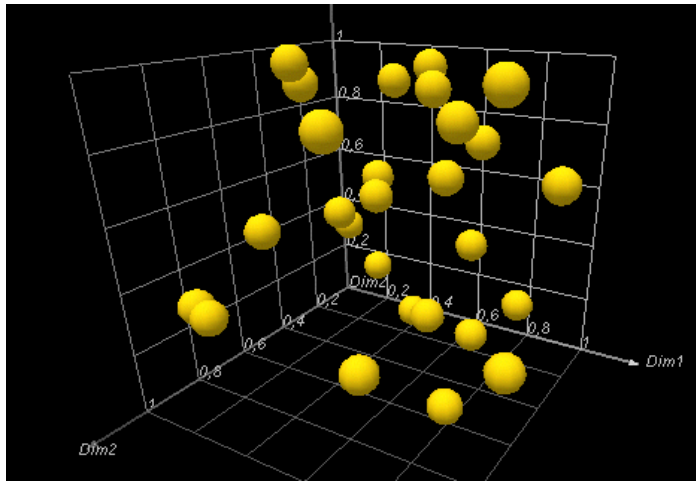


# Rate Analytics



Market Area and  
Prevailing APY Analysis.

Subject  
IndyMac

Prepared for  
**Western Independent  
Bankers**

Prepared by  
Dr. Dan Geller

September 2008



# ***Rate Analytics***

**Prepared for**

Nancy E. Sheppard  
President & CEO  
Western Independent Bankers

**Period analyzed:**

2/1/2008 to 9/12/2008

**Products analyzed:**

CD, 12 months up to \$10K (Exclusive)  
MM, up to \$10K (Exclusive)

**market analyzed:**

Southern California

**Prepared by**

**Dr. Dan Geller**

Executive Vice President



September 2008

**Contact Information**

415-448-8813 (phone) | 415-259-0704 (fax)

Dan.Geller@MarketRatesInsight.com

<http://www.marketratesinsight.com/new/>

## Introduction

The purpose of this analysis is to first establish the Normal Market Area, and second to compute the Prevailing Rate (Average APY of the Normal Market Area) at the dates in question.

The determination of what constitutes Normal Market Area was done in accordance to the definition of the FDIC's Rules and Regulations and Advisory Opinion as outlined below: \*

### 12 C.F.R. 337.6(b)(2)(ii).

FDIC regulations provide that a "market area" is

“Any readily defined geographical area in which the rates offered by any one insured depository institution soliciting deposits in that area **may affect** the rates offered by other insured depository institutions operating in the same area.”

### 12 C.F.R. 337.6(b)(4).

Further clarification was provided in the preamble to the final rule wherein it was stated:

“Under the final rule, the market area will be determined pragmatically, on a case-by-case basis, based on the **evident or likely impact of a depository institution's** solicitation of deposits in a particular area, taking into account the means and media used and volume and sources of deposits resulting from such solicitation.

Based on the above definitions, this analysis utilized statistical models (Regression analysis) to measure the “May effect” and “evident or likely impact of a depository institution's” conditions to establish a scientifically-valid Market Area (set of competitors) for IndyMac. The correlation analysis was conducted on 15 institutions (Exhibit A), which constitute a wide sample of national banks (53%), and independent banks (47%).

The regression analysis was conducted on weekly rates starting 2/1/2008, and ending 7/11/2008, which was the date IndyMac was taken over by the FDIC. The variance to the prevailing rate analysis was conducted from 7/11/2008 to 9/12/2008.

## Scope

The scope of this Rate Analytics report is limited to CDs, 12 months up to \$10K (exclusive), and MM up to \$10K (exclusive) in the Southern California market. The products analyzed contain the following parameters:

- The highest APY of base, promotional or relationship products.
- Southern California pricing region.
- Dates of 2/1/2008 to 9/12/2008.
- 15 national and independent banks.
- July 11, 2008—date IndyMac in control by the FDIC

\*FDIC--93--19 , March 11, 1993, Valerie J. Best, Counsel

## Executive Summary

### Findings

1. The relevant market area of IndyMac in the Southern California pricing region consists of four institutions for CDs, and three institutions for MM.
2. The rate variances of these institutions **explain 98.8% of the variance in the CD rates of IndyMac, and 100% in the variance of IndyMac's MM rates.**
3. The prevailing APY of IndyMac's relevant market area during the period of 7/11/2008 to 9/12/2008 ranged from 2.62 to 2.71 for the examined CD product.
4. During the same period, IndyMac's APY for the examined CD product ranged from 4.00 to 4.40.
5. The prevailing APY of IndyMac's relevant market area during the period of 7/11/2008 to 9/12/2008 was flat at 0.92. for the examined MM product.
6. During the same period, IndyMac's APY for the examined MM product ranged from 2.95 to 3.20

### Implications

1. During the overall-examined period (2/1/2008-9/12/2008), IndyMac and these seven institutions have monitored each other rates very closely, and have modified their rates, for the examined products, accordingly.
2. During the period of **7/11/2008-9/12/2008, IndyMac priced it examined CD product from 136 to 170 bps above the prevailing rate of it relevant market area.**
3. During the period of **7/11/2008-9/12/2008, IndyMac priced it examined MM product from 203 to 228 bps above the prevailing rate of its relevant market area**

### Market Area Analysis—CD

#### Analysis and Findings

- In order to establish a competitive set that “may effect” the rates of IndyMac, we examined the correlation between the rates of the sample group and IndyMac.
- We found that the rates of seven institutions were correlated to the rate of IndyMac with a significance level of  $\alpha < 0.01$  (Figure 1)
- We then examined the linear relationship (regression) of the variance in the APY of these institutions with the APY of IndyMac, and we found that 98.8% of the variance in IndyMac APY can be explained by these four competitors (Figure 2).

#### Implications

- Seven institutions (Figure 1) have demonstrated rate correlation with IndyMac, which means that the movement of their rates follow similar pattern,
- However, only four institutions (Figure 2) have shown to have a **cause and effect** relationship (linear relationship) with the rates of IndyMac. Thus the variance in their APY impacts the APY of IndyMac.
- Therefore, these four banks should be considered competitors that affect IndyMac pricing, and their APY variance have an impact on IndyMac pricing level.

Figure 1

		B of America	Citibank	Community 1st	First CA Bank	Union B of CA	US Bank	Wachovia
IndyMac	Pearson Correlation	0.553	-0.743	-0.647	-0.576	-0.583	0.537	0.573
	Sig. (2-tailed)	0.001	0.000	0.000	0.000	0.000	0.001	0.000

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
 \* . Correlation is significant at the 0.05 level (2-tailed).

Figure 2

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.989 <sup>a</sup>	.978	.977	.08350
2	.992 <sup>b</sup>	.984	.983	.07282
3	.994 <sup>c</sup>	.987	.986	.06618
4	.995 <sup>d</sup>	.989	.988	.06163
5	.994 <sup>e</sup>	<b>.988</b>	.987	.06279

- a. Predictors: (Constant), Community 1st
- b. Predictors: (Constant), Community 1st, Citibank
- c. Predictors: (Constant), Community 1st, Citibank, US Bank
- d. Predictors: (Constant), Community 1st, Citibank, US Bank, B of Santa Barbara
- e. Predictors: (Constant), Citibank, US Bank, B of Santa Barbara

Dependent variable: IndyMac

## Market Area Analysis—MM

### Analysis and Findings

- In order to establish a competitive set that “may effect” the rates of IndyMac, we examined the correlation between the APY of the sample group and IndyMac.
- We found that the APY of five institutions were correlated to the APY of IndyMac with a significance level of  $\alpha < 0.01$  (Figure 3)
- We then examined the linear relationships (regression) of the variance in the APY of these institutions with the APY of IndyMac we found that 100% of the variance in IndyMac APY can be explained by these three competitors (Figure 4).

### Implications

- Five institutions (Figure 3) have demonstrated APY correlation with IndyMac, which means that the movement of their rates follow similar pattern,
- However, only three institutions (Figure 4) have shown to have a **cause and effect** relationship (linear relationship) with the APY of IndyMac. Thus the variance in their APY impacts the rate of IndyMac.
- Therefore, these three banks should be considered competitors that affect IndyMac pricing, and their APY variance have an impact on IndyMac pricing level.

Figure 3

		B of America	CA National	Citibank	Community 1st	First CA Bank
IndyMac	Pearson Correlation	-0.448	0.990	-0.554	-0.484	-0.482
	Sig. (2-tailed)	0.009	0.000	0.001	0.004	0.004

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
 a. Cannot be computed because at least one of the variables is constant.  
 \* . Correlation is significant at the 0.05 level (2-tailed).

Figure 4

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.999 <sup>a</sup>	.999	.999	.01663
2	1.000 <sup>b</sup>	.999	.999	.01237
3	1.000 <sup>c</sup>	<b>1.000</b>	1.000	.00920

a. Predictors: (Constant), CA National  
 b. Predictors: (Constant), CA National, Citibank  
 c. Predictors: (Constant), CA National, Citibank, B of Santa Barbara  
 Dependent variable: IndyMac

**Prevailing-rate variance—CD**

**Analysis and Findings**

- The prevailing APY of IndyMac’s relevant market area during the period of 7/11/2008 to 9/12/2008 ranged from 2.62 to 2.71 for the examined CD product.
- During the same period, IndyMac's APY for the examined CD product ranged from 4.00 to 4.40 (Figure 5).

**Implications**

1. During the period of 7/11/2008-9/12/2008, IndyMac priced it examined CD product from **136 to 170 bps above the prevailing rate** of its relevant market area (Figure 5).

Figure 5

Relevant Institution*	APY week 7/11/2008	APY week 7/18/2008	APY week 7/25/2008	APY week 8/1/2008	APY week 8/8/2008
Bank of Santa Barbara	2.30	2.30	2.30	2.30	2.30
Citibank	2.00	2.00	2.00	2.00	2.00
Community 1st Bank	3.40	3.40	3.40	3.20	3.20
US Bank	3.10	3.15	3.15	3.15	3.15
<b>Prevailing Rate (Average APY)</b>	<b>2.70</b>	<b>2.71</b>	<b>2.71</b>	<b>2.66</b>	<b>2.66</b>
<b>IndyMac Bank</b>	<b>4.40</b>	<b>4.15</b>	<b>4.15</b>	<b>4.15</b>	<b>4.25</b>
<b>Variance from Prevailing rate</b>	<b>1.70</b>	<b>1.44</b>	<b>1.44</b>	<b>1.49</b>	<b>1.59</b>

\*Institutions with rates that have linear relationship to IndyMac rates at a significance level of Alpha < 0.01

Relevant Institution*	APY week 8/15/2008	APY week 8/22/2008	APY week 8/29/2008	APY week 9/5/2008	APY week 9/12/2008
Bank of Santa Barbara	2.30	2.30	2.30	2.12	2.30
Citibank	2.00	2.00	2.00	2.00	2.00
Community 1st Bank	3.20	3.20	3.20	3.20	3.20
US Bank	3.15	3.15	3.15	3.15	3.05
<b>Prevailing Rate (Average APY)</b>	<b>2.66</b>	<b>2.66</b>	<b>2.66</b>	<b>2.62</b>	<b>2.64</b>
<b>IndyMac Bank</b>	<b>4.25</b>	<b>4.25</b>	<b>4.25</b>	<b>4.00</b>	<b>4.00</b>
<b>Variance from Prevailing rate</b>	<b>1.59</b>	<b>1.59</b>	<b>1.59</b>	<b>1.38</b>	<b>1.36</b>

\*Institutions with rates that have linear relationship to IndyMac rates at a significance level of Alpha < 0.01

**Prevailing-rate variance—MM**

**Analysis and Findings**

- The prevailing APY of IndyMac’s relevant market area during the period of 7/11/2008 to 9/12/2008 was flat at 0.92. for the examined MM product.
- During the same period, IndyMac's APY for the examined MM product ranged from 2.95 to 3.20 (Figure 6).

**Implications**

1. During the period of 7/11/2008-9/12/2008, IndyMac priced it examined MM product from **203 to 228 bps above the prevailing rate** of its relevant market area (Figure 6) .

Figure 6

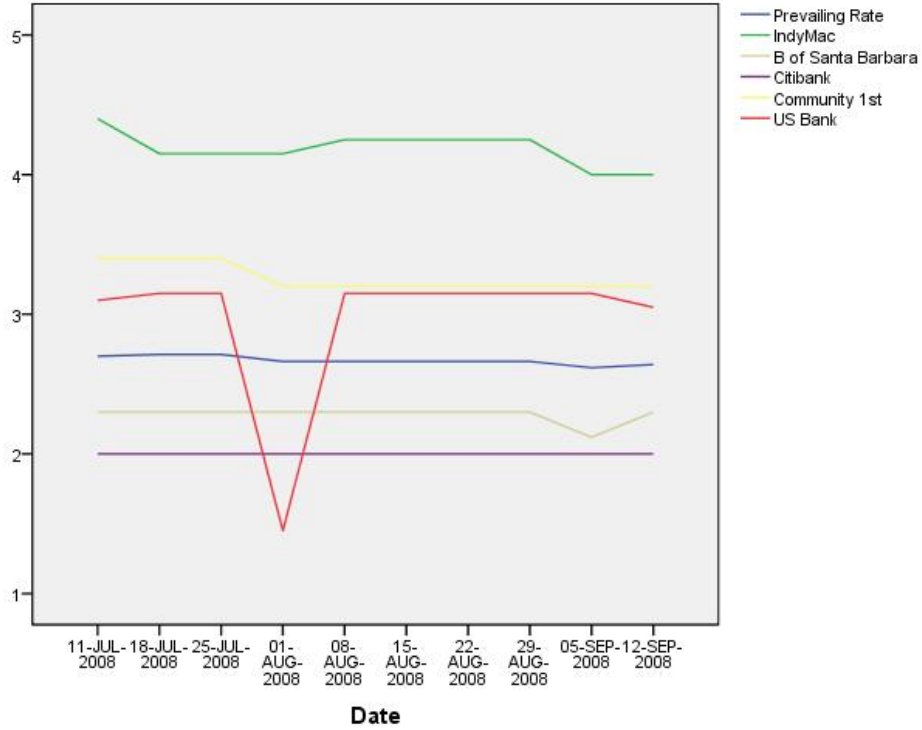
Relevant Institution*	APY week 7/11/2008	APY week 7/18/2008	APY week 7/25/2008	APY week 8/1/2008	APY week 8/8/2008
California National Bank	1.00	1.00	1.00	1.00	1.00
Citibank	1.60	1.60	1.60	1.60	1.60
Bank of Santa Barbara	0.15	0.15	0.15	0.15	0.15
<b>Prevailing Rate (Average APY)</b>	<b>0.92</b>	<b>0.92</b>	<b>0.92</b>	<b>0.92</b>	<b>0.92</b>
<b>IndyMac Bank</b>	<b>2.95</b>	<b>3.00</b>	<b>3.00</b>	<b>3.00</b>	<b>3.00</b>
<b>Variance from Prevailing rate</b>	<b>2.03</b>	<b>2.08</b>	<b>2.08</b>	<b>2.08</b>	<b>2.08</b>

\*Institutions with rates that have linear relationship to IndyMac rates at a significance level of Alpha < 0.01

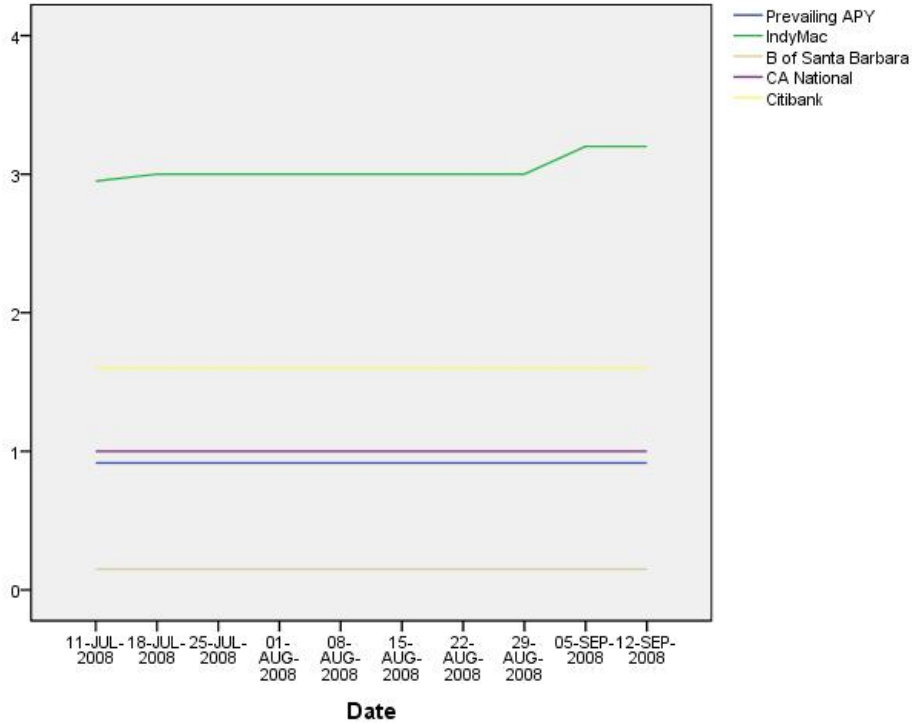
Relevant Institution*	APY week 8/15/2008	APY week 8/22/2008	APY week 8/29/2008	APY week 9/5/2008	APY week 9/12/2008
California National Bank	1.00	1.00	1.00	1.00	1.00
Citibank	1.60	1.60	1.60	1.60	1.60
Bank of Santa Barbara	0.15	0.15	0.15	0.15	0.15
<b>Prevailing Rate (Average APY)</b>	<b>0.92</b>	<b>0.92</b>	<b>0.92</b>	<b>0.92</b>	<b>0.92</b>
<b>IndyMac Bank</b>	<b>3.00</b>	<b>3.00</b>	<b>3.00</b>	<b>3.20</b>	<b>3.20</b>
<b>Variance from Prevailing rate</b>	<b>2.08</b>	<b>2.08</b>	<b>2.08</b>	<b>2.28</b>	<b>2.28</b>

\*Institutions with rates that have linear relationship to IndyMac rates at a significance level of Alpha < 0.01

**Sequence chart of the relevant market area and the prevailing APY for the examined CD during the period of 7/11/2008 to 9/12/2008.**



**Sequence chart of the relevant market area and the prevailing APY for the examined MM during the period of 7/11/2008 to 9/12/2008.**



**Exhibit A**

List of 15 institutions in the Southern California pricing region that were examined for rate correlation with IndyMac.

IndyMac  
Bank of America  
Bank of the West  
Bank of Santa Barbara  
California Bank of Commerce  
California National Bank  
Citibank  
Community 1st Bank  
First California Bank  
HSBC  
Wachovia  
Union Bank of California  
US Bank  
Wamu  
Wells Fargo

**Exhibit B**  
Raw data of CD rates of the correlated set in the Southern California market pricing region.

Date	IndyMac	Bank of America	Bank of Santa Barbara	Bank of the West	Citibank	Community 1st Bank	First California Bank	Union Bank of California	US Bank	Wachovia
2/1/2008	3.25	2.48	3.65	2.32	2.4	3.5	3.56	2.33	1.45	1.9
2/8/2008	3	2.34	3.5	2.32	2.4	3.5	2.94	2.02	1.45	1.9
2/15/2008	3.35	2.36	3.01	2.22	2.4	3.5	2.94	2.02	1.45	1.9
2/22/2008	3	2.36	3.01	2.22	2.4	3.5	2.94	2.02	3	1.9
2/29/2008	2.9	2.47	2.6	2.22	2.4	3.5	2.94	2.02	1.45	1.9
3/7/2008	2.9	2.47	2.6	2.22	2.25	3.5	2.94	2.02	1.45	1.9
3/14/2008	4.05	2.47	2.6	2.22	2.25	3.5	2.94	2.02	2.7	1.8
3/21/2008	2.35	1.83	2.6	2.22	2.25	3.5	2.94	1.66	1.45	1.8
3/28/2008	4.15	2.18	2.4	2.22	2.15	3.25	2.94	1.66	1.45	1.8
4/4/2008	4.15	2.22	2.4	2.17	2	3.25	2.1	1.66	3	1.8
4/11/2008	4.15	2.25	2.4	2.17	2	3.25	2.12	1.66	3	1.8
4/18/2008	4.15	2.41	2.4	2.22	2	3.25	2.12	1.66	3.05	1.8
4/25/2008	4.15	2.76	2.4	2.22	2	3.25	2.12	1.66	3.3	3
5/2/2008	4.15	2.7	2.4	2.22	2	3.25	2.12	1.66	3.25	3.25
5/9/2008	4.15	2.7	2.4	2.22	2	3.15	2.12	1.66	3.15	3.3
5/16/2008	4.1	2.94	2.4	2.34	2	3.15	2.12	1.66	3.5	3.3
5/23/2008	4.05	2.75	2.4	2.34	2	3.4	2.12	1.66	3.5	3.3
5/30/2008	2.75	3	2.4	2.34	2	3.4	2.12	1.66	3.75	3.3
6/6/2008	4.15	3.1	2.4	2.55	2	3.4	2.12	1.66	3.65	3.3
6/13/2008	4.15	3.31	2.4	2.55	2	3.4	2.12	1.66	4	3.3
6/20/2008	3.75	3.31	2.4	3.25	2	3.4	2.12	1.66	4	3.3
6/27/2008	4.25	3.4	2.3	3.25	2	3.4	2.12	1.66	3.3	4.4
7/4/2008	4.3	3.25	2.3	3.25	2	3.4	2.12	1.66	3.2	4.4
7/11/2008	4.4	3.2	2.3	3.25	2	3.4	2.12	1.66	3.1	4.4
7/18/2008	4.15	3.25	2.3	3.25	2	3.4	2.12	1.66	3.15	4.4
7/25/2008	4.15	3.25	2.3	3.25	2	3.4	2.12	1.66	3.15	4.4
8/1/2008	4.15	3.5	2.3	3.25	2	3.2	2.12	1.66	1.45	4.4
8/8/2008	4.25	3.5	2.3	3.25	2	3.2	2.12	1.66	3.15	4.4
8/15/2008	4.25	3.55	2.3	3.25	2	3.2	2.12	1.66	3.15	4.4
8/22/2008	4.25	3.55	2.3	3.25	2	3.2	2.79	1.66	3.15	4.3
8/29/2008	4.25	3.4	2.3	3.25	2	3.2	2.79	1.66	3.15	4.3
9/5/2008	4	3.4	2.12	3.12	2	3.2	2.79	1.66	3.15	4.3
9/12/2008	4	3.4	2.3	3.12	2	3.2	2.79	1.66	3.05	4.3

**Exhibit B**

Raw data of MM rates of the correlated set in the Southern California market pricing region.

Date	IndyMac	Bank of America	Bank of Santa Barbara	California National Bank	Citibank	Community 1st Bank	First California Bank	Wells Fargo Bank
2/1/2008	2	3.25	0.15	0.8	2	0.9	1.77	0.75
2/8/2008	2	3.25	0.15	0.8	2	0.9	1.71	0.6
2/15/2008	2	3.25	0.15	0.8	2	1.1	1.71	0.6
2/22/2008	2	3.1	0.15	0.8	2	1.1	1.71	0.6
2/29/2008	2	3.1	0.15	0.8	2	1.1	1.71	0.6
3/7/2008	2	2.9	0.15	0.8	2	1.1	1.71	0.6
3/14/2008	2	2.75	0.15	0.8	2	1.1	1.71	0.6
3/21/2008	2	2.5	0.15	0.8	2	1.1	1.71	0.6
3/28/2008	2	2.5	0.15	0.8	2	1	1.71	0.6
4/4/2008	2	2.5	0.15	0.8	1.85	1	1.71	0.35
4/11/2008	2	2.5	0.25	0.8	1.85	1	1.71	0.35
4/18/2008	2	2.4	0.25	0.8	1.85	1	1.71	0.35
4/25/2008	2	2.4	0.25	0.8	1.85	1	1	0.35
5/2/2008	2	2.4	0.25	0.8	1.85	0.75	0.95	0.35
5/9/2008	2	2.4	0.25	0.8	1.85	0.75	0.95	0.35
5/16/2008	2	2.3	0.25	0.8	1.6	0.75	0.95	0.35
5/23/2008	2	2.2	0.25	0.8	1.6	0.75	0.95	0.35
5/30/2008	1.85	2.2	0.25	0.8	1.6	0.75	0.95	0.35
6/6/2008	1.85	2.2	0.25	0.8	1.6	0.75	0.95	0.35
6/13/2008	1.85	2.2	0.25	0.8	1.6	0.75	0.95	0.35
6/20/2008	1.85	2.2	0.25	0.8	1.6	0.75	0.95	0.35
6/27/2008	1.85	2.2	0.15	0.8	1.6	0.75	0.95	0.35
7/4/2008	2.95	2.2	0.15	1	1.6	0.75	0.95	0.35
7/11/2008	2.95	2.2	0.15	1	1.6	0.75	0.95	0.35
7/18/2008	3	2.2	0.15	1	1.6	0.75	0.95	0.35
7/25/2008	3	2.2	0.15	1	1.6	0.75	0.95	0.35
8/1/2008	3	2.2	0.15	1	1.6	0.75	0.95	0.35
8/8/2008	3	2.2	0.15	1	1.6	0.75	0.95	0.35
8/15/2008	3	2.2	0.15	1	1.6	0.75	0.95	0.35
8/22/2008	3	2.2	0.15	1	1.6	0.75	0.95	0.35
8/29/2008	3	2.2	0.15	1	1.6	0.75	0.95	0.35
9/5/2008	3.2	2.2	0.15	1	1.6	0.75	0.95	0.35
9/12/2008	3.2	2.2	0.15	1	1.6	0.75	0.95	0.35

## About Market Rates Insight

Founded in 1985, Market Rates Insight was the first research service offering competitive financial market rate data online, in a searchable format. Over the past two decades, our research services have evolved with the needs of financial institutions. Today, we offer a comprehensive portfolio of competitive research on deposits, loans, and fees in an interactive web format, making it easy for our clients to view market data, analyze competitive data, and present their findings to key decision makers.

Market Rates Insight offers market intelligence to meet the needs of a diverse group of decision makers and analysts in the banking and lending industry. These clients occupy positions such as CEO's, CFO's, Vice Presidents of Marketing, Vice Presidents of Product Development, as well as operations and administrative personnel.

Market Rates Insight clients' roster includes the largest national institutions, regional banks and credit unions, as well as community banks and local credit unions. We have built a diverse and loyal client base over the last 23 years by providing a complete, accurate portrait of the market. We earn our clients' trust by providing a single, accurate source for market rate intelligence.

Rick Barham is the President and CEO of Market Rates Insight. Rick is an expert on pricing intelligence issues, and is frequently quoted in industry and general-circulation publications. Rick served as an expert witness in major banks litigations.

Dr. Dan Geller is the Executive Vice President at Market Rates Insight. In this capacity, Dr. Geller oversees the research and analysis services of the company. These functions include correlation and regression analysis of clients' rates with those of their competitors for specific products and markets. The purpose of the correlation analysis is to assist clients in deterring the hierarchy of significance of their competitors, as well as the level of correlation between their rates and the rates of the competition for a given product and market. The purpose of the regression analysis is to determine the level of influence that a given competitor's rate movement has on the rate fluctuation of the client, as well as the impact that rate differentiation has on the client's balance for a given product and market.