervisory goodwill as regulatory capital existed, and that the government's subsequent actions were inconsistent with this contract. (*California Federal Bank* v. *United States*, 39 Fed. Cl. 753 (1997), p. 4) After the federal government's appeal of this decision was denied, the case proceeded to the damages phase, with Judge Robert A. Hodges of the Federal Claims Court presiding. Hodges' first ruling, on November 12, 1998, excluded damages arguments based on lost profits because the consequences of allowing supervisory goodwill over 35 years were deemed speculative and vague. (*California Federal Bank* v. *United States*, 43 Fed Cl. 445 (1999), p. 4) By disallowing damages based on lost profits, California Federal's potential damage award fell by over $1.6 billion. On November 25, 1998, Judge Hodges issued a clarification of his November 12 decision, stating that he would hear lost profits arguments based on the costs associated with replacing supervisory goodwill.

After final arguments in the California Federal trial, Judge Loren Smith announced a $909.8 million damage award in the Glendale Federal case on April 9, 1999. Litigation interests in the Glendale Federal decision were spun off through the issuance of a litigation tracking warrant, whose payments were in-kind (in shares of Golden State Bancorp stock) based on the damage award, which was valued at between $1.2 billion and $1.9 billion. The two supervisory goodwill cases, however, differed along several dimensions. Glendale had more supervisory goodwill outstanding at the time FIRREA was passed, and had better documentation as to the terms of its supervisory goodwill contract, including regulators= estimates of the value of its supervisory mergers to the FSLIC. The Glendale decision signaled that "best-case scenario" damage awards were unlikely.

On April 16, 1999, Judge Robert Hodges issued a decision in the California Federal case. Stating that California Federal had failed to provide evidence that the government's breach of contract was the cause of wounded bank damages and essentially dismissing the restitution theory of damages, Hodges limited his damage award to the transactions costs associated with raising the $400 million of new capital to replace supervisory goodwill. The total damage award of $23.353 million fell considerably below even the most conservative estimates of $700 million. Reports in the popular press leading up to the decision frequently cited $1.6 billion as the expected award. Although California Federal immediately announced its decision to appeal the decision, the market value of litigation interests based on California Federal=s damage award plummeted in the wake of this announcement. Shares of the secondary litigation interest, which had traded as high as $30 per share in early 1998, were trading for seventy-five cents at the end of 1999.

Previous Studies of Supervisory Goodwill Litigation

There is an extensive literature investigating the wealth effects of regulatory changes in the thrift and banking industry, from the passage of the Depository Institutions Deregulation and Monetary Control Act in 1980 to the implementation of FIRREA in 1989. None of these studies, however, address the impact of FIRREA on firms who held supervisory goodwill.

Bierman *et al.* provide a detailed study of the effects of both FIRREA and the 1996 Winstar decision on thrifts with supervisory goodwill claims. To investigate the wealth effect of FIRREA, the authors define three groups of savings and loans: publicly-traded savings and loans that possessed supervisory goodwill and failed after the passage of FIRREA; publicly-traded savings and loans that possessed supervisory goodwill and survived after FIRREA's passage; and publicly-traded savings and loans that did not hold supervisory goodwill claims at the time FIRREA was passed. Calculating the mean abnormal return for each group over three legislative events signaling a tightening of capital standards prior to FIRREA's passage, the authors find no evidence of statistically significant negative abnormal returns for the supervisory goodwill thrifts. (Bierman *et al.*, p. 79) These findings support previous work such as Cornett and Tehranian (1994) suggesting that the increased capital requirements under FIRREA led to positive wealth effects for savings and loans.

The event-study analysis of supervisory goodwill litigation between the passage of FIRREA and the July 1996

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Winstar decision conducted in Bierman *et al.* is more closely related to the event-study analysis contained in this paper. The authors identify seven litigation events ranging from Glendale Federal's initial supervisory goodwill suit in July 1990 to the Supreme Court's Winstar decision in July 1996. Using a group of publicly-traded supervisory goodwill savings and loans and a control group of publicly-traded savings and loans without supervisory goodwill claims, the authors construct mean abnormal returns for each of these groups using a single-index market model. The event window used spans two-days, including the event date and the prior day. The authors find that both the January 19, 1996 decision by the Supreme Court to hear the Winstar case and the July 1, 1996 decision ruling in favor of the supervisory goodwill savings and loans generated mean abnormal returns of roughly +5 percent. In each case, these abnormal returns were statistically significant and differed from the zero abnormal return on the control group of non-supervisory goodwill firms. (Bierman *et al.*, p. 76)

While Bierman *et al.*'s study is informative, it does not address the issue of the effect of common-issue litigation announcements (which affect all firms involved in the supervisory goodwill litigation) versus case-specific litigation announcements. In addition, the Bierman *et al.* study cannot provide estimates of the extent to which the market efficiently values litigation news because it does not contain separate litigation interests and does not have information on the magnitude of damages sought.

This paper updates and extends the earlier analysis of Bierman *et al.* to explore the wealth effects of litigation decisions that affect the expected final damage award in the California Federal case. By including only litigation interests, the abnormal returns estimates calculated in this paper are not corrupted by non-litigation events that move the share price of savings and loans and bank holding companies.

Litigation Recovery Participation Interests

Because the subsequent empirical analysis exploits the issuance and subsequent stock market listing of two classes of litigation interests issued by California Federal, the relevant institutional detail surrounding these securities is provided below.

California Federal filed a registration statement with the Office of Thrift Supervision on March 14, 1995 to issue goodwill participation certificates to its existing shareholders at the rate of one certificate for every 10 shares of common stock. A total of 5.076 million certificates were issued to shareholders, and these certificates were transferable. Each certificate represented a claim equal to five millionths of one percent of the cash payment associated with the final damage award from California Federal=s supervisory goodwill litigation. In the aggregate, the claims were entitled to 25.38 percent of the final damage award, net of litigation management fees and accrued tax liabilities.[6]

Applying present discounted cash flow valuation to these certificates yields the following estimate of certificate value:

$$PV = 0.00000005 \bullet SO \; x \frac{\left[\; [\; 1 - 0.4 - 0.0025\;] \bullet A - y_{tot} \bullet SAL - LC\; \right]}{SO \bullet [\; 1 + r\;]^{y_r}}\;,$$

$$= 0.00000005 \bullet 5{,}076{,}000 \; x \frac{\left[\; 0.5975 \bullet A - 6 \bullet \$2{,}325{,}000 - \$60{,}000{,}000\; \right]}{5{,}076{,}000 \bullet [\; 1.25\;]^{2}}\;,where:$$

$$A = cash\; payment\; (\;final\; damages\; award\;)\;,$$

$$0.0025 \bullet A = incentive\; fee\; for\; litigation\; management\; team\;,$$

$$0.4 \bullet A = tax\; liability\;,$$

$$SAL = Annual\; salaries\; and\; pension\; benefits\; for\; litigation\; mngmt.team\;,$$

$$= \$2{,}325{,}000\;,$$

$$LC = total\; litigation\; costs, assumed = \$60{,}000{,}000\;,$$

$$y_{tot} = Length\, of\; litigation\; in\; years, assumed = 6\; years\;,$$

$$y_r = Years\; to\; receipt\; of\; damage\; award, assumed = 2\;,$$

$$r = discount\; rate, assumed = 0.25\;,$$

$$SO = certificates\; outstanding, = 5{,}076{,}000\;.$$

The figures for the litigation management team's incentive fee and annual salary and benefits package were collected from 10-K and 10-Q reports filed by Golden State Bancorp, First Nationwide and California Federal. Assumptions regarding tax liability, length of litigation, and total litigation costs are derived from company reports, court documents and research reports prepared by Jefferies & Company, a broker-dealer institution that makes a market in supervisory goodwill certificates. [7]

At the time the litigation certificates were issued, California Federal CEO Edwin Harshfield explained the novel issuance of this "tracking stock" as a mechanism by which the market could value the bank's claim against the government. (Peter Sinton, p. 1) Given the magnitude of California Federal's claim in the supervisory goodwill litigation, the failure to factor litigation claims into valuations seems implausible, but bank analysts indicate that litigation claims are not factored into valuation calculations because their outcomes are considered too uncertain. (Scott Stuart, p. 1)

On November 19, 1996, California Federal's litigation recovery participation interests were listed on NASDAQ under the ticker symbol CALGZ, where they have since traded. With daily price quotes for the CALGZ certificates, we observe the market's valuation of the claims against California Federal's supervisory goodwill litigation against the federal government. With a float of 5.076 million shares, however, the market for these certificates is rather thin, and average daily trading volumes on non-event days are low. (cf. **Table 2** below)

Several months later, First Nationwide Holdings announced its planned acquisition of California Federal. As part of the merger agreement approved by California Federal shareholders on December 16, 1996, California Federal issued a second supervisory goodwill certificate to shareholders, referred to as a secondary contingent litigation recovery

participation interest. Each of these certificates entitled the holder to twenty millionths of one percent of the secondary recovery payment, an amount equal to the sixty percent of the cash payment less litigation fees and tax liabilities (similar to the original certificates) less the amount of the award to the original certificate holders (CALGZ) less a fixed amount of $125,000,000. These secondary litigation interests represented a residual claim against the final damage award in the California Federal case, with the potential of exceeding the payout to the primary litigation interests for sufficiently large awards

Applying similar valuation techniques to those described above yields the following estimate of the value of a secondary litigation interest:

$$PV = 0.0000002 \bullet SO \bullet 0.6x \frac{\left[\, [\, 1 - 0.4 - 0.0025\,] \bullet A - y_{tot} \bullet SAL - LC - CGZ - \$125,000,000 \, \right]}{SO \bullet [\, 1 + r\,]^{y_r}} \,,$$

$$= 0.6096 \; x \frac{\left[\, 0.5975 \bullet A - 6 \bullet \$2,325,000 - \$60,000,000 - CGZ - \$125,000,000 \, \right]}{5,080,000 \bullet [\, 1.25\,]^2} \,, where:$$

$$A = cash\ payment\ (\ final\ damages\ award\ )\ ,$$

$$0.0025 \bullet A = incentive\ fee\ for\ litigation\ management\ team\ ,$$

$$0.4 \bullet A = tax\ liability\ ,$$

$$SAL = Annual\ salaries\ and\ pension\ benefits\ for\ litigation\ mngmt.team\ ,$$

$$= \$2,325,000\ ,$$

$$LC = total\ litigation\ costs, assumed = \$60,000,000\ ,$$

$$CGZ = payment\ to\ primary\ litigation\ interest\ certificate\text{-}holders\ ,$$

$$y_{tot} = Length\ of\ litigation\ in\ years, assumed = 6\ years\ ,$$

$$y_r = Years\ to\ receipt\ of\ damage\ award, assumed = 2\ ,$$

$$r = discount\ rate, assumed = 0.25\ ,$$

$$SO = certificates\ outstanding, = 5,080,000\ .$$

Under these assumptions, the final damage award in the California Federal case would have to exceed $405 million before holders of the secondary litigation interests received any payment. The design of the secondary litigation interests, however, returns a higher proportion of each additional dollar of damage award to shareholders. For damage awards above $758 million, the payout per certificate is greater for secondary litigation interests than the original certificates

Similar to the CALGZ certificates, the secondary litigation interests were listed on NASDAQ on January 13, 1997 under the ticker symbol CALGL. Since there is little difference in the size of the float for each security, the CALGL securities are characterized by the same small average daily trading volumes on non-event dates. **Figure 1** below graphs the per-share valuation of both the CALGZ and CALGL securities for a wide range of final damage awards.

Figure 1 Valuation of California Federal Litigation Interests
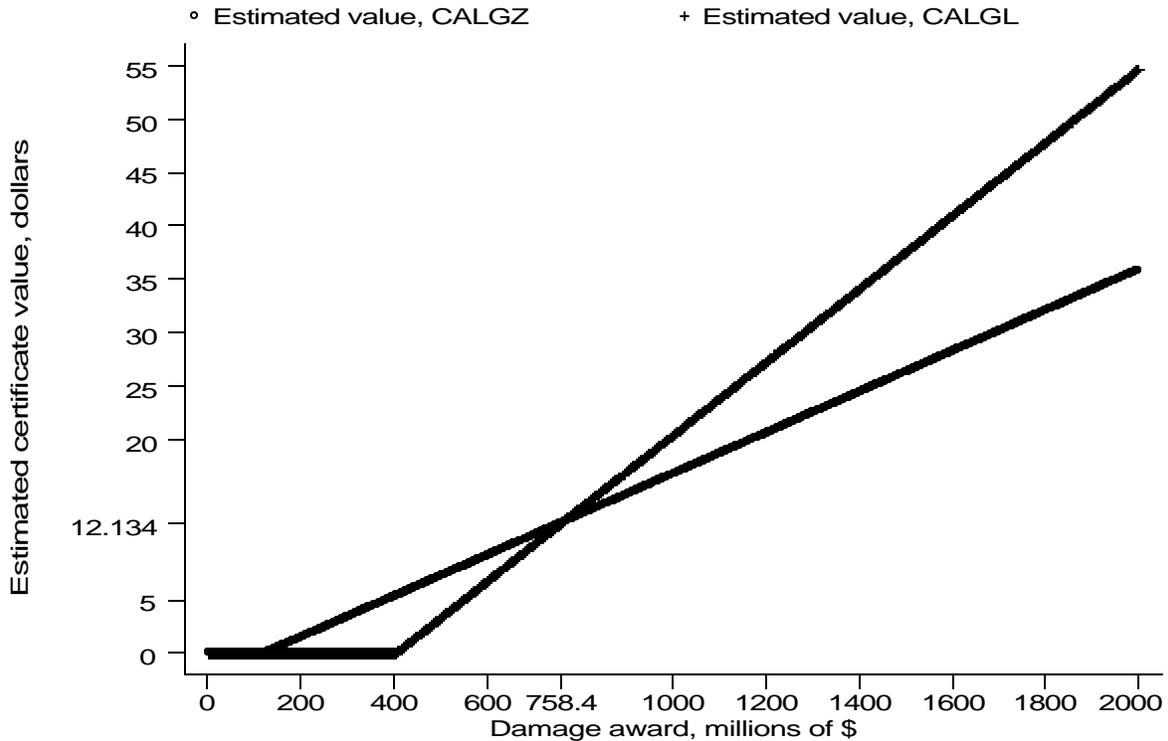
As **Figure 1** indicates, the secondary litigation interests (CALGL) are more sensitive to variation in the damages awarded. For an award of approximately $758 million, the per-share valuation of each litigation interest is roughly $12.13. Although the secondary litigation interests (CALGL) do not generate positive payouts for awards under $400 million, the CALGL certificates offer considerable option value, generating substantial payouts for large damage awards.

Data and Empirical Methodology

Daily price and volume information from January 13, 1997 to May 21, 1999 were collected from the Center for Research in Securities Prices (CRSP) and Commodity Systems, International. The data is divided into two intervals: the estimation window, which spans 217 trading days from January 14, 1997 to November 18, 1997, and a subsequent eighteen-month window which spans 376 trading days from November 19, 1997 to May 20, 1999. The latter window contains eight event-days on which the market received information concerning California Federal's supervisory goodwill litigation against the federal government. **Table 1** below describes each of these events, as well as the predicted effect on the value of each litigation interest. Given the weak monotonicity of the value of each litigation interest in the magnitude of the damage award, we expect events to impact each security with the same sign.

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TABLE 1
Litigation Events in *California Federal* Case

Event Number	Event Date	Event Description	Predicted Effect on Share-Prices
1	December 22, 1997 [Day 22 in figures]	U.S. Federal Claims Court Judge Loren Smith issues decision on cross-cutting issues in supervisory goodwill case. Finds government liable for damages in supervisory goodwill case of California Federal.	Positive: Litigation can advance to damages phase, although government can appeal ruling.
2	July 16, 1998 [Day 164 in figures]	Appeals Court issues summary judgment on liability for California Federal's damages claim. Case is scheduled for trial.	Positive: Formal order issued to advance litigation to damages phase. No further appeal possible.
3	October 9, 1998 [Day 223 in figures]	California Federal's damages theories and size of claims are released by the Federal Court of Claims.	Positive: Damages sought by CalFed are higher than expected; analysts upgrade ratings on CalFed securities from "accumulate" to "Buy."
4	October 30, 1998 [Day 238 in figures]	Appropriation in 1999 federal budget provides federal funds to settle supervisory goodwill claims or pay court-ordered damages is approved by Congress. As a result, damage awards will not be drawn from the deposit insurance fund.	Positive: Damage awards will not be capped by the amount of deposit insurance funds.
5	November 12, 1998 [Day 247 in figures]	Announcement that Judge Hodges rejected California Federal's expectancy theory of damages as particularly speculative.	Negative: CalFed sought as much as $1.64 billion in expectancy damages.
6	November 25, 1998 [Day 256 in figures]	Judge Hodges amends his Nov. 12 ruling; allows California Federal to introduce replacement costs of funds as a form of expectancy damages.	Positive: CalFed can recover capital replacement costs, which partly reverses 11-12 ruling.
7	April 12, 1999 [Day 348 in figures]	First day of trading after U.S. Federal Claims Court Judge Loren A. Smith orders government to pay Glendale Federal $908.9 billion in damages in its supervisory goodwill claim	Negative: Cases differ in particulars, but analysts forecasted a $1.2 billion damage award for Glendale.
8	April 19, 1999 [Day 353 in figures]	First day of trading after Judge Hodges awards California Federal $23 million in its supervisory goodwill litigation against	Negative: Analysts forecasted a minimum award of $700 million.

the government.

Figure 2 below plots the raw daily closing price for both the primary litigation interests (CALGZ) and the secondary litigation interests (CALGL) across the event window. Not surprisingly, we find that fluctuations in the residual claim on the damage award C the CALGL litigation interests C are much more pronounced than fluctuations in the market valuation of the primary litigation interests.

Figure 2 Daily Closing Prices, California Federal Litigation Interests
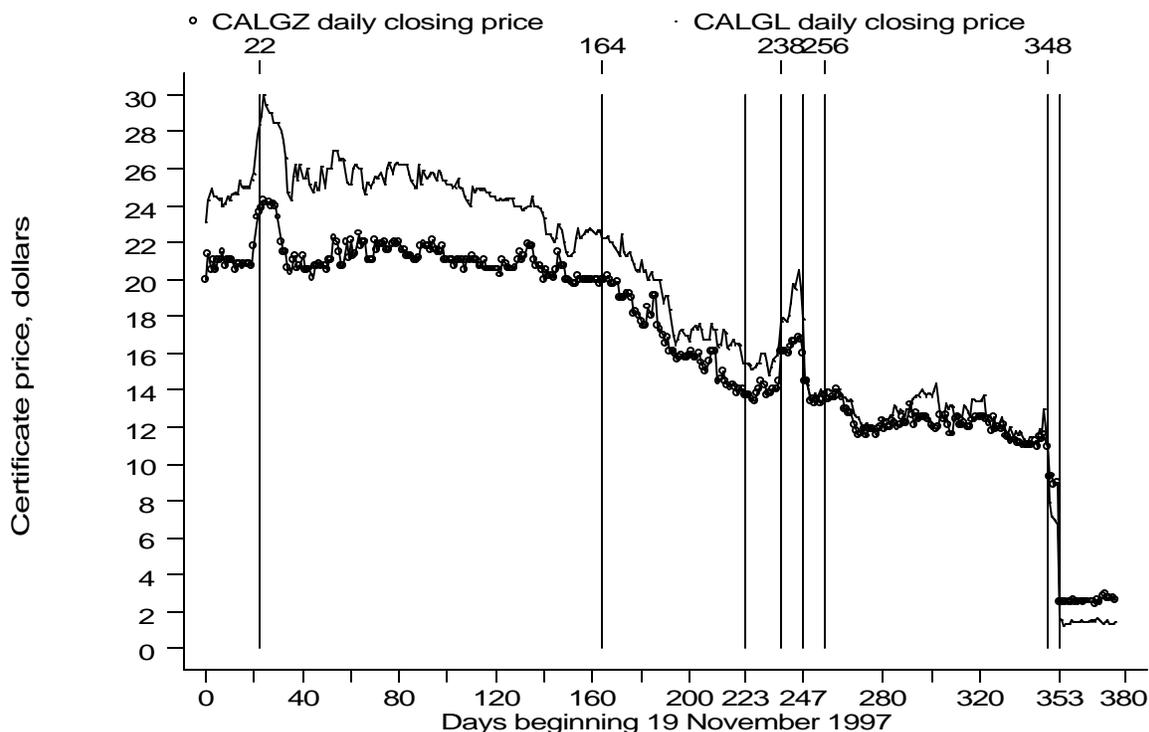
The daily closing price for the secondary litigation interests (CALGL) lies above the price plot for the primary litigation interests (CALGZ) at the beginning of the event window, but falls significantly below the CALGZ series in April 1999. The vertical lines in the figure represent the eight litigation events. Notice the substantial price decreases for each of the litigation certificates on the dates of negative events: Day 247 (November 12, 1998), when Judge Hodges dismissed California Federal's expectancy, thereby reducing the expected damage award; Day 348 (April 12, 1999), the first day of trading after the Glendale decision; and Day 353 (April 19, 1999), the first day of trading after the decision in the California Federal case.

Table 2 below presents summary statistics on daily return and trading volume for the California Federal Litigation interests. Comparing the twenty-four event days C the eight event days and the days before and after each event C to the non-event days in the estimation window, there is no significant difference in daily return, but trading volume is approximately ten times as great on events days. The CALGL interests exhibit larger daily returns and heavier trading volume on event dates, consistent with the payout structure for these secondary litigation interests. Although difficult to see in **Figure 2**, the litigation interests track each other more closely during the event dates. The simple correlation of daily returns for CALGZ and CALGL is +0.9669 on the twenty-four event days versus +0.1886 on non-event days. Daily return and trading volume for Golden State Bancorp, the bank holding company of which California Federal is a subsidiary, is included as a control.

TABLE 2
Average Daily Return and Trading Volume in Event Window:
California Federal Contingent Litigation Recovery Interest and Golden State Bancorp
(N = 358 trading days)

Security	Trading Days in Eight Three-Day Event Windows (N =24)		Trading Days Outside Eight Event Windows (N = 334)	
	Average Daily Return (std. dev.)	Average Daily Trading Volume (std. dev.)	Average Daily Return (std. dev.)	Average Daily Trading Volume (std. dev.)
Primary Litigation Recovery Interests (CALGZ)	-0.0331 (0.1553)	112,063 (257,732)	-0.0022 (0.0241)	18,278 (40,044)
Secondary Litigation Recovery Interests (CALGL)	-0.0544 (0.1724)	210,063 (458,700)	-0.0020 (0.0243)	17,401 (45,254)
Golden State Bancorp (GSB)	0.0114 (0.0475)	600,358 (494,092)	-0.0016 (0.0341)	545,263 (412,168)

To measure the abnormal returns associated with the litigation events, a single-index model of daily returns for each of the California Federal litigation interests is estimated as follows:

$$r_t = \alpha + \beta \bullet r_{m,t} + \varepsilon_t \ , where$$
$$t \ indexes \ trading \ days \ in \ the \ estimation \ window \ ,$$
$$r_{i,t} = daily \ return \ on \ litigation \ interest \ i \ ,$$
$$r_{m,t} = daily \ return \ on \ S \ \& \ P \ 500 \ index \ ,$$
$$\varepsilon_t \ is \ a \ random \ error \ term \ .$$

Parameter estimates of á and â recovered from the above specification (estimated over the estimation window) are used to construct measures of the daily abnormal return, AR_t, for both the CALGZ and CALGL litigation interests over the event window:

$$\hat{A}R_t = r_{i,t} - \hat{\alpha} - \hat{\beta} \bullet r_{m,t} \ .$$

Constructing abnormal returns for the event window from parameter estimates derived from a pre-event window estimation period removes the concern that the estimated parameters might exhibit instability if estimated across events. The variance of the estimated abnormal return is:

$$Var(\hat{A}R_t) = \sigma_\varepsilon^2 \ x \left[1 + \frac{1}{U} + \frac{[\ r_{m,t} - \bar{r}_m\ ]^2}{U \bullet Var(\ r_m\ )} \right], where$$

$$U = length\ of\ the\ estimation\ period\ ,$$

$$\bar{r}_m = mean\ return\ on\ S\ \&\ P\ 500\ index\ .$$

If the length of the estimation period U is sufficiently large and market returns do not deviate significantly from the mean, then the contribution of estimation error to the variance of abnormal returns is small.[8] (MacKinlay, p. 21, Salinger, p. 40) Nonetheless, parameter estimation error introduces serial correlation in the estimated abnormal returns.

To calculate the cumulative abnormal return *CAR* for an interval of length *T* that includes the event-day, we simply sum the estimated *AR*s over the event window. For example, if we define a three-day event window that includes the day prior to an event, the day of the event, and the day after the event, then the cumulative abnormal return is simply the sum of the three daily abnormal returns. Suppose we define the first day of an event window of length *T* as day 0. Assuming continuous compounding, Salinger (pp. 40-41) demonstrates that the estimated cumulative abnormal return over these *T* periods is:

$$\hat{C}AR_T = r_0^T - T \bullet \hat{\alpha} - \hat{\beta} \bullet r_{m,0}^T\ .$$

The variance of this *T*-period cumulative abnormal return is given by:

$$Var(\ \hat{C}AR_T\ ) = T \bullet \sigma_\varepsilon^2\ x \left[1 + \frac{T}{U} + \frac{T \bullet \left[\frac{r_{m,0}^T}{T} - \bar{r}_m \right]^2}{U \bullet Var(\ r_m\ )} \right].$$

The above expression for the variance of the estimated cumulative abnormal return highlights the fact that the contribution of parameter estimation error is increasing as the length of the window surrounding the events *T* increases relative to the length of the estimation period U.[9]

For each of the eight events, event-date abnormal returns and three-day cumulative abnormal returns B where the event window includes the day prior to the event, the event date, and the day after the event B are estimated for both the CALGZ and CALGL litigation interests. Statistical significance is determined by:

$$Event\text{-}date\ abnormal\ return: \frac{\hat{A}R_t}{\sqrt{Var(\ \hat{A}R_t\ )}}\ ,$$

$$Three\text{-}day\ event\ window: \frac{\hat{C}AR_T}{\sqrt{Var(\ \hat{C}AR_T\ )}}\ , where\ T = 3\ .$$

Expanding the event-window to include the day after the event controls for uncertainty as to the timing of the

litigation announcements on the event day, particularly for the December 22, 1997 and July 16, 1998 events, where it was not possible to determine whether the announcement occurred after the close of trading on the event day. Expanding the event-window backward to include the day prior to the litigation event allows the abnormal return to pick-up discrete movements in price on dates the litigation outcomes were (expected to be) announced after the market had closed. These pre-announcement price movements are most noticeable for the April 12, 1999 and April 19, 1999 decisions in the Glendale and California Federal supervisory goodwill cases.

By construction, the value of the secondary litigation interests (CALGL) is highly responsive to events that reveal a significant upward or downward revision in the expected damage. As a result, we expect the secondary litigation interests to be characterized by much larger abnormal returns on these event-days.

Table 3 below reports the estimated event-day abnormal returns and three-day cumulative abnormal returns for the aforementioned events. Of particular interest are Events 4, 5, 7 and 8. Each of these events is characterized by the release of material information B either unexpected or forecasted with considerable uncertainty B that leads to a significant revision or updating of the expected return.

TABLE 3
Abnormal Return Estimates for Event-Day and Three-Day Event Window:
California Federal Contingent Primary and Secondary Litigation Recovery Interests

Event Number, Date and Description	Primary Litigation Recovery Interests (CALGZ)		Secondary Litigation Recovery Interests (CALGL)	
	Event Day	3-Day Event Window	Event Day	3-Day Event Window
1. December 22, 1997 [Date 22] *Crosscutting issues decision*: Summary judgment for CalFed, government liable for damages in supervisory goodwill case	+0.0125	+0.1072	+0.0137	+0.1123*
2. July 16, 1998 [Date 164] *Summary judgment review*: Earlier decision regarding government liability for damages in CalFed case is upheld.	+0.0152	+0.0077	-0.0199	-0.0268
3. October 9, 1998 [Date 223] *Announcement of damages sought:* CalFed releases theories of damages under contract breach & damages sought	-0.0236	-0.0206	-0.0159	-0.0803**
4. October 30, 1998 [Date 238] *Congressional appropriation*: Congress authorizes payment of damage awards in supervisory goodwill cases; damages not drawn from bank insurance fund	+0.1105**	+0.1415	+0.0713***	+0.1077***
5. November 12, 1998 [Date 247] *Expectancy damages ruling*: CalFed's expectancy theory of damages rejected as Aoverly speculative@	-0.0421	-0.1399	-0.0843***	-0.3289***
6. November 25, 1998 [Date 256] *Partial reversal of 11-12 ruling*: CalFed allowed to present reliance damges.	+0.0194	+0.0236	+0.0021	-0.0058
7. April 12, 1999 [Date 348] *Glendale decision*: Damages award of $908.9 million in bellwether Glendale Federal case, less than expected	-0.0649	-0.1822*	-0.1669***	-0.3213***
8. April 19, 1999 [Date 353] *California Federal decision:* Damages award of $23.353 million; more than $500 million less than expected	-0.7140***	-0.6992***	-0.7533***	-0.8229***

* = Significant at 10 percent level; ** = Significant at 5 percent level; *** = Significant at 1 percent level
For 3-day event window, return is cumulative abnormal return for day prior to event, event day, day after event

Event 4, on October 30, 1998, concerns the announcement of a Congressional appropriation to fund damage awards associated with the supervisory goodwill litigation. Prior to this appropriation, the federal government intended to pay damage awards incurred from the supervisory goodwill litigation out of the Savings Association Insurance Fund. With more than $30 billion of supervisory goodwill claims pending against the government, the Savings Association Insurance Fund would not have been able to finance complete payment of the government's liabilities, and thrifts feared that any shortfall would be financed through increases in deposit insurance premiums.[10]

Judge Hodges' November 12 ruling excluded California Federal from presenting lost profits arguments, deeming such arguments vague and speculative.[11] Other Claims Court judges had previously allowed damages arguments based on lost profits, so the ruling was unanticipated. Nearly half of the damages sought by California Federal were based on lost profits, so the exclusion of these arguments substantially decreased the value of the secondary litigation interests. Over the three-day event window, the cumulative abnormal return figure reported in **Table 3** for the CALGL securities represents a decline in wealth of approximately $34.251 million.[12]

The April 12, 1999 event was Judge Loren Smith's decision in the Glendale case, in which he ordered the federal government to pay Glendale $908.948 million. The overlap between the Glendale and California Federal cases is unclear: the particulars of the Glendale case differed from those of the California Federal case, and each case was heard be a different judge. Judge Smith, who was presiding over the Glendale case, had established a reputation for siding with the plaintiffs. Nonetheless, the damage award in the Glendale case suggested that a substantial damage award for California Federal was unlikely. Both the event-day and three-day abnormal returns for CALGL reported in **Table 3** indicate that the Glendale decision precipitated a substantial downward revision in the expected damage award in the California Federal case. From April 8, 1999 to April 15, 1999, the closing price of the CALGZ litigation interests fell from $11.31 per share to $8.88 per share, while the CALGL secondary litigation interests fell from $11.63 per share to $7.00 per share.[13]

The final event is the announcement of Judge Hodges' decision in the California Federal decision after the markets had closed on Friday, April 16, 1999. Hence, the first day of trading after the announcement was Monday, April 19, 1999. In opposition to the expected award amount of $1.64 billion commonly reported in the press and even the more conservative award forecast of $700 million by analysts, Judge Hodges awarded only $23.353 million for the transactions costs California Federal incurred in replacing $390 million of unamortized supervisory goodwill with new capital. (*California Federal Bank* v. *United States*, 43 Fed Cl. 445, pp. 15-17.) The event-day abnormal returns for both the primary and secondary litigation interests were large, negative and statistically significant. The event-day loss in stock market wealth implied by these abnormal return estimates is $32.166 million for the primary litigation interests (CALGZ) and $26.787 million for the secondary litigation interests (CALGL).[14] The cumulative abnormal return estimates from the three-day event window suggest an even larger negative wealth effect. On April 20, 1999, the CALGZ certificates closed at $2.50 per share, while the secondary CALGL certificates closed at $1.59 per share. **Figure 3** below plots the cumulative abnormal returns for each of the California Federal litigation interests over the event window. This graph provides further evidence of the greater sensitivity of the CALGL certificates to events that signal a decrease in the expected payout, particularly for the Glendale and California Federal decisions in April 1999.

Figure 3 Cumulative Abnormal Returns, California Federal Litigation Interests
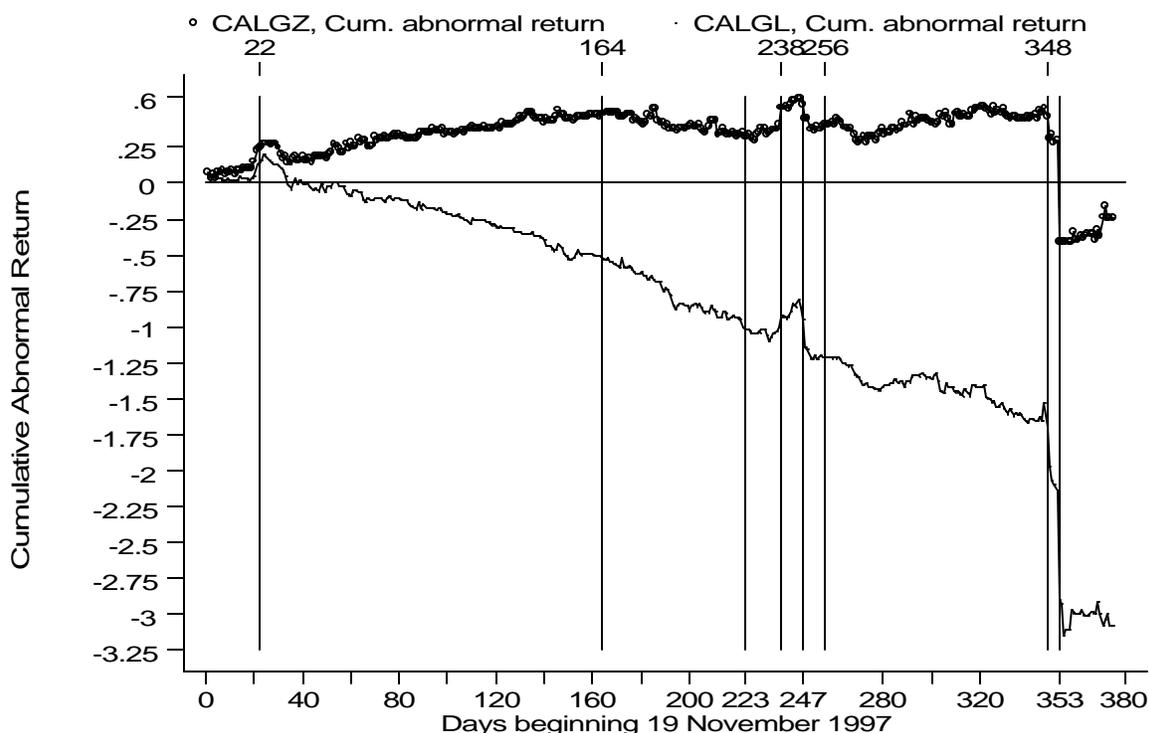
Since a conservative estimate of the value of the secondary CALGL certificates indicates that these shares are worthless for awards less than $400 million, it is puzzling why the value of CALGL certificates did not fall to zero in the wake of the damage award. Judge Hodges' award decision differed significantly from previous decisions by Judge Smith in the Glendale Federal Case and Judge Miller in the earlier Statesman Holdings case, both of which involved supervisory goodwill claims. This departure from other Federal Claims Court judges' decisions in similar cases suggests that California Federal might receive a larger award upon appeal. It seems implausible, however, to expect that an appeals award would be sufficiently large to render the CALGL certificates valuable. An alternative explanation is that the thinness of the market B exemplified by the low daily trading volumes B makes it difficult for investors to extract information from daily price and volume quotes. Institutional investors constitute 71 percent of California Federal litigation interest owners, so this explanation does not seem particularly satisfying. (Chamberlain and Destino, p. 1) Another possible explanation lies in the observation that investors gradually incorporate information into their valuations. Recent papers by Boardman *et al.* (1997) on the impact of regulatory changes on firm valuations and Ellison and Mullin (1997) on the impact of announcement of health care policy reforms on pharmaceutical companies suggest that explicitly modeling the gradual incorporation of information can yield superior estimates of cumulative abnormal returns. Given the rapidity with which the market valuation of the litigation interests adjusted to litigation events, this explanation also fails to receive empirical support.[15] The most plausible explanation for the seeming under-reaction of the secondary litigation interests is the scope of uncertainty surrounding both the timing and magnitude of the award. After the California Federal decision on April 19, 1999, both the federal government and California Federal filed appeal motions. If the award were to be reviewed by an appellate court, the case could be remanded to Judge Hodges or another judge. Court records and comments by the parties involved in the litigation suggest that a final decision in the case might not be rendered before 2001. Compounding these dimensions of uncertainty makes it difficult to conclude that changes in the valuation of the secondary litigation interests violates a semi-strong form of market efficiency.

In contrast, the primary litigation interests exhibit seeming overreaction to the April 19, 1999 decision. Using the valuation model for the primary litigation interests outlined above and assuming a final award of $350 million, the predicted valuation of a CALGZ certificate is $4.35 rather than the $2.50 closing price for the certificate observed on April 20, 1999. Uncertainties as to the final amount of the award and the timing of the award payment can explain some of the discounting of the award amount, but the potential overreaction of the primary interests to the award in the California Federal case, coupled with the seeming under-reaction of the secondary interests to the April 19, 1999 damage award is difficult to reconcile. If investors find the option value of the CALGL litigation interests for large damage awards attractive, this could explain the observed price differentials between the litigation interests.

The results reported in **Table 3** above are robust across a variety of alternative specifications. The contemporaneous correlation of the abnormal returns is a potential problem, but addressing this problem using of a portfolio approach would prohibit the estimation of the differential response of the primary and secondary litigation interests to events. A superior approach is to estimate the single-index market model using feasible Generalized Least Squares (GLS), which controls for both the contemporaneous correlation of abnormal returns and the intertemporal correlation introduced by estimation error. (Michael Salinger, pp. 43-44) Abnormal returns calculated using GLS did not differ substantially from the OLS estimates reported above. These results are not surprising, as several previous papers on event-study methodology have found that "methodologies based on the OLS market model and using standard parametric tests are well-specified under a variety of conditions." (Steven J. Brown and Jerold B. Warner (1985), p. 25, MacKinlay, pp. 36-38)

Since the California Federal litigation interests are thinly traded, one remaining problem which future empirical work should address is the bias introduced by non-synchronous trading. Non-synchronous trading leads to estimates of â from the market model that are biased and inconsistent. For securities traded at low frequencies, there is a downward bias in estimates of â from the market model. (Steven J. Brown and Jerold B. Warner (1985), p. 25) A correction procedure outlined by Scholes and Williams can be implemented to correct for the bias introduced by asynchronous trading.

Conclusion

This paper estimates changes in stockholder wealth in response to events related to California Federal's supervisory goodwill litigation against the federal government. Existing studies of the effects of litigation on stockholder wealth B including previous studies of the wealth effects arising from earlier supervisory goodwill litigation B are frequently confounded by the inability to separately identify the component of daily abnormal returns generated solely by the litigation-related events, even when control portfolios are used.[16] Analysts claim that litigation outcomes are too uncertain to be incorporated into firm-valuation models, yet changes in analysts' recommendations often occur contemporaneously with litigation-related events. Litigation events affecting publicly-traded firms can generate significant abnormal returns, but deriving accurate estimates of these wealth effects is notoriously difficult.

Using a unique set of publicly-traded litigation interests whose value is determined solely by the magnitude of damages awarded, this paper presents an event-study analysis of the impact of litigation announcements on shareholder wealth. The estimated effects of the litigation are free of biases introduced by contemporaneous news unrelated to the litigation outcomes.[17] Moreover, the structure of the California Federal litigation interests provides an opportunity to investigate the effect of litigation announcements on securities with differential sensitivities to case-specific litigation news. Events that lead to substantial revisions of the expected litigation award lead to significant abnormal returns for the secondary litigation interests, and these awards are quickly incorporated into the market's valuation of these securities. While uncertainties regarding the amount and timing of the final damage award in the California Federal case make it difficult to dismiss deviations of the price of litigation interests from fundamental values as evidence against market efficiency, the study suggests that the secondary litigation interests might be better viewed as options. Further study of the abnormal returns of tracking stocks related to supervisory goodwill claims is warranted, particularly interests with larger trading volumes.

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Endnotes

1. Cooper (1990) and Pressman (1989) provide accessible overviews of the savings and loan crisis. More detailed accounts can be found in Kaufman (1990) and White (1991).

2. Hence, excessive risk-taking by thrifts and the ensuing credit risk it entailed did not play a role in the origins of the savings and loan crisis.

3. Under RAP, thrifts were permitted to defer losses from the sale of assets with below-market yields, use income capital certificates in place of real capital, and exclude from liabilities in net worth calculations contra-asset accounts such as loans-in-process and deferred fees and credits. RAP also permitted the inclusion of net worth certificates as net worth.

4. The exact criteria for determining "qualifying supervisory goodwill" was not clearly defined. Bierman *et al.* note that qualifying supervisory goodwill exceeds the total amount of supervisory goodwill in the industry, but are also unable to determine the magnitude of the difference. (Bierman *et al.*, p. 71)

5. On February 3, 1983, California Federal announced that it had acquired Family Savings and Loan Association, a Nevada-based thrift with $96 million in assets. The Federal Home Loan Bank Board reported that the transaction was an unassisted supervisory merger, meaning that the takeover was not aided by the Federal Savings and Loan Insurance Corporation.

6. The exact magnitude of the tax liability was uncertain, but the registration statement indicated that any income tax liability of California Federal incurred by California Federal as a result of receiving a final damage award C net of any income tax benefit from distributing the payment C would be deducted from the amount distributed to certificate holders. Analysts covering the California Federal securities estimated the tax liability as 40 percent of the cash payment.

7. The estimates of litigation costs in this paper exceed those found in the research reports from Jefferies, but are closely-aligned with reported litigation costs in the Glendale Federal supervisory goodwill litigation case. Moreover, the use of a 25 percent discount rate to capture the considerable uncertainty regarding the ultimate damage award exceeds discount rates of 15-20 percent used by Jefferies. Several research reports released by Jefferies clearly state that the valuation methods used are "admittedly aggressive," and also fail to account for known litigation management costs outlined in annual reports. (Charlotte A. Chamberlain and Donald D. Destino, p. 1)

8. For estimation windows of 200 trading days or larger, the contribution of sampling error approaches zero. (Brown and Warner, pp. 7-8)

9. See MacKinlay (p. 21) for a more conventional derivation of this variance measure.

10. The October 30, 1998 appropriation was not entirely positive news, as it also authorized unlimited spending by the federal government to finance its defense in the suits.

11. Judge Hodges conceded that the federal government knew that breaching the agreement to allow supervisory goodwill as regulatory capital would cause the plaintiff (California Federal) to adjust its capital ratio, but argued the government could not foresee the effect of this adjustment on the firm′s profits, particularly given the considerable volatility in the industry at the time. (*California Federal Bank* v. *United States*, 43 Fed Cl. 445 (1999))

12. This change in stock market wealth (or, equivalently, stock market capitalization) is calculated by taking the abnormal return of -0.3289 and multiplying by the market capitalization of the CALGZ securities on November 10, $104.140 million, or $20.50 price per certificate multiplied by 5.080 million shares.

13. Jefferies & Co., a market-maker in supervisory goodwill litigation interests, lowered its average expected award amount from $1640 million to $700 million in the wake of the Glendale decision.

14. Since the Glendale decision had triggered a much larger drop in the valuation of the secondary litigation interests, the wealth effect of the California Federal decision is smaller for the secondary litigation interests because the market capitalization of the secondary litigation interests (CALGL) was approximately $9.5 million less than the market capitalization of the CALGZ certificates.

15. One example of gradual incorporation of information, or more generally, imperfect information, is secondary information, such as a newspaper article on a court ruling several days after its occurrence. The California Federal case provides several examples of the release of secondary information, including secondary citations of both the December 22, 1997 and July 16, 1998 rulings regarding government liability for damages. A *New York Times* article dated November 22, 1998 provided a detailed description of the California Federal litigation interests, along with the Glendale Federal litigation tracking warrants and the Coast Federal litigation participation certificates. (Labaton, p. 1) None of these secondary information releases generated significant abnormal returns, although the *New York Times* article coincided with the three-day event window surrounding Judge Hodges' November 25, 1998 reversal of his earlier decision regarding expectancy theories of damages.

16. The effectiveness of control portfolios can be limited by the inability of the control portfolio to replicate the characteristics of firms in the test portfolio. In the supervisory goodwill litigation, most of the publicly-traded firms holding claims in the litigation are the largest publicly-traded thrifts (in terms of market capitalization) and tend to be disproportionately located on the west coast.

17. For example, event studies of an earlier supervisory goodwill case, the 1996 Supreme Court decision in the Winstar case, are convoluted by a wave of merger activity in the estimation period leading up to the July 1, 1996 decision, and by the decision in the related Wells Fargo case shortly thereafter.