

## Chemtura Corporation (CEMJQ)

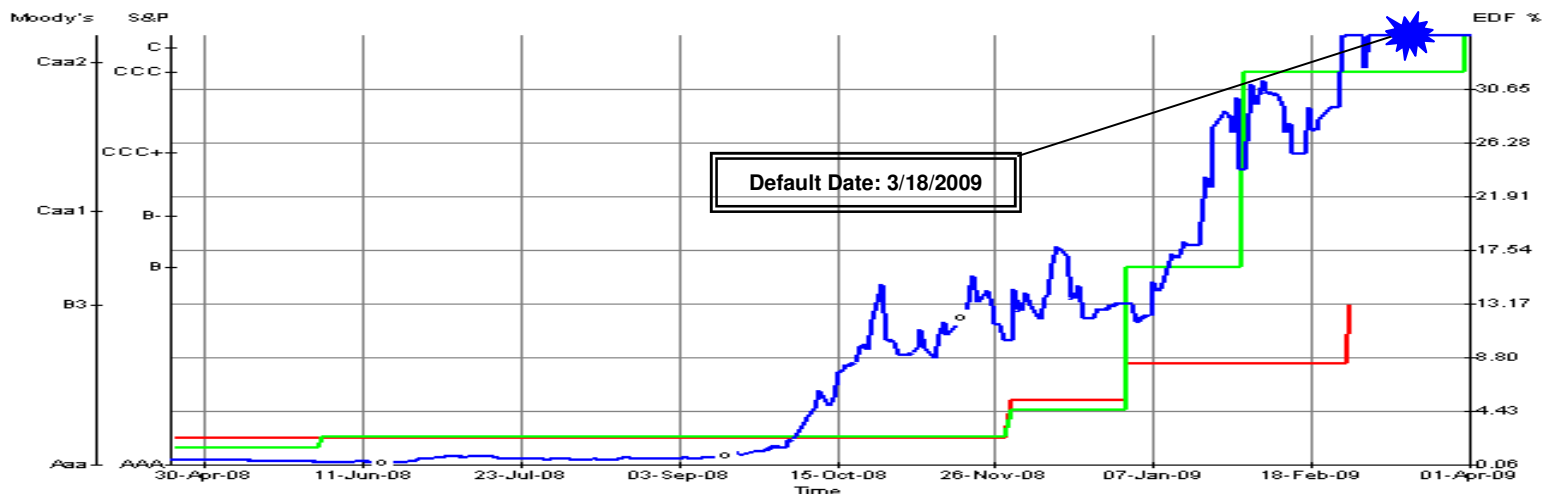
On March 18, 2009, **Chemtura Corporation** filed for Chapter 11 of the US bankruptcy protection. The company would continue their operations under \$400 million in DIP financing from Citibank.

**EDF™ as of March 18, 2009: 35.00%**  
**Credit Category (not an agency rating): C**

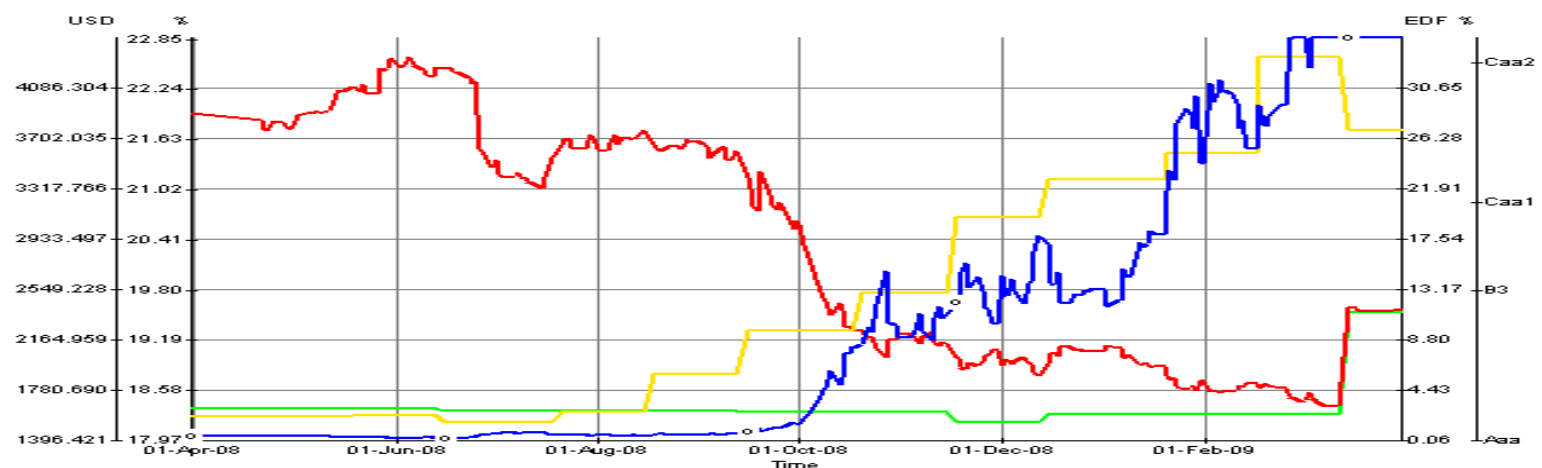
Expected Default Frequency (EDF) is the probability that a firm will default within a given time horizon. Default is defined as failure to make a scheduled payment or the initiation of bankruptcy proceedings. The main drivers of EDF credit measures are the market value of the firm (asset value), the level of its debt obligations (default point), and the volatility of firm value (asset volatility). The EDF credit measures displayed below are 1-year risk measures, although a 10-year term structure of risk is available within CreditEdge.

## Company Profile

Chemtura, formed by the merger of Crompton & Knowles and Witco, isn't mixed-up, but its products are. The company (known briefly as CK Witco) gets three-fourths of its sales from producing polymers; polymer additives, including additives for plastics, rubber, and urethane; and polymer processing equipment. Davis-Standard, a joint venture with private equity group Hamilton Robinson, makes equipment for extrusion and molding. The rest of the company's sales come from its specialty chemicals unit, which produces crop protection chemicals (herbicides, insecticides, and fungicides) and surfactants. Chemtura agreed to acquire Great Lakes Chemical in early 2005.



CHEMTURA CORPORATION [CEMJQ] EDF  
 CHEMTURA CORPORATION [CEMJQ] Moody's Rating  
 CHEMTURA CORPORATION [CEMJQ] S&P Rating



CHEMTURA CORPORATION [CEMJQ] Default Point  
 CHEMTURA CORPORATION [CEMJQ] Asset Volatility  
 CHEMTURA CORPORATION [CEMJQ] EDF  
 CHEMTURA CORPORATION [CEMJQ] Market Value of Assets

This chart shows that **Chemtura Corp's** EDF credit measure had been increasing since October 2008 and reached 35.00% in February 2009. In June 2008, the market value of assets was \$4.3 billion. As order volumes from customers declined due to the global economic recession, the company's market value of assets decreased to \$1.7 billion, which was almost the same as its default point, \$1.6 billion, in February 2009. Asset volatility soared to 22.64% in February 2009 from 18.31% in June 2008. Decline of business value plus higher financial risk led the company to default.

[Continue to EDF Details](#)



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EDF Information as of: March 17, 2009  
 Financial Statement Date: December 31, 2008  
 CEM 6.875 06/01/16 USD 6.88

mm/dd/yy

Define Current: 3/17/09

Define Previous: One Year

Amounts in: USD Millions (except Share Price)	Current	Previous	Amt Change	% Change
EDF	35.00%	0.38%	+3,462 bp	+9,110.53%
Credit Category <b>A</b>	C	Baa1	-13	-13
Asset Volatility <b>B</b>	21.75%	18.27%	+3.48%	+19.05%
Instantaneous Equity Volatility	1,395.97%	34.70%	+1,361.27%	+3,922.97%
Market Leverage <b>C</b>	98.44%	40.98%	+57.46%	+140.21%
Market Value of Assets <b>D</b>	2,412.708	4,296.121	-1,883.413	-43.84%
Market Capitalization	29.120	1,998.920	-1,969.800	-98.54%
Share Price	0.120	8.260	-8.140	-98.55%
Shares Outstanding	242.667	242.000	+0.667	+0.28%
Default Point <b>E</b>	2,375.000	1,760.391	+614.609	+34.91%
Short-Term Liabilities	1,842.000	701.000	+1,141.000	+162.77%
Long-Term Liabilities	1,066.000	1,813.845	-747.845	-41.23%
Total Adjusted Liabilities	2,908.000	2,514.845	+393.155	+15.63%
Other				
Common Dividends	0.000	48.400	-48.400	-100.00%
Preferred Dividends	0.000	0.000		
Dilution	1.000	1.000		

## Credit Category **A**

Traditional ratings such as the ones used by the major rating agencies are currently more commonplace than default probabilities. Therefore, to help facilitate users' understanding, we translated the EDF credit measure into an equivalent credit category.

Note that this may bear no relationship to the actual agency rating. This is because Moody's KMV employs a different approach to measuring credit risk than the rating agencies. For a more detailed discussion of Moody's KMV's approach to measuring credit risk, please visit the Quick Tour on our Web site.



United States & Canada Large Corporates

## Asset Volatility & Market Leverage **B & C**

The two main drivers of EDF credit measures are: asset volatility, a measure of business risk, and market leverage, a measure of financial risk.

Technically, asset volatility is the standard deviation of the annual change in the market value of the assets. This volatility is expressed in percentage terms.

The higher the asset volatility, the less certain investors are about the market value of the firm, and the more likely the firm's value will fall below its default point.

Market leverage is a ratio indicating how much of the market value of the firm's assets is financed by debt. The measure is calculated as follows: default point divided by the market value of assets.

If all else is equal, the higher the asset volatility or market leverage, the higher the EDF credit measure. The asset volatility and market leverage charts in the top right of the "EDF Detail" screen help the user to understand the firm's EDF credit measure and aid in determining the relative risk, both from a business risk and financial risk perspective.

The chart depicts a meter that shows the level of risk on each of the two measures. The levels are relative values computed on a selected group of firms.

## Market Value of Assets **D**

The market's view of the enterprise value of the firm as determined by the firm's equity value, equity volatility, and liability structure.

Because the market value of assets is not directly observable, Moody's KMV employs a proprietary option-theoretic model to compute this value, which treats the firm's equity value as a call option on the firm's underlying assets.

The option theoretic approach enables Moody's KMV to determine the market value of a firm's assets from knowing only the market characteristics of its equity value and the book value of its liabilities.

## Default Point **E**

The liabilities that matter in case of default. If the market value of assets falls below this value, it is assumed that the firm will be unable to sell assets or raise additional capital to pay its debts. In general, a firm's default point is a value close to its short-term liabilities plus half of long-term liabilities.



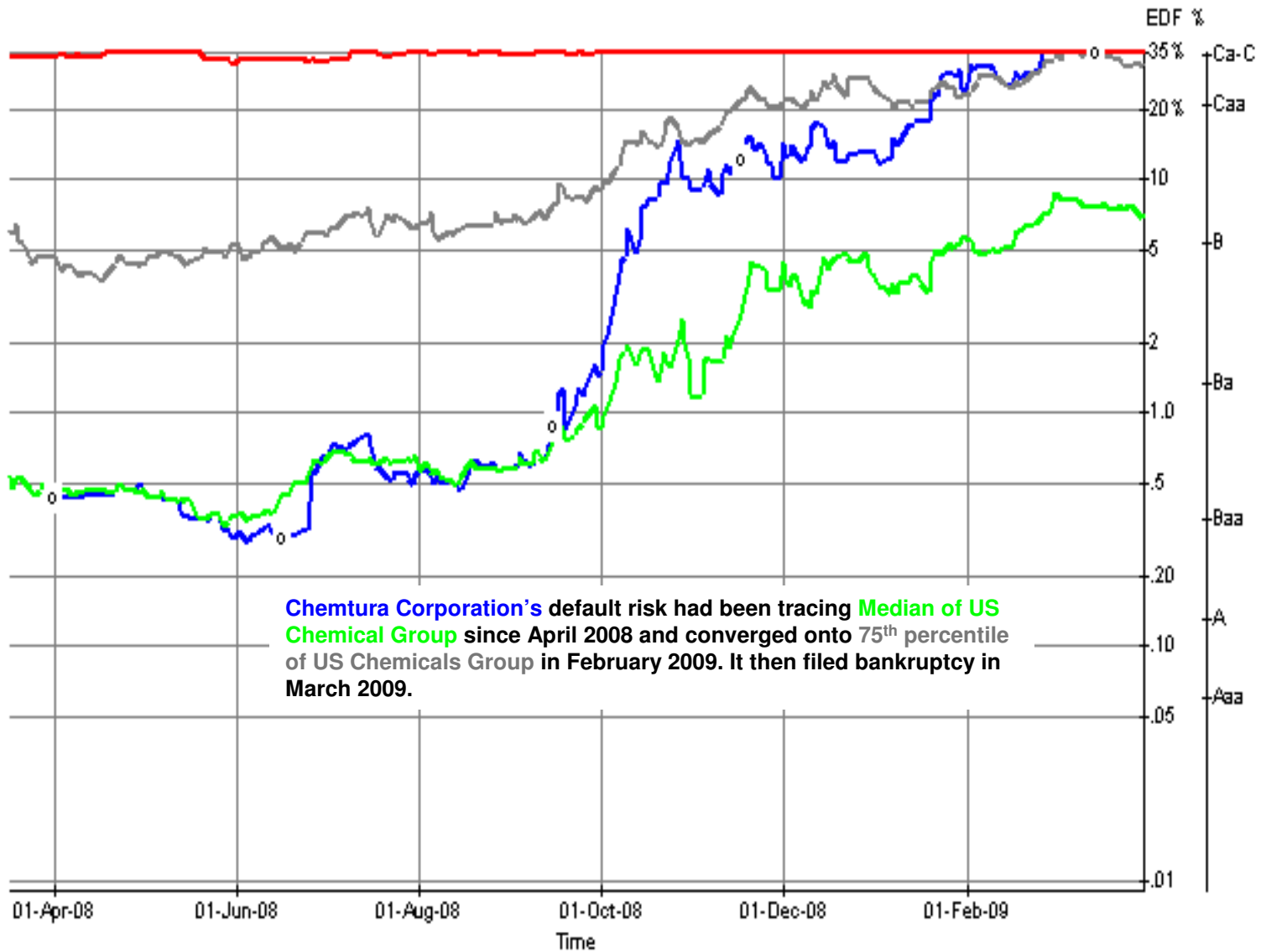
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Relative Analysis

The relative analysis feature allows users to chart EDF, fundamental data, and bond values for a selected company or group relative to other companies and/or groups. Users may manually select their own list of peer companies or groups for comparison, or view a Moody's KMV predefined peer list which is based on an automated algorithm. To determine peers for each company:

- MKMV finds all the companies that share the company's Bloomberg Subgroup.

Users can also customize and save their own peer company and peer group choices for future use.



- CHEMTURA CORPORATION [CEMJQ] EDF
- US CHEMICALS GROUP [USACHM] EDF - Median
- US CHEMICALS GROUP [USACHM] EDF - 75th Percentile
- US CHEMICALS GROUP [USACHM] EDF - 90th Percentile

Continue to Feature Private Company



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## Freedom Bank of Georgia (Commerce, GA)

On March 6, 2009, **Freedom Bank of Georgia (Commerce, GA)** was closed by the Georgia Department of Banking and Finance and the Federal Deposit Insurance Corporation (FDIC) was named a Receiver.

**1-Year RiskCalc EDF: 35.00%**

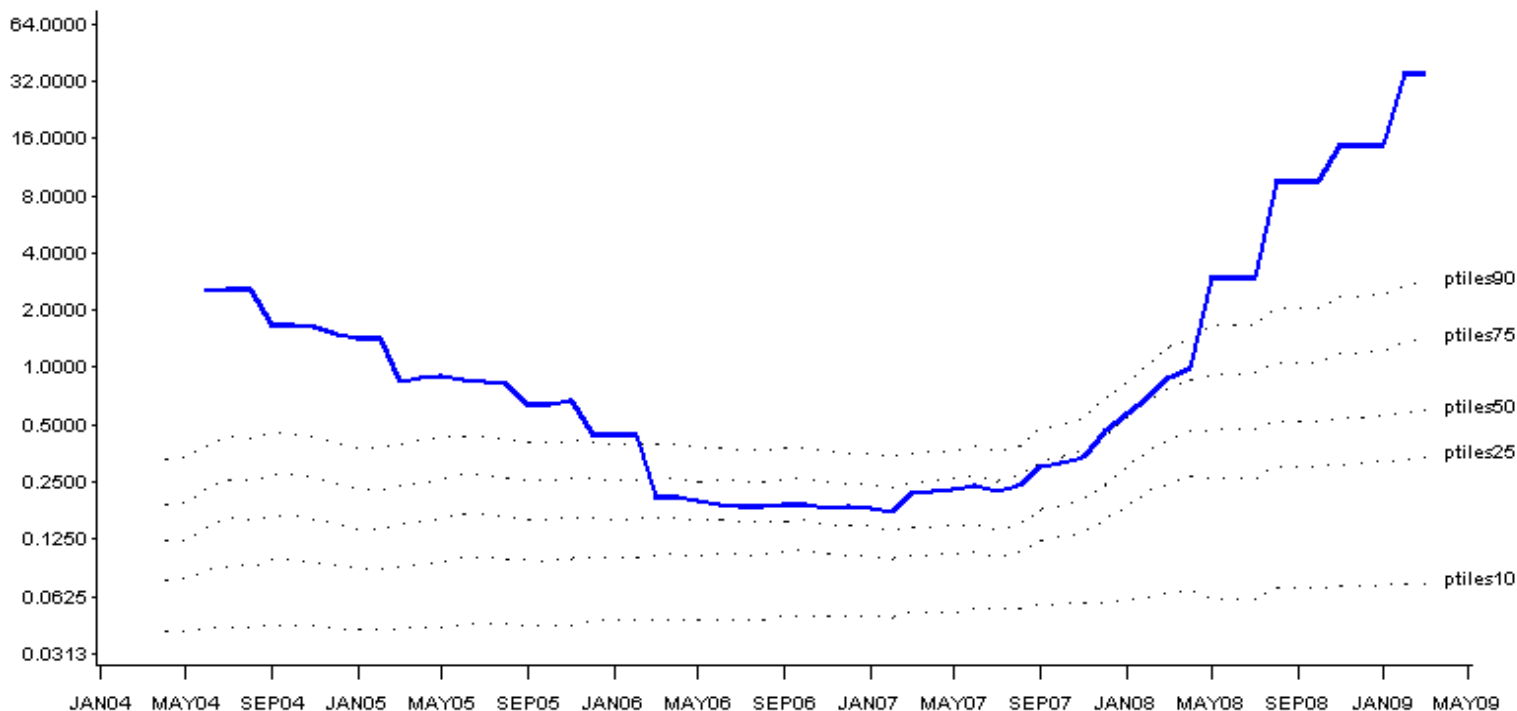
As Freedom Bank of Georgia (Commerce, GA) does not have common stock outstanding, its default risk can be assessed using RiskCalc v3.1 US Banks Model. The model assesses the risk of banks, savings and loans, and thrifts as well as bank holding companies. RiskCalc v3.1 US Banks model is constructed on the data which are collected from FDIC's Research Information System and the Federal Reserve Bank's data.

## Company Profile

**Freedom Bank of Georgia (Commerce, GA)** is a full-service bank. The bank accepts deposits, makes loans and provides other services for the public. As of December 31, 2008, Freedom Bank of the Georgia had total assets of \$172 million and total deposits of \$106 million. After the closure by the Georgia Department of Banking and Finance, Northeast Georgia Bank (Lavonia, GA) assumed all of the deposits of Freedom Bank.

Blue line shows movement in the **RiskCalc EDF values** and the dotted lines are time series of the RiskCalc EDF percentiles of the banks run through RiskCalc V3.1 US Banks.

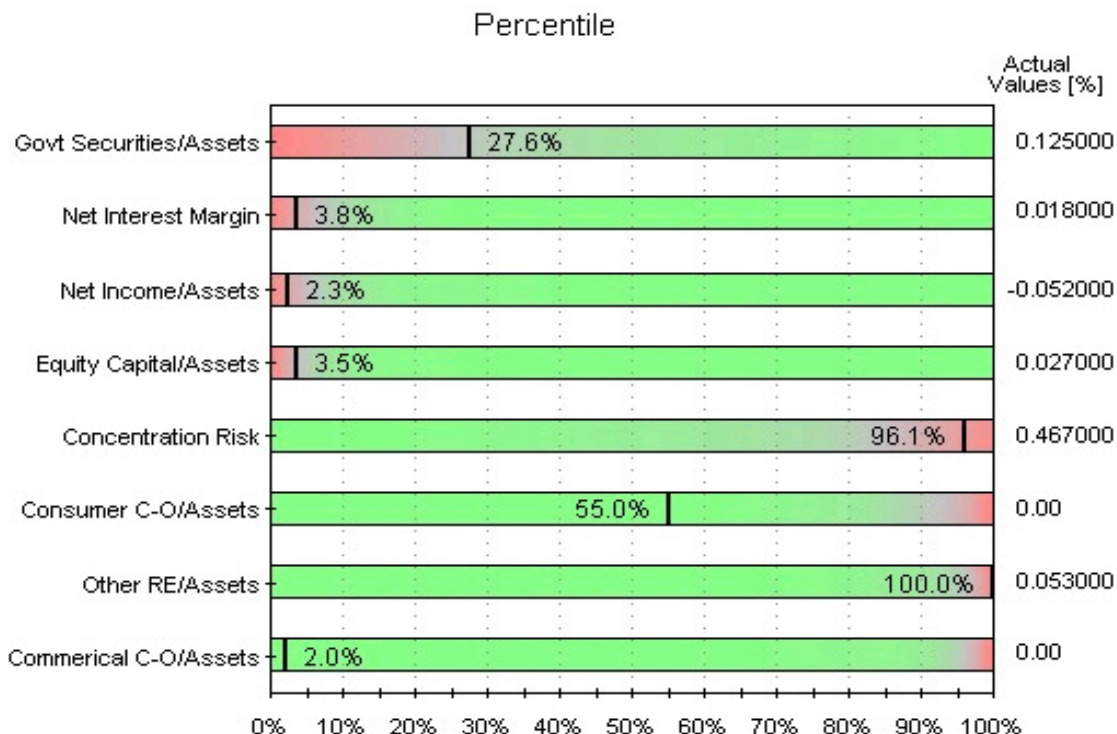
FREEDOM BANK OF GEORGIA  
RiskCalc EDF History



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Percentile Graph, Relative Contribution and Relative Sensitivity Graphs in RiskCalc v3.1 US Banks help us to understand what is driving the bank's EDF.

The **PERCENTILE** Graph provides a visual representation of how each of the bank's ratio compares to those of private US banks used to build this RiskCalc v3.1 US Banks model.



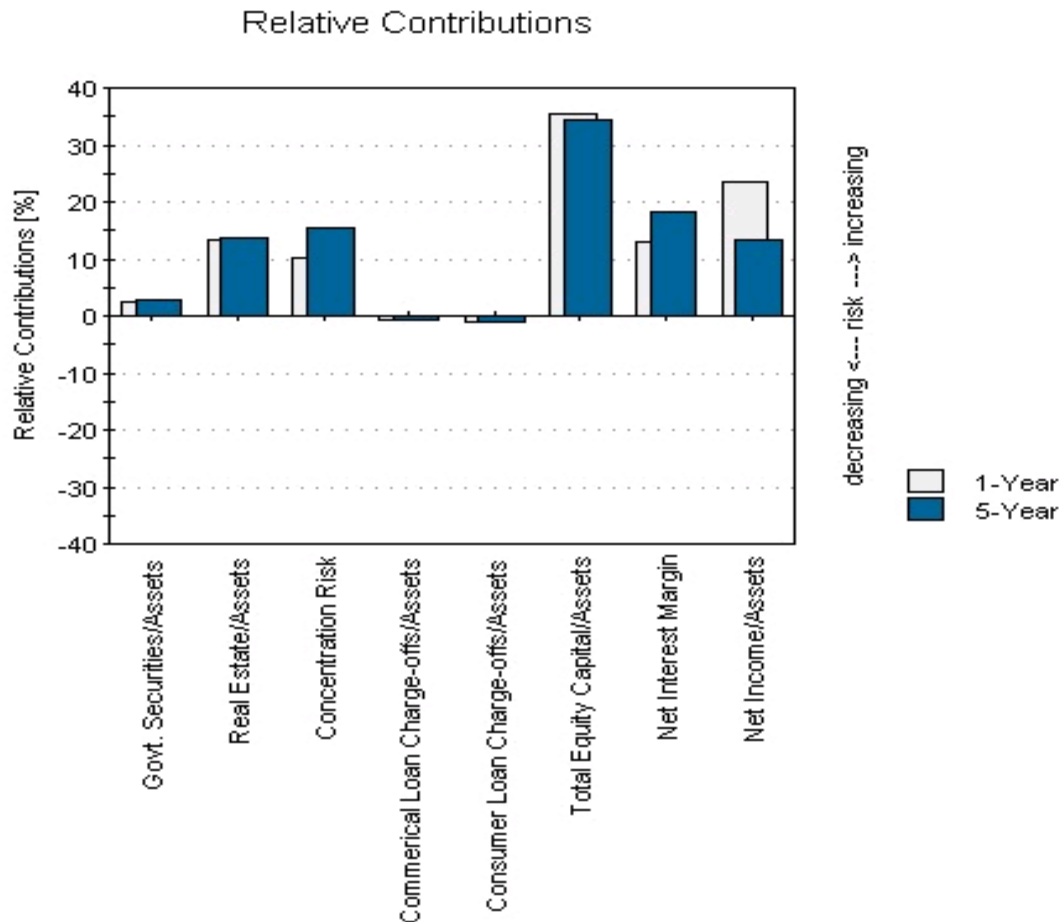
The **PERCENTILE** Graph plots the percentile of each ratio and provides the actual value in the right-hand column. The colors **RED**, **GRAY** and **GREEN** correspond to the level of risk, **HIGH**, **MEDIUM** and **LOW** associated with the specific value of the ratio.

For example, we can observe from the right-hand column that the *Other Real Estate to Assets* is placed in the 100th percentile and solidly in the red in terms of risk. *Net Income to Assets*, *Net Interest Margin* and *Total Equity Capital to Assets* are also solidly in the red in terms of risk.

The Percentile graph does not consider the weight the model places on each ratio in determining the EDF level.



The **RELATIVE CONTRIBUTION** graph is helpful in identifying the bank's financial strengths and weaknesses with respect to default risk.

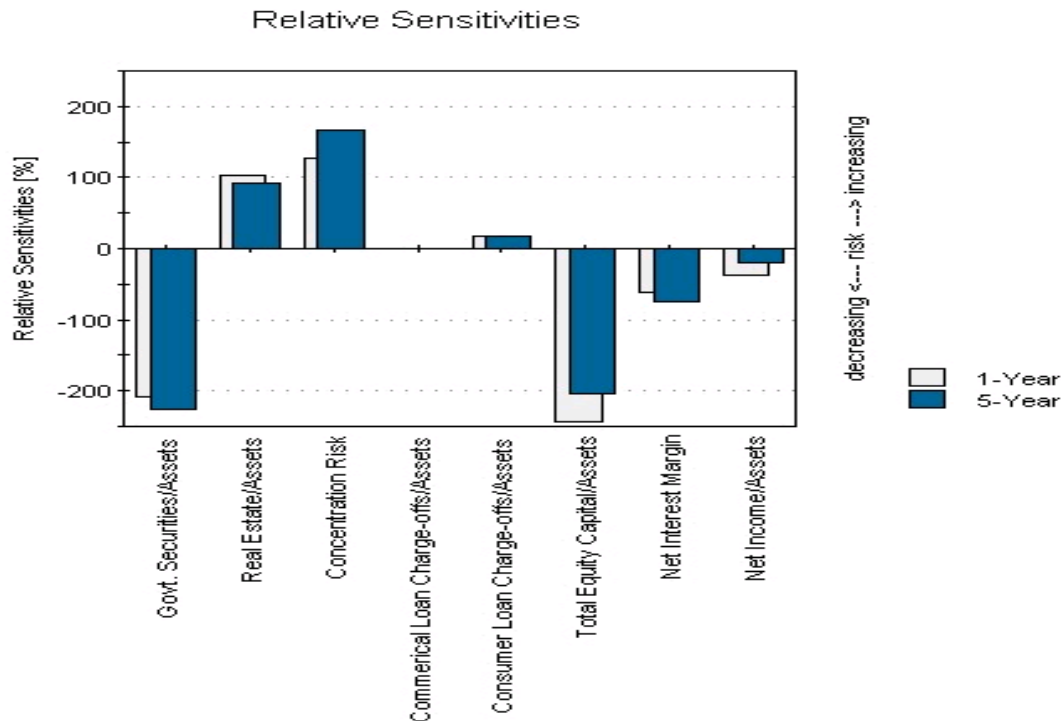


This graph explains how each ratio moves the bank's EDF level away from the average default rate of the banks that were used in the model development. Relative Contributions are expressed relative to each other.

*Total Equity Capital to Assets* and *Net Income to Assets* are the strongest ratios to pull up Freedom Bank of Georgia's EDF level relative to the average EDF level, 35.58% and 23.40% respectively. *Real Estate to Assets*, *Net Interest Margin*, *Concentration Risk* and *Government Security to Assets* are pulling up the EDF as well.

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The **RELATIVE SENSITIVITIES** graph indicates the relative impact that a small increase in a ratio would have on the EDF, all else being equal.



In the Relative Sensitivity analysis, we set the reference point to be the average absolute change in the bank's EDF level when each ratio is given a small shock. The magnitude of a ratio's Relative Sensitivity is expressed as a multiple of the average sensitivity across the ratios.

Freedom Bank of Georgia's EDF level is most sensitive to changes in *Total Equity Capital to Assets*, *Government Security to Assets*, *Net Interest Margin* and *Net Income to Assets*. They have a **negative** Relative Sensitivity, meaning that the decrease in any of these ratios would lead to an increase in the bank's EDF level. *Concentration Risk* has the most **positive** Relative Sensitivity. An increase in the *Real Estate to Assets* and *Consumer Loan Charge-offs to Assets* would also increase the EDF level.

The magnitude of Relative Sensitivity of *Total Equity Capital to Assets* is -242.89%, which means that shocking the firm's *Total Equity Capital to Assets* will lead to a change in the EDF level that is 2.43 times the size of the average EDF change from shocking any ratio.