

# **The Effective Use of Multimedia Teaching Objects in a Finance Course**

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## **ABSTRACT**

*This paper examines methods by which multimedia teaching objects (MTOs) can be effectively used in a finance course to enhance the learning experience. The multimedia objects used include video clips, interactive graphic objects, interactive picture displays, animation and customized spreadsheets. A variety of MTOs are available on websites such as YouTube, MERLOT, The Wall Street Journal and the New York Times. Using MTOs enhances the visual learning component of the course and the use of interactive graphics provides a learning by doing experience.*

## **INTRODUCTION**

Because students have different learning styles, presenting the material to them in different ways and involving them in a variety of different activities enhances the learning process. Using multimedia teaching objects in the classroom is a way of accomplishing this. The following is a discussion of some of the various multimedia teaching objects available through the internet and how they can be used in a finance course.

## **DYNAMIC YIELD CURVE**

The interactive chart of the dynamic yield curve (Appendix A) can be used to illustrate the predictive ability of the yield curve. The cursor can be used to move a vertical line to any position on the chart of the S&P 500 and this causes the yield curve corresponding to that date to be displayed on the left hand side. Text in the lower right corner of the yield curve chart indicates whether the curve is normal, flat or inverted. By moving the vertical line to various positions students can be shown some evidence of the ability of this tool to predict a recession or economic expansion. In Appendix A the vertical line is positioned at the end of 2006 showing that the yield curve is inverted at this point. This, perhaps, provided some warning of the stock market crash that occurred in 2008. When the animate feature is used, the vertical positioning line moves automatically from the beginning to the end of the time period.

## **DISCOUNTED CASH FLOW**

The website [www.bplans.com](http://www.bplans.com) provides a discounted cash flow calculator (Appendix B). The calculator is useful in illustrating the principles of the time value of money. It allows the user to set the initial investment amount (present value), the final value of the investment (future value), the time period of the investment and the required rate of return. A bar graph shows the initial investment, the final value of the investment and the Net Present Value (NPV). The actual dollar amount of the NPV and the internal rate of return are the outputs of this process. The required

rate of return is shown on a sliding scale and can be adjusted by dragging it to a different point on the sliding scale. As changes are made, the bars change height. Students are able to observe how changes in the input variables affect the NPV and the IRR.

## **VIDEO INTERVIEWS**

YouTube has a CBS video showing an interview with Dennis Kozlowski the former CEO of Tyco International after he was sentenced to prison. This could be used in conjunction with a chapter on Corporate Governance. The video shows the lavish lifestyle of Mr. Kozlowski and the \$2 million birthday party he gave for his wife. It provides a dramatic illustration of the misuse of corporate funds.

In the recent financial crisis the chairman of the Federal Reserve, Ben Bernanke played a critical role in using the powers of the Federal Reserve to prevent a collapse of the financial system and to restore stability to the financial markets. The CBS program 60 minutes has a video in which Mr. Bernanke explains the causes of the crisis. YouTube has a similar video in which Professor Jeremy Siegel of the Wharton School at the University of Pennsylvania gives his view of the financial crisis. The picture quality of videos varies substantially from one site to another. If the picture size is too small or the picture quality is too low students will lose attention in class. Some sites offer full screen capabilities and others do not. Some videos are preceded by an advertisement which cannot be skipped.

CNBC has an extensive collection of CEO interview videos. This would be appropriate for an MBA course in financial management as the students prepare to interact with or become decision makers in the company. In addition, students observe how CEOs apply business concepts to the issues they face in their companies.

## **MERLOT WEBSITE**

The MERLOT (Multimedia Educational Resource for Learning and Online Teaching) website (Appendix C) has a collection of MTOs that relate to Business. An example of this is narrated PowerPoint slides. However, some of these PowerPoint slides specifically require the use of Real player. Students are frequently lacking the mathematical background necessary for the finance courses. MERLOT has a link to an interactive Mathematics Tutorial which could give students the necessary mathematical background. Minicases might be useful to illustrate the application of business theories. MERLOT has links to 85 minicases including 9 finance minicases.

## **THE WALL STREET JOURNAL INTERACTIVE GRAPHICS**

The Wall Street Journal (Appendix D) has a listing of the interactive features that have appeared in the journal for the past few years. The objects are arranged by field of interest. For example, an interactive map of the U.S. is used to determine whether home prices are stabilizing. Various major cities throughout the U.S. are displayed. Alongside each city is a small triangle and the color of this triangle reveals the extent of the average price decline in a particular city. As the cursor is moved over a specific city, the average home price changes for that city are

displayed in a smaller graph in the bottom left corner. The smaller graph compares changes in housing prices in the selected city with a 20 city composite. Another object from the Wall Street Journal shows changes in the real gross domestic product with shaded areas to indicate periods of recession. The user has the option to overlay the graph with other data series such as industrial production and real personal income. This graph could be used to illustrate the concept of leading and lagging indicators.

### **THE NEW YORK TIMES INTERACTIVE GRAPHICS**

The New York Times (Appendix E) has an interactive graphic object which shows the timeline of events during the financial crisis. The timeline consists of a series of bars in the upper portion of the graphic. As you roll the cursor over the blue bar, it changes color to red. Simultaneously, a graphic appears illustrating what happened on that day. This could be a graph showing the impact of the initial bailout package on the national debt, a picture of the frustration of the Wall Street traders as the DJIA declined dramatically or a video of President Obama announcing his plans to deal with the financial crisis. In a class on financial markets a quick synopsis of the events of the crisis prepares them to study the topic of the regulation of financial institutions.

The New York Times (Appendix F) has an interactive graphic that illustrates the effects of inflation. Titled “All of Inflation’s Little Parts”, this graphic shows all the components of an average consumers spending in the form of a modified pie chart which looks somewhat like a stained glass window. The colors of each piece of the pie chart reflect the annual change in that component of spending by the average consumer. By rolling the cursor over each individual piece, the rise in the price of that component of consumer spending over the previous year is displayed in a text box immediately below the item. Students find it difficult to understand the concept of the time value of money and frequently assume that the purchasing power of a dollar remains constant over time. Thus they will add cash flow received in different years to find the present value of these cash flows. This graphic would help to reinforce the concept of the loss of purchasing power of the dollar over time due to inflation.

The New York Times has a graph (Appendix G) that dramatically illustrates the rise in home prices since 1987. The steep upward slope of this graph gives some credibility to the idea that the housing market is a bubble. The graph shows that in 2005 Robert Shiller published the second edition of *Irrational Exuberance* in which he argued that the housing market was a bubble.

### **SUMMARY AND CONCLUSIONS**

A wide variety of Multimedia Teaching Objects are available at various websites. Links to these MTOs can be embedded in PowerPoint slides or added as resources in Course Management Systems. The MTOs can be used in the classroom and/or links given to students to investigate on their own time. They can be used as the starting point of a discussion in which students are asked to explain parts of an interactive graphic. A drawback is that the website owner may remove the object at any time. Careful thought has to be given to how the MTO fits in to the course material and how it can be used to enhance the concepts taught in the course. The

appropriate use of MTOs can dramatically enhance the learning experience through providing a change of pace, the visual depiction of abstract concepts, the use of real-life events and the hands-on activities associated with interactive graphic objects. Using MTOs in the classroom has the potential to make the lectures more enjoyable, helps to get the concepts across to those learners that are visually oriented or learn by doing and brings students into a discussion of the issues raised.

## APPENDIX A

### Dynamic Yield Curve



## APPENDIX B

### Discounted Cash Flow Calculator [About](#)

Analysts use discounted cash flow to explore the "time value of money." Essentially, money today is worth more than the same amount of money tomorrow. Double-click the variables below, and move the sliders horizontally, to explore this concept.

Spending Today:    
 Eventual Return:  
 After this many years:   
 Discount rate:  

#### Discounted Cash Flow

Net Present Value (NPV):	\$241
Internal Rate of Return (IRR):	45%

**Additional Info:**  
 To explore net present value (NPV) set the "spending today" input to zero, then move the years and the discount rate. The higher the discount, and the longer the wait, the less the future money is worth. This time value of money is one of the most basic principles of investment analysis.

Next, try it with an amount of initial spending. The Internal Rate of Return (IRR) is the discount rate at which the NPV is zero.

# APPENDIX C



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Items 1-10 shown of 272 results      Sort by: Overall Rating <input type="button" value="Sort"/>		
<b><a href="#">Time Value of Money Learning Object</a></b>		
Author: Andres Spieler		
This learning object combines a powerpoint presentation and video presentation of Time Value of Money...		
Type: Learning Object Repository		
Date Added: Jan 08, 2007		
Date Modified: Sep 08, 2009		
<b><a href="#">Peer Review</a> ★★★★★</b>		
<b><a href="#">Comments</a> (1) avg: ★★★</b>		
<b><a href="#">Personal Collections</a> (8)</b>		
<b>Learning Exercises (none)</b>		
<b><a href="#">Takin' Care of Business Education Handbook</a></b>		
Author: Unknown		
This handbook prepared by the AICPA and National Business Education Association and the National Teachers...		
Type: Collection		
Date Added: Sep 08, 2006		
Date Modified: Jul 19, 2009		
<b><a href="#">Peer Review</a> ★★★★★</b>		
<b><a href="#">Comments</a> (1)</b>		
<b><a href="#">Personal Collections</a> (4)</b>		
<b>Learning Exercises (none)</b>		

## APPENDIX D

# Interactive Features Archive 2009

Article

Comments

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*The following is an archive of interactive features from the Online Journal, arranged by subject and year.*

**Jump to year:** [2009](#) | [2008](#) | [2007](#) | [2006](#) | [2005 and earlier](#)

**2009**

[Business](#) | [Economy](#) | [Health](#) | [Markets](#) | [Autos](#) | [Media and Technology](#) | [Politics](#) | [World](#) | [Travel](#) | [Fashion](#) | [Sports](#) | [Misc.](#)

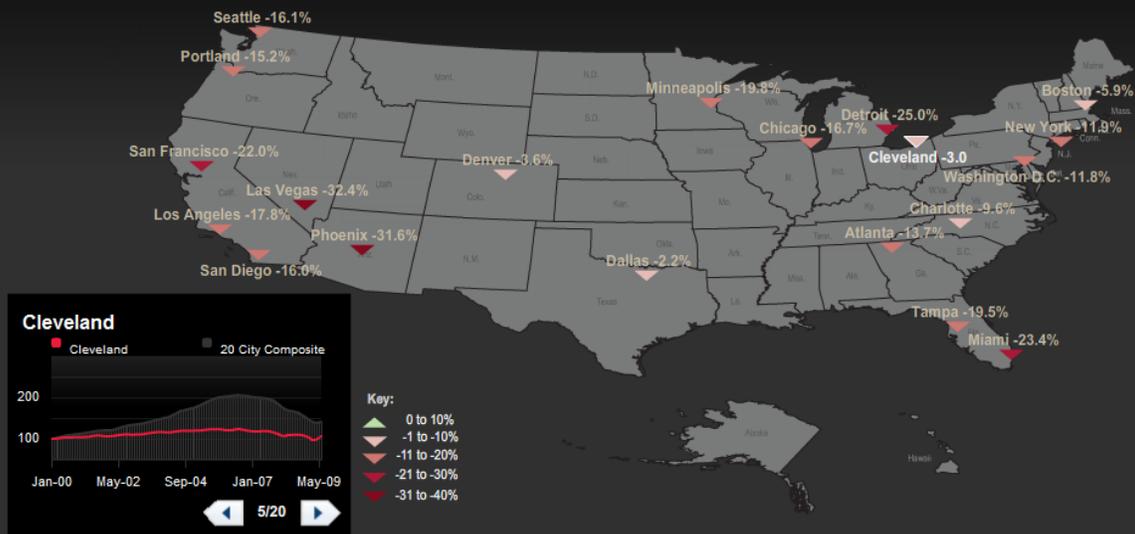
### BUSINESS

<a href="#">Bargain Hunters Dent Home Supply</a>	Number of homes listed for sale	08/01/09
<a href="#">Starbucks Stores Speed Up</a>	Operations at one downtown Chicago shop	08/04/09
<a href="#">Run for Number One</a>	Key dates leading to J.C. Penney's Manhattan opening	08/01/09
<a href="#">The Millionaire's Club</a>	Bonuses for top employees at nine big U.S. banks	07/31/09
<a href="#">Healthy Compensation</a>	Pay packages at Morgan Stanley and Goldman Sachs, 2006-2009	07/02/09
<a href="#">Home Prices Continue Descent</a>	Map of the 20 metro areas tracked by the S&P/Case-Shiller home-price index	06/30/09
<a href="#">Lennar's Big Deal</a>	Anatomy of a deal that helped give Lennar a cushion to ride out the housing crisis	06/22/09
<a href="#">Dreamliner Deferred</a>	Boeing's share price, key events and production delays for its 787 Dreamliner plane	06/23/09
<a href="#">Banks That Went Bust</a>	Map, details on banks shut down by regulators since 2008	Ongoing
<a href="#">Outsourcing on the Rise</a>	Charts of spending, destinations, top 15 outsourcers	05/28/09
<a href="#">How the U.S. Got Mailed</a>	The American mall's rise to prominence and recent woes	05/22/09
<a href="#">Under Stress: Testing the Rest</a>	Results of stress tests to other financial institutions	05/19/09
<a href="#">Stress: Bank-by-Bank Findings</a>	Details on the government's "stress test" reports	05/07/09
<a href="#">Comparing Stress Test Scores</a>	Results for the U.S.'s 19 largest financial institutions	05/07/09
<a href="#">Mapping the Minnesota Downturn</a>	Foreclosure rates county-by-county	05/05/09
<a href="#">Pressure on the Presses</a>	Changes at the top 100 U.S. newspapers by circulation	Ongoing
<a href="#">A Building Problem</a>	Commercial real estate in Atlanta's upscale Buckhead neighborhood	04/22/09
<a href="#">Lending by TARP Recipient Banks</a>	Lending declines at top 21 recipients of taxpayer funds	04/20/09
<a href="#">Earnings Pressure on Dow Components</a>	Dow companies' performance since the financial crisis began	04/18/09
<a href="#">Easing Off the Gas Pedal</a>	The era of increasing gas consumption in the U.S. is over	04/13/09

## Home Prices Stabilizing

Home prices in major U.S. cities rose in May for the first time in almost three years, the latest data to indicate a bottom could be forming in the housing market—and the broader economy. Year-over prices are still declining, as the map shows; click on a city to see regional information. [See related article](#)

[Print Graphic](#)



Source: Standard & Poor's & FiservData

## APPENDIX E

Published: September 11, 2009

### A Year of Financial Turmoil



A timeline of the most pivotal events in the financial crisis.



Sept. 20, 2008

#### Bush Pushes for a Bailout

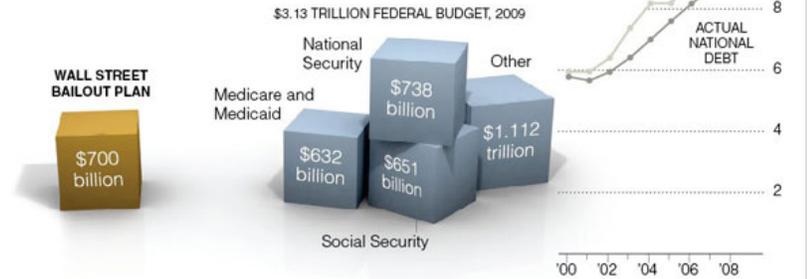
In a proposal that was stunning for its stark simplicity, the Bush administration formally asked for a vast bailout of financial institutions, requesting unfettered authority for the Treasury Department to buy up to \$700 billion in distressed mortgage-related assets from the private firms.

- Administration Is Seeking \$700 Billion
- A Bailout Plan, but Will It All Work?
- A Professor and a Banker Buy

The New York Times

#### Weighing the Bailout Plan

The bailout package proposed by the Treasury Department is bigger than the entire 2009 budget appropriation for Social Security. The plan also increases the limit on national debt, which has been rising rapidly since 2001.



Sources: Treasury Department; Office of Management and Budget

GRAHAM ROBERTS AND HANNAH FAIRFIELD/THE NEW YORK TIMES

## APPENDIX F

ZOOM IN ZOOM OUT

**Food and beverages 15%**

The high price of oil is a factor that has made food prices rise quickly.

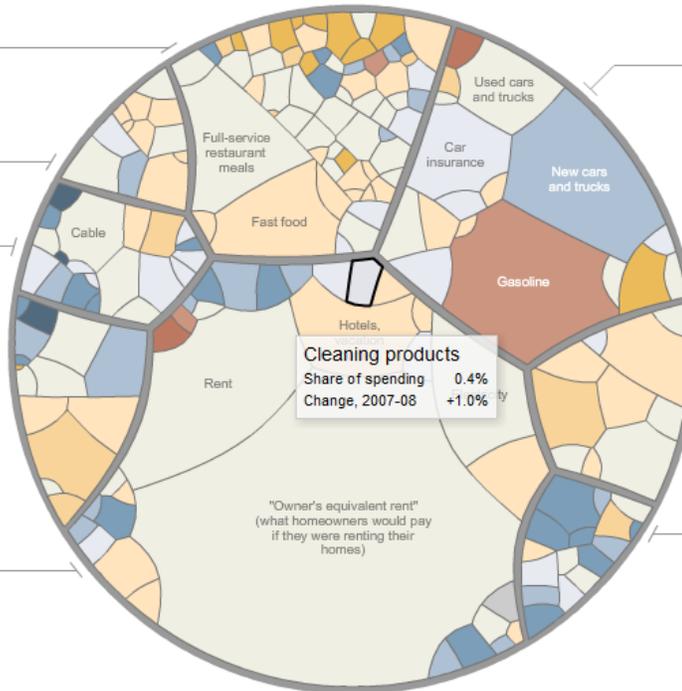
**Miscellaneous 3%**

**Recreation 6%**

**Education/Communication 6%**  
Cellphones were added to the index in 1997. Because the Consumer Price Index can be slow to add new goods, which are often cheaper, it may overstate parts of inflation.

**Housing 42%**

In the C.P.I., home ownership costs track rent prices more closely than housing prices. This means inflation may have been understated when home prices were rising faster than rents.



**Transportation 18%**

Gas is 5.2 percent of spending nationwide, but only 3.8 percent in the New York area.

**Health care 6%**

As a group, the elderly spend about twice as much of their budget on medical care.

**Apparel 4%**

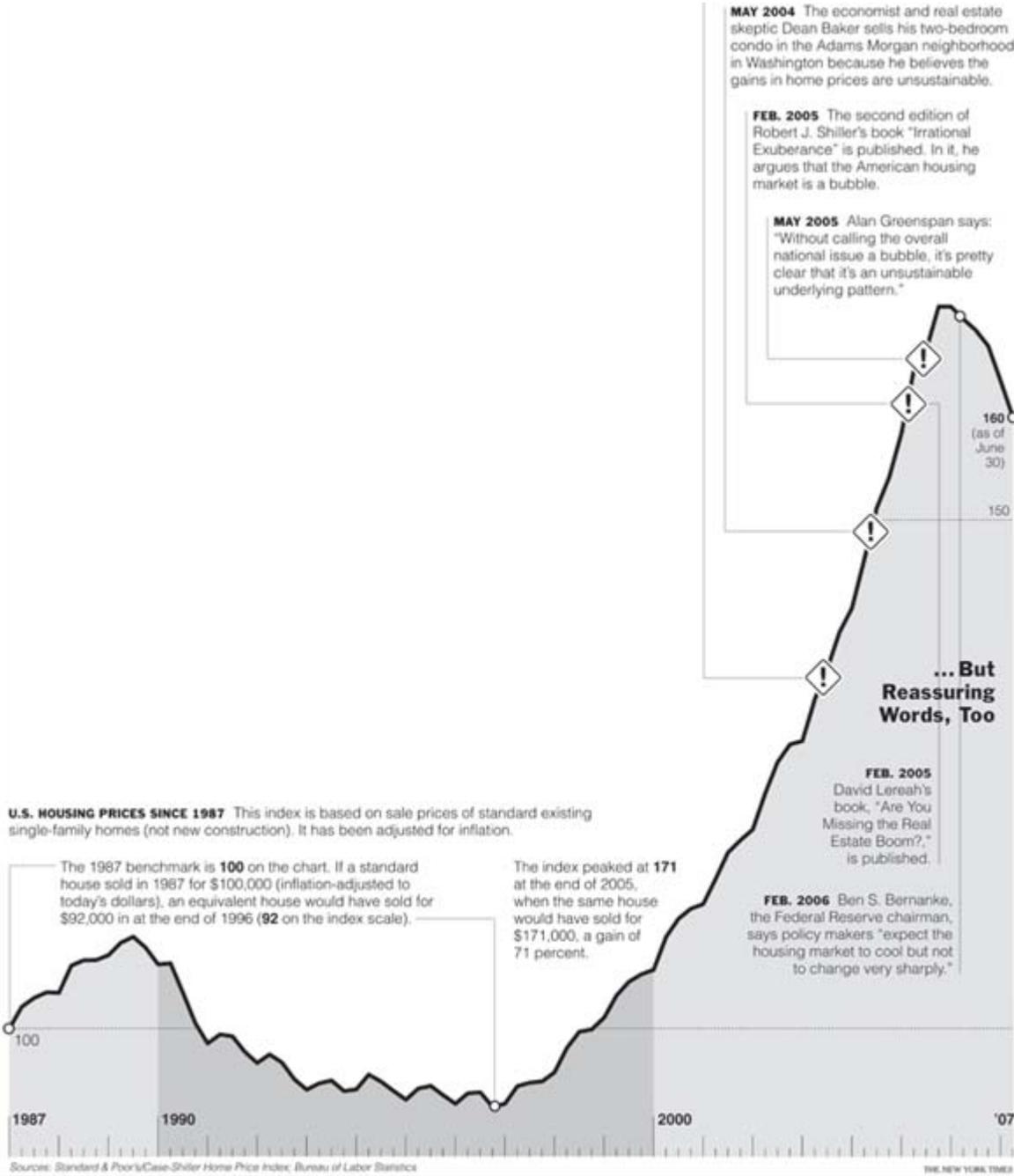
The ratio of spending on women's clothes to that on men's clothes is about 2 to 1.

**Cleaning products**  
Share of spending 0.4%  
Change, 2007-08 +1.0%

Sources: Bureau of Labor Statistics; Michael Balzer, University of Konstanz (Germany)

Matthew Bloch, Shan Carter and Amanda Cox/The New York Times

## APPENDIX G



## REFERENCES

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3. McKnight, J. (Jan 2006) Merlot – Not Just for Wine Connoisseurs, *Strategic Finance* 87, 7