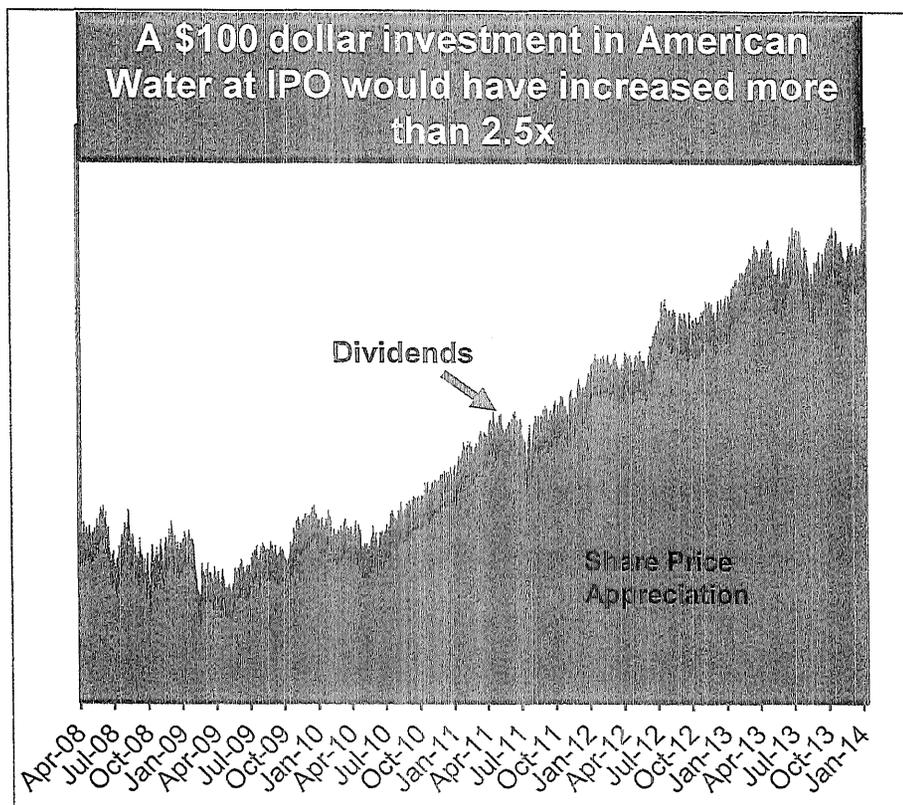


# We have delivered impressive total shareholder value since 2008 IPO



Dividend and Share Price History: IPO – January 31, 2014

Source: Thomson Reuters, Bloomberg

**Our Total Shareholder Return has outperformed S&P500 and Utility Peers**

	<u>One Year</u>	<u>Three Year</u>	<u>Five Year</u>
<b>American Water</b>			
Price Appreciation	13.7%	61.6%	141.7%
Including Dividend	16.8%	75.6%	183.7%
<b>UTY Index</b>			
Price Appreciation	6.1%	20.4%	49.9%
Including Dividend	10.5%	36.9%	86.9%
<b>S&amp;P500</b>			
Price Appreciation	22.8%	40.1%	152.9%
Including Dividend	25.3%	49.4%	181.2%

As of February 28, 2014

March 2014

OUCC 07-001

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Schedule 6, page 2 from Ms. Ahern's testimony provides a "PRPM Derived Risk Premium" for each of the nine companies in her Water Proxy Group. For example, for American States Water Company, Petitioner calculates a "PRPM Derived Risk Premium" of 7.44%. For each of the nine companies in Ms. Ahern's Water Proxy Group, please provide, in Excel format, the inputs used to calculate the "PRPM Derived Risk Premium."

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

Please see attachment OUCC 07-001-R1.

OUCC 07-002

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Please state all causes (including jurisdiction, utility, AUS witness, name of responding witness (if responding testimony has been filed) and date AUS testimony was filed) where AUS has presented the "Predictive Risk Premium Model" (PRPM) as part of its testimony.

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

Please see attachment OUCC 07-002-R1.

Use of Predictive Risk Premium Model (PRPM™) by AUS Consultants' Principals  
in Rate of Return Testimony

Company	Jurisdiction	Date of Testimony Submission	Docket Number	AUS Principal	Responding Witness(es)
Washington Gas Light Company	District of Columbia Public Service Commission	11-Feb-2012	1093	Frank J. Hanley	J. Randall Woolridge, Bruce Oliver
Arizona Water Company - Eastern Group	Arizona Corporation Commission	10-Apr-2012	W-01445A-11-0310	Pauline M. Ahern	William Rigsby, John Cassidy
San Gabriel Valley Water Company	California Public Utilities Commission	1-May-2012	12-05-002	Pauline M. Ahern	J. Randall Woolridge
Arizona Water Company - Northern Group	Arizona Corporation Commission	1-Aug-2012	W-01445A-12-0348	Pauline M. Ahern	William Rigsby, John Cassidy
Pinelands Water Company	New Jersey Board of Public Utilities	10-Aug-2012	WR12080735	Pauline M. Ahern	NA
Pinelands Wastewater Company	New Jersey Board of Public Utilities	10-Aug-2012	WR12080734	Pauline M. Ahern	NA
Pluris, LLC	North Carolina Utility Commission	13-Aug-2012	W-1282, SUB 8	Pauline M. Ahern	NA
United Water Toms River, Inc.	New Jersey Board of Public Utilities	19-Sep-2012	WR12080830	Pauline M. Ahern	NA
Tega Cay Water Services Inc.	Public Service Commission of South Carolina	19-Nov-2012	2012-177-VS	Pauline M. Ahern	Douglas Carlisle Stephen Criss, Matthew Kahal, Kevin O'Donnell
Jersey Central Power Light Company	New Jersey Board of Public Utilities	30-Nov-2012	ER12111052	Pauline M. Ahern	David Parcel
Aquarion Water Co. of New Hampshire, Inc.	New Hampshire Public Utilities Commission	6-Mar-2013	DW 12-085	Pauline M. Ahern	NA
United Water New Jersey, Inc.	New Jersey Board of Public Utilities	8-Mar-2013	WR13030210	Pauline M. Ahern	J. Randall Woolridge
Aquarion Water Co. of Connecticut	Public Utilities Regulatory Authority - CT	28-Mar-2013	13-02-30	Pauline M. Ahern	William Rigsby, John Cassidy
Arizona Water Company - Northern Group	Arizona Corporation Commission	12-Apr-2013	W-01445A-12-0348	Pauline M. Ahern	David Parcel, John Cassidy
Chaparral City Water Company	Arizona Corporation Commission	26-Apr-2013	W-02113A-13-0118	Pauline M. Ahern	Juan Alvarado, Charles King, Bruce Oliver
Washington Gas Light Company	Maryland Public Service Commission	28-Apr-2013	9322	Frank J. Hanley	Oliver
Louisiana Water Service, Inc.	Louisiana Public Service Commission	June 2013	NA	Dylan W. D'Ascendis	NA Staff Cost of Capital Panel - Audrey
United Water New York, Inc.	New York State Public Service Commission	2-Jul-2013	13-W-0295	Pauline M. Ahern	Capers / Abdul Qadir
Columbia Water Company	Pennsylvania Utilities Commission	12-Jul-2013	R-2013-236-0798	Dylan W. D'Ascendis	Aaron Rothschild, Rachel Maurer Stephen Criss, Matthew Kahal,
Jersey Central Power Light Company	New Jersey Board of Public Utilities	7-Aug-2013	ER12111052	Pauline M. Ahern	Kevin O'Donnell
Twin Lakes Utilities, Inc.	Indiana Utility Regulatory Commission	August 2013	44399	Dylan W. D'Ascendis	Ed Kaufman
United Water Rhode Island, Inc.	Rhode Island Public Utilities Commission	12-Aug-2013	4434	Pauline M. Ahern	Matthew Kahal
United Utility Companies, Inc.	Public Service Commission of South Carolina	12-Sep-2014	2013-199-VS	Dylan W. D'Ascendis	Douglas Carlisle
Missouri Gas Energy	Missouri Public Service Commission	16-Sep-2013	GR-2014-0007	Pauline M. Ahern	Zephania Marevangeop
Utility Services of SC	Public Service Commission of South Carolina	19-Sep-2013	2013-201-VS	Dylan W. D'Ascendis	Douglas Carlisle
Pioneer Water LLC	Indiana Utility Regulatory Commission	3-Oct-2013	44309-U	Pauline M. Ahern	Maneesh K. Sharma
Carolina Water Service, Inc. of NC.	North Carolina Utility Commission	21-Oct-2013	W-354 SUB 336	Pauline M. Ahern	NA
Carolina Water Service, Inc. of SC	Public Service Commission of South Carolina	19-Nov-2013	2013-275-VS	Dylan W. D'Ascendis	Douglas Carlisle
Middlesex Water Company	New Jersey Board of Public Utilities	8-Nov-2013	WR13111059	Pauline M. Ahern	NA
United Water New Rochelle / United Water West Chester	New York State Public Service Commission	27-Nov-2013	13-W-0539/13-W-564	Pauline M. Ahern	NA
Tidewater Utilities, Inc.	Delaware Public Service Commission	30-Nov-2013	13-466	Pauline M. Ahern	AN Staff Cost of Capital Panel - Audrey
United Water New York, Inc.	New York State Public Service Commission	6-Dec-2013	13-W-0295	Pauline M. Ahern	Capers / Abdul Qadir
Maine Water Company	Maine Public Service Commission	13-Dec-2013	2013-00362	Pauline M. Ahern	Stephen Hill
Aqua North Carolina, Inc.	North Carolina Utility Commission	13-Dec-2013	W-218, Sub 363	Pauline M. Ahern	NA

OUCG 07-003

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Is Ms. Ahern aware of any Investment Analysts (such as Goldman Sachs, BOFA Merrill Lynch, or Citigroup Global Markets) who use the PRPM? If yes, please list such Investment Analysts and explain how they are using the PRPM.

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCG)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

It is Ms. Ahern's opinion that investment analysts and fund managers use econometric models like GARCH in addition to more traditional models to estimate investor required returns. However, since most Wall Street investment analyst firms' methodologies are proprietary trade secrets, it cannot be confirmed whether or not any specific firm uses the PRPM<sup>TM</sup>.

OUCC 07-004

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Is Ms. Ahern aware of any entities outside of AUS who use the PPRM? If yes, please list the entities and explain how they are using the PRPM.

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

Ms. Ahern is not aware of any entities outside AUS Consultants which use the PRPM™, specifically. However since the PRPM™ is based upon GARCH methodology, please see Ms. Ahern's response to OUCC 07-003. Consistent with the Efficient Market Hypothesis (EMH), investment analysts have been aware of the GARCH methodology since the 1980s.

OUCC 07-005

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Is Ms. Ahern aware of any articles written (excluding AUS employees) that support the PRPM? If yes, please list all such articles.

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

Yes. The PRPM<sup>TM</sup> is the application of the GARCH model to historical returns and risk premiums. Robert Engle, Ph.D., who developed the GARCH model, shared the Nobel Prize in Economic Sciences in 2003 for his research. Please see attachments OUCC 07-005-R1 through OUCC 07-005-R12 for articles written in support of the GARCH model by non-AUS Consultants employs.

OUCC 07-006

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

CAPM theory defines risk as the co-variability of a security's returns with the market's returns as measured by beta ( $\beta$ ). A beta less than 1.0 indicates lower variability than the market, while a beta greater than 1.0 indicates greater variability than the market. In short, the market by definition has a beta of 1.0.

- a. Is there an equivalent market measure for GARCH?
- b. Please provide the equivalent market measure of GARCH. If there is no market equivalent measure for GARCH, please explain.
- c. Does a company's GARCH independently provide an analyst with any information about that company's risk? Please explain.
- d. Does a company's GARCH independently provide an analyst with any information about that company's required return? Please explain.
- e. A stock with a beta above 1.0 indicates greater variability than the market. According to Ms. Ahern's Schedule 6, page 2, American States Water Co. has a GARCH of 1.533. Does their GARCH of 1.533 provide an analyst with any information regarding American States Water Co.'s riskiness or required return? If so, what information can be derived by their GARCH?

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witnesses: Pauline M. Ahern**

OUCC 07-006

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Provided:**

- a. No. Each GARCH coefficient is generated independently from each company's / index's historical risk premiums.
- b. Please refer to the "Market PRPM Results" Tab in the electronic exhibit provided by Ms. Ahern in her workpapers. The GARCH coefficient is 2.8473238 and the average variance is 0.2898%.
- c. No. The GARCH variance series generated by the GARCH model is what provides information about a company's / index's risk. Risk, as generally defined, is expected variance.
- d. No. The GARCH coefficient, coupled with the GARCH variance series, explained in part c. above, generates an investor required risk premium for a particular stock / stock index.
- e. No. Please refer to part a. above.

OUC 07-007

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Please confirm that the term "Average Variance" from line 2 on Ms. Ahern's Schedule 6, page 2 of 11 is the average monthly variance of historical returns on each water company's common shares minus the historical monthly yield on long term U.S. Treasury securities. If this is incorrect, please explain what Ms. Ahern means by the term "Average Variance."

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

The "Average Variance" from line 2 of Ms. Ahern's Schedule 6, page 2 of 11 is not the historical mean return of historical returns on each water company's common shares minus the historical monthly yield on long-term U.S. Treasury securities. The "Average Variance" is the average predicted variance derived by the GARCH model to each company's series monthly historical returns less the historical monthly yield on long-term U.S. Treasury securities.

OUCG 07-008

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Are there different ways to calculate a GARCH coefficient? Please explain the different ways a GARCH coefficient can be calculated.

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

There are two means of deriving a GARCH coefficient according to the authors. One is to apply the GARCH model with a 'student's t' error distribution. The other is to apply the GARCH model with a "normal" error distribution.

OUCG 07-009

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Which method of calculating a GARCH coefficient was used in this case? Please explain why this method was chosen.

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

Ms. Ahern derived GARCH coefficients by using the ‘student’s t’ and the ‘normal’ error distributions as appropriate.

The authors prefer the use of the ‘student’s t’ error distribution when running the GARCH model as stated in “A New Approach for Estimating the Equity Risk Premium for Public Utilities”, Pauline M. Ahern, Frank J. Hanley and Richard A. Michelfelder, Ph.D. The Journal of Regulatory Economics (December 2011), 40:261-278 (provided in Ms. Ahern’s Testimony Workpapers):

“We used maximum likelihood estimation with the likelihood function specified with the non-unitary-variance T-distribution as the approximating distribution of the residuals to accommodate the thick-tailed nature of the error distribution.”

OUC 07-009

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Provided (Continued):**

“The estimates of the non-unitary variance T-distribution degrees of freedom parameter are low and statistically significant, indicating that the residuals are well approximated by the T. Similar values for the log-likelihood functions (Log-L) show that each of the regressions has a similar goodness-of-fit. Chi-squared distributed likelihood ratio tests (not shown but available upon request) that compare the goodness of fit among the T and normal specifications of the likelihood function of the GARCH-M regressions show that the T has a significantly better fit than the normal distribution.”

However, the use of regression methods for using the student's t error distribution involves a method (maximum likelihood estimation) that is prone to less stability in estimation, (not in the estimates) relative to ordinary least squares and the normal distribution. Therefore, it is preferred as it provides more efficient estimates (slopes and intercept), i.e., those with lower standard errors. This is because stock returns regression errors usually are non-normally distributed due to thick tails relative to the normal distribution.

Sometimes a stock's returns cannot be modeled with the student's t error distribution due to potential instability (no results are forthcoming as the software will stop running as the regression simply cannot be completed) and therefore we fall back to the normal error distribution since it involves ordinary least squares that is more stable for regression estimations albeit leading to higher standard errors of the slopes and intercept.

The actual values of the GARCH coefficients derived by the student's t and the normal error distributions do not vary significantly. Ms. Ahern derived GARCH coefficients using the student's t error distribution for the market indexes and the normal error distribution for the individual company stocks.

OUC 07-010

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Did Petitioner use the same methodology to calculate GARCH throughout their testimony?  
If no, please explain which methods were used and why different GARCH calculations were used.

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

Please see Ms. Ahern's responses to OUC 07-008 and OUC 07-009.

OUC 07-011

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

As part of its workpapers labeled MSFR-70, Petitioner provided an Excel worksheet of Ms. Ahern's schedules. Refer to the tab titled "Market PRPM Results." For each of the indices included in that worksheet, please calculate the GARCH coefficient, the variance and the risk premium (in the same manner as used in testimony) for the following decades: 1930s, 1940s, 1950s, 1960s, 1970s, 1980's, 1990s, and 2000s.

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

Please see attachment OUC 07-011-R1.

OUCG

07-013

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Is the 10.36% PRPM Risk premium from January 1926 through October 31, 2013 (from Schedule 7, page 2 of 2, footnote 1) derived from a "spot predicted variance" or an average variance? Please explain how the 10.36% risk premium was derived.

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

See the tab "Market PRPM Results" in the electronic exhibit provided with Ms. Ahern's workpapers (CD provided with MSFR #70) to show that the 10.36% PRPM<sup>TM</sup> equity risk premium from January 1926 – October 31, 2013 is derived  $((1 + 2.8473238 \text{ (GARCH coefficient)} * 0.2898\% \text{ (average predicted variance)})^{12} - 1)$ .

OUCG 07-012

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Please confirm that the following statements accurately describe the variances the OUCG has requested Petitioner provide in response to the prior data request question. If any of these statements are incorrect or are incomplete please clarify.

- a. The variances are forecasted variances based on a GARCH model.
- b. All of the individual forecasted variances are from the very beginning of usable data for that risk premium.
- c. The forecasted variances use different weighting factors (with current period weighted most heavily) so variances that appear to cover the same time period will have different results.

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCG)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

- a. Yes.
- b. Yes.
- c. Yes. The forecasted variances are derived using different weighting factors for each observation (with current month weighted more heavily and with all months taken into account) so variances that appear to cover the same time period, i.e., month, may have different results.

OUC 22-014

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

As part of its workpapers labeled MSFR-70, Petitioner provided an Excel worksheet of Ms. Ahern's schedules. Refer to the tab titled "Market PRPM Results." For each of the indices included in that worksheet, please calculate the GARCH coefficient, the variance and the risk premium (in the same manner as used in testimony) for the following time periods (without including usable data that takes place prior to the indicated time period).

- a. January 1, 1930 – December 31, 1939
- b. January 1, 1940 – December 31, 1949
- c. January 1, 1950 – December 31, 1959
- d. January 1, 1960 – December 31, 1969
- e. January 1, 1970 – December 31, 1979
- f. January 1, 1980 – December 31, 1989
- g. January 1, 1990 – December 31, 1999
- h. January 1, 2000 – December 31, 2009
- i. January 1, 2004 – December 31, 2013

Please note that the requested data has not been provided in response to OUC Data Request No. 7-11. The responses to OUC Data Request No. 7.11 included market activity that took place prior to the requested time periods, as acknowledged by Petitioner in response to OUC Data Request No. 7-12(b).

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witness: Pauline M. Ahern**

OUC 22-014

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Provided:**

The requested data has been provided in response to OUC 22-014 Data Request 7-11. In using the PRPM™, Ms. Ahern takes the entire historical period into account. This means she is providing the calculations of the predicted risk premium in the same manner as used in her direct testimony and in the article in which this model was established. Since each monthly premium is calculated independently, risk premiums calculated before 1930 do not affect risk premiums calculated after 1930 and so on.

OUCC 38-002

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

As part of its workpapers labeled MSFR-70, Petitioner provided an Excel worksheet of Ms. Ahern's schedules. Refer to the tab titled "Market PRPM Results." For each of the indices included in that worksheet, please calculate the GARCH coefficient, the variance and the risk premium (without taking the **entire** historical period into account) for:

January 1, 1930 - December 31, 1939 (Please explain any change to the calculation of the GARCH coefficient, the variance and the risk premium other than the change to exclude market activity that took place prior to the requested time period.)

Please note that the requested sub-period **has not** been provided in response to OUCC Data Request No. 7-11. As stated by Ms. Ahern in her response to OUCC data request question 22-14, "In using the PRPM™, Ms. Ahern takes the **entire** historical period into account." (Emphasis added), thus the previous data request responses include activity prior to 1930 (entire historical period) and the requested sub-period (excluding prior period data) has not been previously provided.

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
Scott Franson – [sfranson@oucc.in.gov](mailto:sfranson@oucc.in.gov) – 317-232-2786  
Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witness: Pauline M. Ahern**

**Objection:**

Petitioner objects to Request OUCC 38-002 on the grounds and to the extent the request seeks a compilation or analysis that Petitioner has not performed and which Petitioner objects to performing.

OUC 38-002

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Provided:**

Subject to and without waiver of the foregoing objection, Petitioner states that the requested analysis was not done in the preparation of Ms. Ahern's recommended cost of common equity because it is not consistent with the premise of or conclusions on the PRPM™ discussed in both "A New Approach for Estimating the Equity Risk Premium for Public Utilities", Pauline M. Ahern, Frank J. Hanley and Richard A. Michelfelder, Ph.D. The Journal of Regulatory Economics (December 2011), 40:261-278 and "Comparative Evaluation of the Predictive Risk Premium Model™, the Discounted Cash Flow Model and the Capital Asset Pricing Model", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University, Dylan W. D'Ascendis, Frank J. Hanley, *The Electricity Journal*, May 2013. In addition, the use of sub-periods of a long series of historical return data is not consistent with the long-term nature of the cost of capital or the long-lives of utility rate base. Also, the use of such sub-periods is not consistent with the empirical research of Ibbotson® SBBI® - 2013 Valuation Yearbook – Market Results for Stocks, Bonds, Bills and Inflation (SBBI-2013) (Morningstar, Inc., 2013). SBBB-2013 corroborates this when it states the following on page 59 regarding the choice of an appropriate historical time period for determining the equity risk premium:

"The estimate of the equity risk premium depends on the length of the data series studied. A proper estimate of the equity risk premium requires a data series long enough to give a reliable average without being unduly influenced, by very good and very poor short-term returns. When calculated using a long data series, the historical equity risk premium is relatively stable.<sup>(5 footnote omitted)</sup> Furthermore, because an average of the realized equity risk premium is quite volatile when calculated using a short history, using a long series makes it less likely that the analysts can justify an number he or she wants. The magnitude of how shorter periods can affect the result will be explored later in this chapter.

OUCC 38-002

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

Some analysts estimate the expected equity risk premium using a shorter, more recent time period on the basis that recent events are more likely to be repeated in the near future; furthermore, they believe that the 10290s, 1930s and 1940s contain too many unusual events. This view is suspect because all periods contain "unusual" events. Some of the most unusual events of the last hundred years took place quite recently, including the inflation of the late 1970s and early 1980s, the October 1987 stock market crash, the collapse of the high-yield bond market, the major contraction and consolidation of the thrift industry, the collapse of the Soviet Union, the development of the European Economic Community, the attacks of September 11, 2001 and the more recent liquidity crisis of 2008 and 2009." (See attachment OUCC 38-002-R1)

In addition, reasonably priced commercial statistical software, such as EViews, SAS, STATA, NCSS, etc. contain GARCH methodology modules which are capable of calculating the necessary coefficients with which to derive a PRPM<sup>TM</sup> return using the information that Petitioner has already supplied to the OUCC.

OUCC 07-016

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

On page 15 of her testimony, Ms. Ahern asserts that Petitioner is smaller than the average proxy group company. How many of the nine companies in the water company proxy group are larger than Petitioner?

**Requested By:** Daniel M. LeVay – [dlevay@oucc.in.gov](mailto:dlevay@oucc.in.gov) – 317-232-2494  
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Tiffany Murray - [timurray@oucc.in.gov](mailto:timurray@oucc.in.gov) – 317-232-2494  
Office of Utility Consumer Counselor (OUCC)

**Witnesses: Pauline M. Ahern**

**Information Provided:**

Please see attachment OUCC 07-016-R1. Based upon an estimated market capitalization, Indiana American Water Co. is smaller than American States Water Co., American Water Works Co., Inc., Aqua America, Inc. and California Water Service Group.

Indiana American Water Company  
Market Capitalization of Indiana American Water Company and  
the Proxy Group of Nine Water Companies

Company	Exchange	1 Common Stock Shares Outstanding at Fiscal Year End 2012 (millions)	2 Book Value per Share at Fiscal Year End 2012 (1)	3 Total Common Equity at Fiscal Year End 2012 (millions)	4 Closing Stock Market Price on November 29, 2013	5 Market-to-Book Ratio on November 29, 2013 (2)	6 Market Capitalization on November 29, 2013 (3) (millions)
Indiana American Water Company		NA	NA	\$ 328.222 (4)	NA		
Based Upon the Proxy Group of Nine Water Companies						216.1 % (5)	\$ 709.288 (6)
6							
<u>Proxy Group of Nine Water Companies</u>							
American States Water Co.		38,474	\$ 11.815	\$ 454,579	\$ 29.180	247.0 %	\$ 1,122.684
American Water Works Co., Inc.		176,988	\$ 25.115	\$ 4,444.988	\$ 42.350	168.6	\$ 7,495.442
Aqua America, Inc.		175,209	\$ 7.909	\$ 1,385.704	\$ 24.070	304.3	\$ 4,217.283
Artesian Resources Corp.		7,838	\$ 15.078	\$ 118.180	\$ 23.700	157.2	\$ 185.763
California Water Service Group		41,908	\$ 11.304	\$ 473.712	\$ 22.860	202.2	\$ 958.022
Connecticut Water Service, Inc.		10,939	\$ 17.014	\$ 186.121	\$ 34.750	204.2	\$ 380.147
Middlesex Water Company		15,795	\$ 11.499	\$ 181.632	\$ 21.980	191.1	\$ 347.174
SJW Corporation		18,671	\$ 14.708	\$ 274.604	\$ 27.460	186.7	\$ 512.694
York Water Company		12,919	\$ 7.727	\$ 99.825	\$ 21.890	283.3	\$ 282.789
Average		55.416	\$ 13.574	\$ 846.594	\$ 27.582	216.1 %	\$ 1,722.444

NA= Not Available

- Notes: (1) Column 3 / Column 1.  
(2) Column 4 / Column 2.  
(3) Column 5 \* Column 3.  
(4) From Financial Statements of Indiana American Water Company for Fiscal Year End 2012.  
(5) The market-to-book ratio of Indiana American Water Company on November 29, 2013 is assumed to be equal to the market-to-book ratio of the Proxy Group of Nine Water Companies at November 29, 2013.  
(6) Indiana American Water Company's common stock, if traded, would trade at a market-to-book ratio equal to the average market-to-book ratio at November 29, 2013 of the Proxy Group of Nine Water Companies, 216.1%, and Indiana American Water Company's market capitalization on November 29, 2013 would therefore have been \$709.288 million.

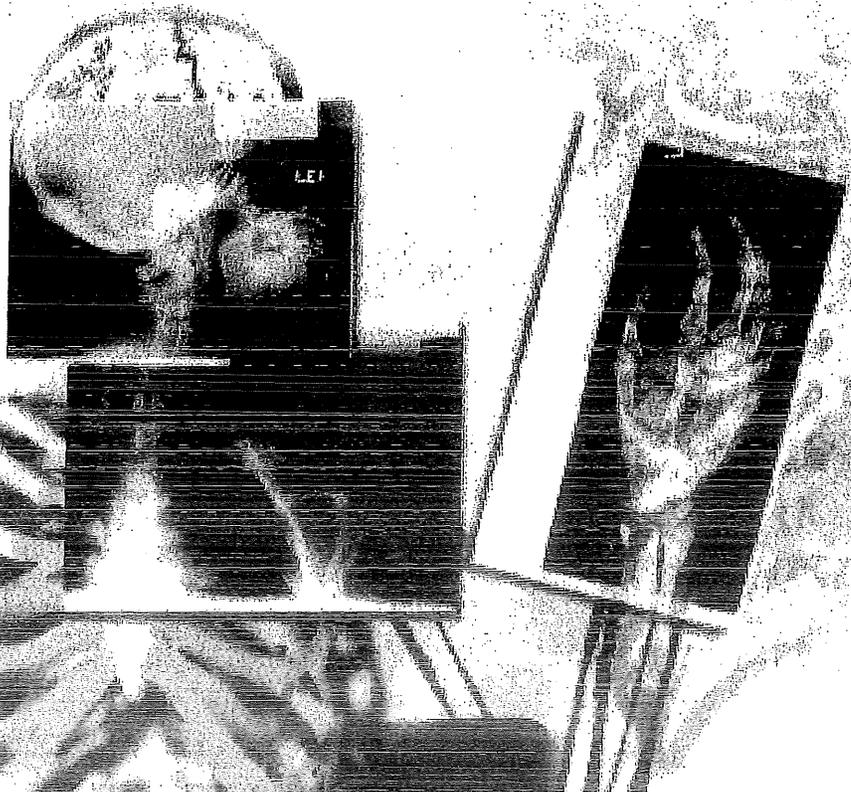
Source of Information: 2012 Annual Forms 10K  
yahoo.finance.com

# CALIFORNIA BROKER

VOLUME 24, NUMBER 1      SERVING LIFE/HEALTH INSURANCE PROFESSIONALS & FINANCIAL PLANNERS OF CALIFORNIA      OCTOBER 2005

## X-RAYING HMOS

An Inside Look at  
the Industry with  
Our Annual Survey



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*HSA's • Annuities • Vision*  
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*Featuring:*

 **Cal Advisor**  
National Association of Insurance and Financial Advisors - California

Variable Universal Life

# How to Get Sued and Lose All Your Clients Using VUL

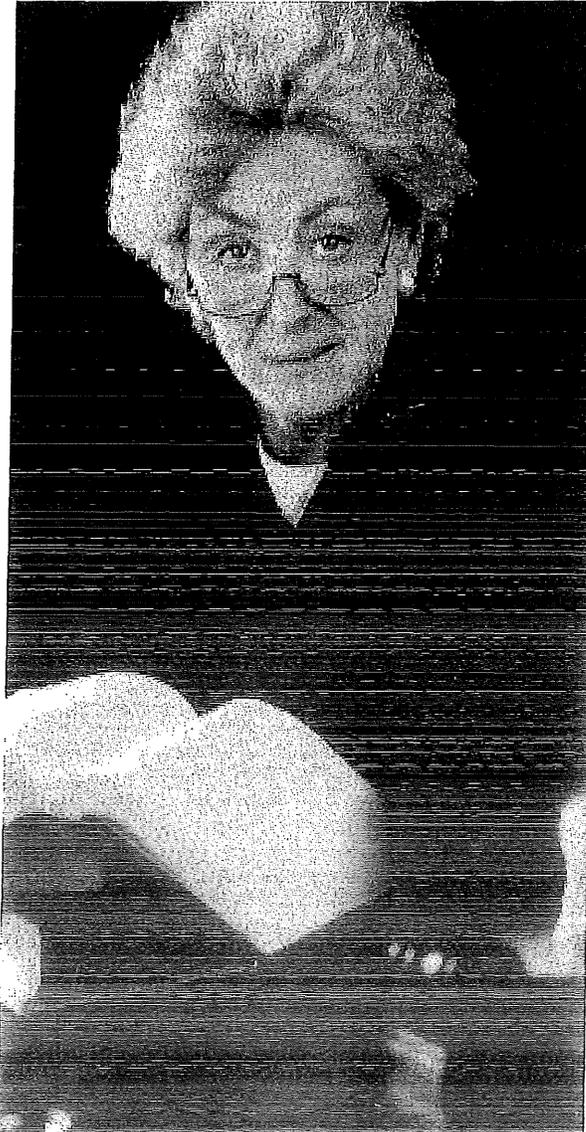
by Harry M Beck,  
CLU, CFA, CFP

Universal life insurance (UL) is popular because it offers the maximum flexibility for case design. Universal life insurance is no different from most forms of life insurance; it is designed to sell through illustrations that are merely estimates of an unknown future. Although illustrations display "guaranteed" results, sales are frequently made from future non-guaranteed estimates. The NAIC and the Securities and Exchange Commission (for variable products) regulate life insurance illustrations.

The success of a policy depends on an assumed premium payment, which is derived from a correct estimate of the capital markets (capital market expectations). Unfortunately, estimating future investment returns is difficult for producers or anyone else. Recent capital market surprises of lower than expected interest rates and lower equity returns have resulted in many traditional UL policies failing or being in danger of failing. I believe these failures will pale in comparison to the coming failure of variable universal life (VUL) policies, which often illustrate equity returns of 10% or more.

It may only be a matter of time before the legal profession finds it lucrative to sue agents who do the following:

- Sell VUL policies using unrealistic past performance illustrations.
- Do not use current capital market expectations to drive current illustrations.



- Do not actively monitor the performance of the VUL policies they sell.

## Illustrating 10% to 12% Equity Returns is Dangerous and Wrong

The SEC allows carriers to illustrate hypo-

thetical future returns. Variable life illustrations must show a 0% return, a 6% return, and a rate "not greater than 12%." Many carriers think it is acceptable to illustrate equity sub-accounts at 10% to 12% simply because the SEC allows them to do so. Many agents, using data from a highly unusual period, still believe that domestic equities are expected to grow at better than 10% per year. These agents believe that it is prudent to illustrate 10% returns and base premium payments upon the equity sub-accounts growing at this rate of return. I disagree and I believe that illustrating these returns is irresponsible and invites legal liability for the following reasons:

### 10% Equity Return Over Long Periods is Impossible

There is a pragmatic argument, originally brought forth by two of the most respected names on Wall Street – Peter Bernstein and Robert Arnott, which "proves" a 10% rate of return for equities over the long-term is impossible. Assume an investor put \$10,000 in a form of super-dynasty trust in 1792 (I know there was no such thing back then) – the year George Washington became our first president. If that money were compounded at 10% for 213 years (until today), it would

equal \$6.5 trillion. This amount is more than one-half of the U.S. GDP and greater than the GDP of Japan. It is obvious that no single person or family could ever become that rich! Therefore, stocks must offer long-term returns under 10%. This strongly suggests that illustrating 10%

returns is irresponsible and invites complaints from clients and their legal advisors.

The *Financial Analysts Journal* published two articles within the past five years by Bernstein and Arnott regarding the equity risk premium (ERP). The ERP is the required return necessary for investors to take the added risk of investing in stocks versus a risk-free return (For example, a 10-year Treasury bond). The authors conclude that the premium is now "skinny" – perhaps close to zero, suggesting that future equity return will be far, far lower than what the SEC allows for policy illustrations. Producers should take heed of this and adjust their assumed returns for equity sub-accounts accordingly.

### Stocks Cannot Grow Faster Than the Growth Rate of Earnings Plus Inflation

In the aggregate, stocks cannot grow at a faster rate in the long-term than their ability to grow their earnings or dividends. Investment guru, Gary Brinson's recent research determined the real (inflation adjusted) growth trend rate of profits per share in the S&P 500 was only 1.8% from 1947 to 2002. Of course, investor returns were significantly better due to the expansion or the price/earnings multiple during this unusual period! When adjusted for stock buybacks, the growth rate for dividends also approximated this number (Dividends in the aggregate cannot grow faster than earnings growth).

Most asset allocation models used to illustrate VUL seem to suggest that the growth trend rate is significantly higher than Brinson's findings. The typical asset allocation model that carriers use assumes a nominal growth rate of around 7%. If expected inflation is at 2.5%, the real (inflation adjusted) growth rate is approximately 4.5%. This is more than double the historical rate of 1.8% of Brinson's findings! According to Brinson, "People may argue for any future growth rate they desire, but they need to defend their forecast in a rigorous fashion. Demands for this rigor will accelerate in the future as investors seek to explain disappointing results relative to model outputs achieved with careless input assumptions."

Gary Brinson also believes that today's investment market fundamentals and financial variables clearly suggest that

future real returns from a mixed portfolio of stocks; bonds; and other assets, such as real estate, are unlikely to be greater than 4.5% to 5%."

Including fees and commissions, the likely future returns for equity and balanced sub-accounts are much less than what is currently illustrated. This suggests that it is highly unlikely that investor expectations will be met.

### 10% Returns Do Not Include Fees, Commissions, and Survivorship Bias

All load insurance policies have fees and commissions. Yearly fees reduce the performance of the sub-account return within the policy. Total commissions on UL policies are often higher than 120%. These commissions reduce the amount of cash value within the policy. The long-term effect of fees and commissions can affect the annualized portfolio return by 2% or more! Illustrating benchmark or active manager returns without reducing those returns for fees and commissions can lead to unsatisfactory future returns.

Indexes are typically used as proxies when quoting the long-term returns for equities. These indexes, such as the S&P 500 or Dow Jones, routinely drop bankrupt or poorly performing companies and replace them with healthier and faster growing ones. Thus, "managed" indexes, like the S&P 500, are biased toward the surviving companies and display higher returns than an investor is likely to have received. When fees, loads, and survivorship biases are included, likely future investor returns are less than what some carriers are illustrating.

### Past Performance Is Unlikely to Equal Future Results if the Base (Value) Starting Point Going Forward Changed

The price earning (P/E) ratio and dividends are two of the most widely used measures of stock market value. Proponents of illustrating a 10% rate of return from equities use a period that usually starts from 1926 when stocks were selling at mid-single digit P/E ratios and at 18x dividends. During 2000, stocks sold at P/E ratios above 22 and at 80 times dividends! As much as one-third of the return from stocks during this period came from investors paying more for their shares and

not from earnings growth.

Is the price investors pay for equities likely to keep increasing at the 1926 to 2000 rate? Is the P/E multiple expansion likely to continue for the next 80 years, sending the S&P 500 (or any other domestic equity index) to a P/E multiple above 80? Is the market ever likely to sell at 320x dividends or are valuations likely to contract (mean reversion)? Since 2000, the earnings of the S&P 500 have increased, while the overall market performance is down due to a contraction of P/E ratios. Market history suggests that the contraction will not stop until the average P/E ratio goes below the historical mean of approximately 12%. This suggests that any VUL policy sold today illustrating a 10% equity return is likely to disappoint if the average P/E ratio goes to historical levels.

### Positive Future Performance May Still Cause Policies to Fail

Although it seems illogical, sub-account investments in variable policies may be positive over time and still cause the policy to fail. This is because all UL policies, particularly VUL, are highly sensitive to performance in the early years when the cash value is low due to commissions and other expenses. Early losses followed by later investment gains may be disastrous for a policy, even though the long-term return matched the original policy illustration.

One way to illustrate this concept is to review the difference between arithmetic and geometrically linked rates-of-return. Say a sub-account lost 50% in year one and gained 50% in year two. The arithmetic return is zero ( $-50 + 50$  divided by 2 = 0). The geometric return, representing what the investor actually received, is a loss of 25% ( $\$100 - 50\%$  is  $\$50$ .  $\$50 + 50\%$  =  $\$75$ .  $\$75$  is 25% less than the original investment.) Therefore, the investor must earn 33% in year three to break even! Sub-account performance is advertised using arithmetic returns, but a policy lives or dies based on what the investor actually earns (geometrically linked returns).

Early sub-account underperformance may have a devastating effect on the survival potential of a VUL policy. The S&P 500 had a negative five-year return since 2000. This certainly does not bode well for the majority of variable policies sold since then.

## The Big Risks to Agents

Producers who illustrate policies using overly optimistic assumptions risk a lot more than simply having unhappy clients:

### Potential Legal Problems With Pension Plans

Producers who sold failing universal life policies to pension plans may have unforeseen liabilities. Under ERISA, any person who gives advice for a fee and/or other compensation is a fiduciary. Therefore, producers are subject to fiduciary standards and must be vigilant and monitor life insurance sold to pension and profit sharing plans. I believe producers should recommend changes in premium assumptions and/or offer alternative solutions if the life insurance they sold is likely to fail. (Of course, this is difficult if a home office will not allow an agent to recommend a life settlement). Agents must actively monitor all insurance sold to pension plans. If they do not, it is only a matter of time before the legal profession earns contingency fees suing for breach of fiduciary standards.

### Potential Legal Problems With Trusts

Trustees of ILITs and other trusts that hold life insurance have fiduciary obligations to the trust and remaindermen. Since 1996, California has adopted many of the provisions of the Uniform Prudent Investor Act. It is possible that a producer who sold a policy to the trust (and is currently receiving renewal commissions) has a fiduciary responsibility to that trust. That producer has an obligation to monitor the policy actively and make recommendations to the trust regarding changing the premium assumptions and the potential for a life settlement (if necessary). The agent's failure to do so could be construed as a breach of fiduciary duty, putting the agent in legal jeopardy.

### Potential Legal Problems With Investors

Individual investors with investment losses based upon inappropriate advice have successfully sought relief through arbitration or the courts. Will the same thing happen with investors who own VUL policies that use a 10% equity assumption? Michael Tate, who oversees \$375 million of assets for a New England Financial branch in San Ramon, Calif., says, "At least 75% of every variable

universal life policy I review for prospects is destined to fail." If Tate's observation is indicative of the marketplace, the potential producer liability is huge.

### VUL Producers Must Protect Themselves

Variable policies will always make sense when used for the right reasons. But, producers must be vigilant about protecting themselves from future liability. Producers can certainly take steps to protect themselves from potential legal action. They must only sell variable product to clients who understand investment risks. Producers must use reasonable investment assumptions when selling any type of variable policy, even if the SEC allows higher returns to be illustrated. Producers must assume that all UL policies need active management, which mandates monitoring the policy regularly. If a policy is in danger of failing, producers must be proactive with solutions to rescue the policy, including informing the policy owner of the potential to life settle.

Producers should also consider using guaranteed UL policies. For example, one company is offering an extended non-lapse rider that "guarantees" on its protection VUL policy as long as the policy owner selects a sub-account consisting of a predetermined asset mix and makes continuous and timely premium payments. Even if the capital market expectations are faulty, the policy will not fail, even if the cash value goes to zero. I believe the benefits of these policies far outweigh their costs.

### Conclusion

Producers selling UL, particularly VUL, must use realistic assumptions when designing illustrations for clients. Lower expected equity returns, combined with the fees and commissions embedded within VUL, suggest that it is prudent to illustrate equity sub-accounts returns in the 5% to 7.5% range. Agents should reduce their exposure to liability by monitoring all UL policies regularly, using non-lapse riders, and offering advice for policies in danger of failing. This advice should also include the potential for a life settlement. □

*Harry M Beck, CLU, CFA, CFP is the Executive Vice President of Provada Insurance Services Inc. For more information, call 415-369-9990.*

I D E A  
**exchange**

## Building the Future From the Past\*



WENDY DARRONS

BY ROGER G. IBBOTSON

Professor in the  
Practice of Finance,  
Yale School of  
Management

UNTIL THE LAST TWO YEARS, INVESTORS had not seen consecutive negative annual stock market returns since the 1970s. In contrast, during the 1980s and 1990s the market produced its best 20-year performance ever. But neither the last two years nor the last two decades are good predictors of the long run.

A forecast usually begins by comparing the expected return on stocks with that of a low-risk asset, such as U.S. government bonds. This differ-

ence is called the equity (stock) risk premium, because it is likely to be positive and represents the extra payoff that an investor demands (but does not always get) for investing in something risky (stocks) compared with something nearly risk-free (government bonds). Thus, the bond yield is our starting point, and adding the equity risk premium gives us the expected return on stocks.

ence is called the equity (stock) risk premium, because it is likely to be positive and represents the extra payoff that an investor demands (but does not always get) for investing in something risky (stocks) compared with something nearly risk-free (government bonds). Thus, the bond yield is our starting point, and adding the equity risk premium gives us the expected return on stocks.

Generally, the best way to get a sense of what the future may bring is to look at the past. After all, the past is our primary source of data. But, as you already know from recent market results, the stock market is quite

volatile. The only way to get a good representation is to look back over a long period of time, so that the ups and downs of the market tend to cancel out and we get a reasonable average. The compound average annual nominal rate of return (including inflation) for common stocks was 10.7 percent over the period 1926–2001. This return exceeded long-term U.S. Treasury yields by over 5 percent per year. That difference was the historical equity risk premium—the amount of extra return investors got over the last three-quarters of a century for invest-

ing in stocks rather than bonds.

But looking at historical stock returns relative to bond income is not the whole picture. The bull market of the 1980s and 1990s had so much of an impact on stock prices that the price of stocks in the S&P 500® Index is almost 30 times the earnings of the same companies. This contrasts with a price/earnings (P/E) ratio closer to 10 back in the 1970s—and only

about 14 over the whole 76 years. This growth in the P/E ratio is not expected to repeat in the future. Thus, to a certain extent, the stock market has outrun the underlying real earnings power of corporations.

A long-term forecast should not extrapolate the separation of the P/E ratio indefinitely. But today's high P/E ratios are not necessarily going to soon revert to historical levels, because the prices reflect the future outlook of investors—all those people and institutions that hold, buy, or sell stocks. In fact, if today's P/E ratio is higher than in the past, it has to mean one of three things: The price is now unrealistically high, people are willing to accept a much lower expected return for the

# Measuring Equity Risk



risk of stocks, or the market is optimistic that the earnings per share growth of corporations will be higher than it was in the past. In fact, I believe in the market's optimism. Earnings per share will grow at faster rates for two reasons. First, corporations are paying out lower dividends and retaining more earnings. These extra retained earnings are reinvested back into firms. If the money is used productively, extra growth can be achieved.

continued on page 12

I D E A  
exchange

## Stock Returns for a New Century\*

WHAT RETURNS SHOULD INVESTORS expect the U.S. stock market to deliver on average during this century? Does the experience of the last century provide a reliable guide to the future?

Perhaps the simplest way to try to forecast future returns is to use some average of past realized returns, but there are serious difficulties with this approach. Stock returns are so variable that even an average measured over a century is an unreliable guide to the true long-term average. Also, if the expected future stock return is not constant, but changes over time, it can have a perverse

BY JOHN Y. CAMPBELL

have happened during the long bull market of the 1980s and 1990s.

An alternative approach is to forecast future returns using valuation ratios—ratios of stock prices to accounting measures of value, such as dividends or earnings. One variant of this approach, known as the Gordon growth model, breaks returns into income

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HARVARD UNIVERSITY NEWS OFFICE

consistent with average realized returns. For instance, from 1871–2001, the average dividend/price ratio was just under 5 percent, while the average real growth rate was just over 2 percent, adding to about 7 percent, which is the long-term compound average realized stock return in real terms, that is, correcting for inflation. The average earnings/price ratio was also close to 7 percent.

But current valuation ratios are wildly different from historical averages, reflecting the unprecedented 20-year bull market that ended about two years ago. The dividend/price ratio, for example, has fallen dramatically to about 1.5 percent. In part, this may be due to a shift in corporate financial policy away from paying dividends and toward repurchasing shares. One way to correct for this is to add repurchases to conventional dividends, but this still implies a dividend/price ratio of only about 2.5 percent. The earnings/price ratio has also declined. In the short term, this ratio may be affected by temporary cyclical fluctuations in earnings. But even correcting for this, the earnings/price ratio is about half its long-term historical average.

The implications of current valuations for future returns depend on

continued on page 12

# k Premium

effect on the average realized return: Consider what happens if the expected future stock return declines—perhaps because investors have become more comfortable with equity (stock) market risk and require a smaller compensation for bearing it. Investors' willingness to reduce their equity risk premium itself tends to drive up the price of stocks, causing an increase in realized returns. Thus, at precisely the wrong time, when the expected future stock return is declining, the average of past stock returns will actually increase. This may well

(the dividend/price ratio) and capital gains (the long-term average growth rate of dividends). Return is estimated by the dividend/price ratio plus the dividend growth rate. Another variant argues that stock returns come from corporate earnings: Earnings that are paid out generate income, while earnings that are reinvested generate growth. In the long run, both components of earnings are equally valuable and thus return should equal the earnings/price ratio.

Over long periods of time, these formulas have given results that are

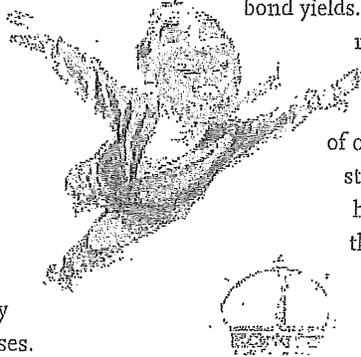
\*Ibbotson's and Campbell's columns refer to returns on the S&P 500<sup>®</sup> Index, in nominal terms and real (inflation-adjusted) terms respectively.

exchange

Building the Future From the Past continued from page 10

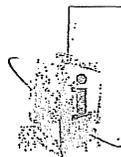
Second, investors are rationally willing to pay high prices for current earnings when they think future earnings will grow. The evidence demonstrates that over time investors who buy when the market's P/E ratios are high do just about as well as those who buy when the market's P/E ratios are low.

Stocks are predicted to outperform bonds in the future, but not by further P/E ratio increases.



Instead, stocks will tend to participate with the overall U.S. economy and earnings per share growth. My forecast for stocks is somewhat less than 4 percent in excess of long-term bond yields. Applying this premium to recent bond yields gives a long-term forecast of over 9 percent for the stock market. It is high, but lower than the historical stock market return. But, of course, there is no free lunch. The

reason stocks are expected to outperform bonds is that they are riskier than bonds. Although stocks belong in most people's portfolios, the smart investor will still want to diversify across different types of stocks, as well as across bonds and other asset classes.



To learn more about Ibbotson's research, go to <http://mba.yale.edu/faculty/professors/ibbotson.htm>.

Stock Returns for a New Century continued from page 11

whether the market has reached a new steady state, in which current valuations will persist, or whether these valuations are the result of some transitory phenomenon.

If current valuations represent a new steady state, they imply a substantial decline in the equity returns that can be expected in the future. The future expected stock return might be 3.5 percent to 4.5 percent, rather than the historical average of 7 percent. This would allow for only a very modest equity premium relative to Treasury bills or inflation-indexed Treasury bonds, which currently offer a safe 3.5 percent real yield.

If current valuations are transitory, it matters critically what happens to restore traditional valuation ratios. Rapid earnings and dividend growth could restore traditional valuations without any decline in stock prices. While this is always a possibility, it would be historically unprecedented. The U.S. stock market has an extremely poor record of predicting

long-term earnings and dividend growth. Historically, stock prices have increased relative to earnings during decades of rapid earnings growth, such as the 1920s, 1960s, and 1990s, as if the stock market anticipates that rapid earnings growth will continue in the next decade. But there is no systematic tendency for a profitable decade to be followed by a second profitable decade. The 1920s, for example, were followed by the 1930s, and the 1960s by the 1970s. Thus, stock market optimism often fails to be justified by subsequent earnings growth.

A second possibility is that stock prices will decline or stagnate until traditional valuations are restored. This has occurred at various times in the past after periods of unusually high stock prices, notably in the 1900s, 1910s, 1930s, and 1970s. This would imply extremely low and perhaps even negative returns during the adjustment period and then higher returns afterward.

It is too soon to tell which of these

views is correct, and I believe it is sensible to put some weight on each. That is, I expect valuation ratios to return part way but not fully to traditional levels, with the adjustment coming primarily from stock prices rather than earnings growth. A rough guess for the long-term stock return, after the adjustment process is complete, might be a compound average real equity return of 5.0 percent to 5.5 percent, corresponding to an equity premium of 1.5 percent to 2.0 percent.



To learn more about Campbell's research, go to <http://post.economics.harvard.edu/faculty/campbell/campbell.html>.

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MAY 28, 1999

VALUE LINE SELECTION & OPINION

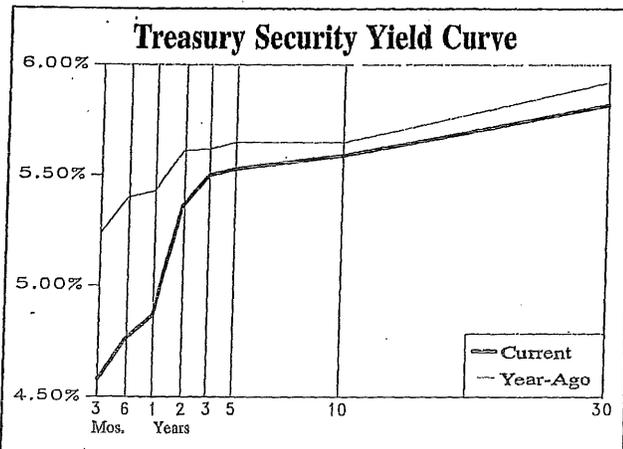
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## Value Line Forecast for the U.S. Economy

	ACTUAL					ESTIMATED				
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS</b>										
<b>(1992 CHAIN WEIGHTED \$)</b>										
<b>BILLIONS OF DOLLARS</b>										
Total Consumption	4486	4606	4752	4914	5153	5390	5554	5720	5892	6069
Nonresidential Fixed Investment	648	711	777	859	961	1043	1110	1165	1229	1303
Residential Fixed Investment	267	257	276	283	312	334	323	320	323	330
Exports	712	793	860	970	985	1003	1057	1138	1228	1325
Imports	817	889	971	1106	1223	1334	1407	1467	1546	1662
Federal Government	487	471	466	458	453	464	471	463	458	456
State & Local Governments	766	784	803	827	844	872	897	919	942	964
Gross Domestic Product	6947	7270	7662	8111	8511	8932	9265	9663	10111	10605
Real GDP (1992 Chain Weighted \$)	6611	6762	6995	7270	7552	7843	8024	8225	8447	8684
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Price Index (1992 Chain Weighted)	2.3	2.5	2.1	1.9	1.0	2.0	2.1	2.1	2.2	2.3
CPI-All Urban Consumers	2.6	2.8	2.9	2.3	1.6	2.8	2.5	2.5	2.6	2.7
PPI-Finished Goods	0.6	1.9	2.6	0.4	-0.9	2.3	1.6	1.6	1.8	2.0
Employment Cost Index—Total Comp.	3.2	2.8	2.8	3.1	3.5	3.5	3.5	3.5	3.5	3.5
Output per Hour-Nonfarm	0.5	0.6	0.8	1.2	2.2	2.3	1.5	1.6	1.7	1.7
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	5.8	3.3	2.8	6.0	3.7	2.3	2.5	3.0	3.0	3.0
Capacity Utilization Rate (%)	83.1	83.1	82.1	82.0	80.8	80.3	80.2	80.7	81.3	82.0
Housing Starts (Mill. Units)	1.45	1.36	1.47	1.48	1.62	1.63	1.55	1.50	1.50	1.50
Total Light Vehicle Sales (Mill. Units)	15.0	14.8	15.1	15.1	15.6	15.8	15.4	15.4	15.6	15.8
Unit Car Sales (Mill. Units)	9.0	8.6	8.5	8.2	8.2	8.1	7.8	7.7	7.6	7.6
U.S. Dollar Exchange Rate (% Change)	-1.5	-5.7	4.9	8.0	5.0	-1.0	-2.2	-3.3	-2.6	-1.8
National Unemployment Rate (%)	6.1	5.6	5.4	4.9	4.5	4.3	4.4	4.6	4.7	4.8
Federal Budget Surplus (Unified, FY, \$Bil)	-203.1	-163.9	-107.0	-22.0	70.2	117.0	108.0	90.0	115.0	125.0
Price of Oil (\$Bbl., U.S. Refiners' Cost)	15.52	17.24	20.69	19.11	12.66	14.90	16.60	17.25	17.90	18.75
<b>MONEY AND INTEREST RATES</b>										
Annual Money Supply (M2)	3502	3638	3806	4023	4365	4609	4812	5010	5220	5444
Yr-to-Yr % Change (Q4/Q4)	0.6	3.9	4.6	5.8	8.5	5.6	4.4	4.1	4.2	4.3
3-Month Treasury Bill Rate (%)	4.2	5.5	5.0	5.1	4.8	4.6	4.8	4.8	4.8	4.8
Federal Funds Rate (%)	4.2	5.8	5.3	5.5	5.4	4.8	5.0	5.0	5.1	5.2
30-Year Treasury Bond Rate (%)	7.4	6.9	6.7	6.6	5.6	5.6	5.6	5.6	5.7	5.8
AAA Corporate Bond Rate (%)	8.0	7.6	7.4	7.3	6.5	6.1	6.1	6.1	6.2	6.3
Prime Rate (%)	7.1	8.8	8.3	8.4	8.4	7.8	8.0	8.2	8.3	8.5
<b>INCOMES</b>										
Personal Income (% Change)	5.0	6.3	5.5	5.6	5.0	4.8	4.6	4.6	4.6	4.7
Real Disp. Inc. (% Change)	2.4	3.5	2.9	2.8	3.2	3.1	3.3	3.0	3.0	3.0
Personal Savings Rate (%)	3.8	4.7	4.9	2.1	0.5	-0.4	0.3	0.4	0.5	0.6
Pretax Corporate Profits (\$Bil)	531.2	635.6	680.2	734.4	717.8	760.0	798.0	846.0	905.0	977.0
Aftertax Corporate Profits (\$Bil)	335.9	424.6	454.1	488.3	477.7	502.0	527.0	558.0	597.0	645.0
Yr-to-Yr % Change	11.9	26.4	9.3	7.5	-2.2	5.0	5.0	6.0	7.0	8.0
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	3.5	2.3	3.4	3.9	3.9	3.8	2.3	2.5	2.7	2.8
Final Sales	2.9	2.5	2.8	3.5	4.0	2.7	2.5	2.5	2.6	2.7
Total Consumption	3.3	2.4	2.6	3.4	4.9	4.6	3.0	3.0	3.0	3.0
Nonresidential Fixed Investment	8.0	9.0	9.2	10.7	11.8	8.6	6.4	5.0	5.5	6.0
Construction	1.0	4.3	4.8	7.1	-0.1	1.0	2.5	2.5	3.0	3.5
Durable Equipment	11.0	10.8	10.9	12.1	16.5	12.0	7.0	5.0	6.0	7.0
Residential Fixed Investment	10.1	-3.8	5.9	2.5	10.4	7.0	-3.0	-1.0	1.0	2.0
Exports	8.2	11.1	8.3	12.8	1.5	1.8	5.3	7.7	7.9	7.9
Imports	12.2	8.9	9.1	13.9	10.6	9.1	5.5	4.2	5.4	7.5
Federal Government	-3.8	-3.3	-1.3	-1.6	-1.0	2.4	1.4	-1.6	-1.0	-0.6
State & Local Governments	2.6	2.1	1.6	3.1	2.0	3.3	3.0	2.4	2.5	2.4

## Selected Yields

	Recent (5/20/99)	3 Months Ago (2/18/99)	Year Ago (5/21/98)		Recent (5/20/99)	3 Months Ago (2/18/99)	Year Ago (5/21/98)
<b>TAXABLE</b>							
<b>Market Rates</b>							
Discount Rate	4.50	4.50	5.00				
Federal Funds	4.75	4.75	5.50				
Prime Rate	7.75	7.75	8.50				
30-day CP (A1/P1)	4.80	4.80	5.49				
3-month LIBOR	5.05	5.00	5.69				
<b>Bank CDs</b>							
6-month	4.00	3.97	4.45				
1-year	4.09	3.97	4.61				
5-year	4.52	4.19	4.97				
<b>U.S. Treasury Securities</b>							
3-month	4.58	4.52	5.24				
6-month	4.76	4.60	5.40				
1-year	4.87	4.70	5.43				
5-year	5.53	4.95	5.65				
10-year	5.59	5.04	5.65				
30-year	5.82	5.37	5.92				
30-year Zero	6.00	5.46	5.99				
<b>Mortgage-Backed Securities</b>							
GNMA 8%	6.93	6.57	6.93				
FHLMC 8%	6.88	6.49	6.88				
FNMA 8%	6.83	6.38	6.87				
FNMA ARM	5.72	5.70	6.17				
<b>Corporate Bonds</b>							
Financial (10-year) A	6.75	6.19	6.41				
Industrial (25/30-year) A	7.05	6.61	6.80				
Utility (25/30-year) A	7.06	6.55	6.71				
Utility (25/30-year) Baa/BBB	7.46	6.97	7.05				
<b>Foreign Bonds (10-Year)</b>							
Canada	5.38	5.14	5.37				
Germany	4.09	3.92	4.94				
Japan	1.33	1.99	1.55				
United Kingdom	4.98	4.52	5.85				
<b>Preferred Stocks</b>							
Utility A	6.82	6.82	6.83				
Financial A	4.95	4.80	5.14				
Financial Adjustable A	5.01	4.88	4.85				



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>							
20-Bond Index (GOs)	5.21	5.01	5.16				
25-Bond Index (Revs)	5.37	5.23	5.42				
<b>General Obligation Bonds (GOs)</b>							
1-year Aaa	3.15	2.95	3.70				
1-year A	3.33	3.10	3.90				
5-year Aaa	3.98	3.70	4.15				
5-year A	4.20	3.90	4.25				
10-year Aaa	4.45	4.13	4.45				
10-year A	4.70	4.35	4.65				
25/30-year Aaa	5.15	4.93	5.08				
25/30-year A	5.36	5.11	5.28				
<b>Revenue Bonds (Revs) (25/30-Year)</b>							
Education AA	5.40	5.11	5.25				
Electric AA	5.28	5.12	5.19				
Housing AA	5.40	5.32	5.38				
Hospital AA	5.47	5.28	5.32				
Toll Road Aaa	5.36	5.18	5.30				

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	5/19/99	5/5/99	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	1072	1285	-213	1213	1356	1448
Borrowed Reserves	103	223	-120	115	131	177
Net Free/Borrowed Reserves	969	1062	-93	1098	1226	1271

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

	Recent Levels			Growth Rates Over the Last...		
	5/10/99	5/3/99	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1096.4	1116.9	-20.5	4.8%	2.3%	2.0%
M2 (M1+savings+small time deposits)	4500.7	4490.3	10.4	6.3%	6.9%	8.0%
M3 (M2+large time deposits)	6102.7	6091.6	11.1	3.4%	6.3%	8.6%

JUNE 2, 2000

VALUE LINE SELECTION & OPINION

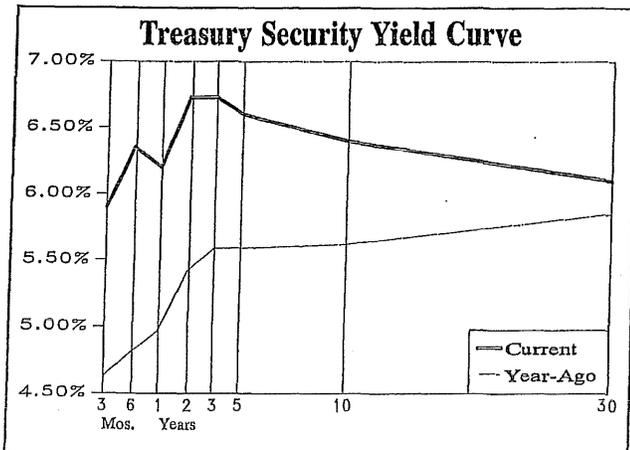
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## Value Line Forecast for the U.S. Economy

	ACTUAL					ESTIMATED				
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS</b>										
<b>(1996 CHAIN WEIGHTED \$)</b>										
<b>BILLIONS OF DOLLARS</b>										
Total Consumption	5076	5237	5417	5682	5984	6271	6491	6685	6892	7113
Nonresidential Fixed Investment	818	899	996	1122	1216	1355	1443	1529	1621	1718
Residential Fixed Investment	292	313	321	350	376	371	363	367	374	386
Exports	808	874	983	1005	1042	1113	1197	1303	1421	1541
Imports	887	963	1095	1222	1365	1512	1624	1717	1830	1964
Federal Government	536	532	531	526	541	540	544	542	543	545
State & Local Governments	870	890	923	953	993	1034	1062	1087	1111	1134
Gross Domestic Product	7401	7813	8301	8760	9256	9843	10247	10759	11337	11711
Real GDP (1996 Chain Weighted \$)	7544	7813	8145	8496	8848	9246	9542	9847	10172	10508
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Price Index (1996 Chain Weighted)	2.5	2.1	1.9	1.2	1.4	2.3	1.8	1.8	2.0	2.0
CPI-All Urban Consumers	2.8	2.9	2.3	1.6	2.2	3.1	2.5	2.5	2.6	2.7
PPI-Finished Goods	1.9	2.6	0.4	-0.9	1.8	2.7	1.8	1.8	1.9	2.0
Employment Cost Index--Total Comp.	2.8	2.8	3.1	3.5	3.2	4.8	4.3	4.0	3.8	3.8
Output per Hour-Nonfarm	0.6	0.8	1.2	2.8	3.0	3.3	2.0	2.2	2.2	2.3
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	3.3	2.8	6.0	4.3	3.5	4.5	1.5	2.5	3.0	3.3
Capacity Utilization Rate (%)	83.1	82.1	82.0	80.9	79.8	81.0	79.5	80.0	80.2	80.3
Housing Starts (Mill. Units)	1.36	1.47	1.48	1.62	1.68	1.63	1.55	1.55	1.58	1.60
Total Light Vehicle Sales (Mill. Units)	14.8	15.1	15.1	15.6	16.9	17.8	17.0	16.5	16.5	16.7
Unit Car Sales (Mill. Units)	8.6	8.5	8.2	8.2	8.7	9.1	8.8	8.5	8.5	8.5
U.S. Dollar Exchange Rate (% Change)	-5.7	4.9	8.0	5.0	-2.3	1.7	-2.7	-4.9	-2.2	-1.4
National Unemployment Rate (%)	5.6	5.4	4.9	4.5	4.2	4.0	4.0	4.2	4.3	4.4
Federal Budget Surplus (Unified, FY, \$Bill)	-163.9	-107.0	-22.0	69.2	124.4	163.0	210.0	210.0	270.0	265.0
Price of Oil (\$Bbl., U.S. Refiners' Cost)	17.24	20.69	19.11	12.58	17.42	26.55	24.40	23.15	22.75	21.50
<b>MONEY AND INTEREST RATES</b>										
Annual Money Supply (M2)	3638	3806	4023	4363	4627	4854	5072	5316	5587	5872
Yr-to-Yr % Change (Q4/Q4)	3.9	4.6	5.8	8.5	6.1	4.9	4.5	4.8	5.1	5.1
3-Month Treasury Bill Rate (%)	5.5	5.0	5.1	4.8	4.6	6.0	6.2	6.0	5.7	5.5
Federal Funds Rate (%)	5.8	5.3	5.5	5.4	5.0	6.4	6.5	6.4	6.2	6.0
30-Year Treasury Bond Rate (%)	6.9	6.7	6.6	5.6	5.9	6.2	5.9	5.9	5.8	5.8
AAA Corporate Bond Rate (%)	7.6	7.4	7.3	6.5	7.0	7.5	7.2	7.5	7.5	7.5
Prime Rate (%)	8.8	8.3	8.4	8.4	8.0	9.3	9.4	9.3	9.1	9.0
<b>INCOMES</b>										
Personal Income (% Change)	6.3	5.5	5.6	5.9	5.9	6.3	5.8	5.5	5.3	5.3
Real Disp. Inc. (% Change)	3.5	2.9	2.8	4.1	4.0	4.7	4.8	3.5	3.0	3.0
Personal Savings Rate (%)	4.7	4.9	2.1	3.7	2.4	1.0	1.6	1.8	1.5	1.5
Pretax Corporate Profits (\$Bill)	668.4	726.4	795.9	781.9	848.0	973.0	1021.0	1083.0	1158.0	1251.0
Aftertax Corporate Profits (\$Bill)	457.5	502.7	557.6	541.6	589.0	642.0	674.0	715.0	765.0	826.0
Yr-to-Yr % Change	18.3	9.3	7.5	-2.9	8.8	9.0	5.0	6.0	7.0	8.0
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	2.7	3.6	4.2	4.3	4.2	4.5	3.2	3.2	3.3	3.3
Final Sales	5.1	5.0	5.2	4.3	4.5	4.0	3.3	3.3	3.3	3.3
Total Consumption	3.0	3.2	3.4	4.9	5.3	4.5	3.5	3.0	3.1	3.2
Nonresidential Fixed Investment	9.8	9.9	10.8	12.7	8.3	11.5	6.5	6.0	6.0	6.0
Construction	4.5	7.1	8.4	4.1	-2.4	6.0	5.5	4.0	3.0	3.0
Equipment & Software	11.6	10.8	12.1	15.8	12.0	12.5	7.0	8.0	8.0	8.0
Residential Fixed Investment	-3.6	7.2	2.6	9.2	7.4	-1.0	-2.0	1.0	2.0	3.0
Exports	10.2	8.2	12.5	2.2	3.8	6.6	7.6	8.8	9.1	8.4
Imports	8.3	8.6	13.7	11.6	11.7	10.7	7.4	5.7	6.6	7.3
Federal Government	-2.7	-0.7	-0.2	-0.9	2.8	-0.1	0.7	-0.4	0.1	0.4
State & Local Governments	2.5	2.3	3.7	3.2	4.2	4.0	2.7	2.4	2.2	2.1

## Selected Yields

	Recent (5/25/00)	3 Months Ago (2/24/00)	Year Ago (5/27/99)		Recent (5/25/00)	3 Months Ago (2/24/00)	Year Ago (5/27/99)
<b>TAXABLE</b>				<b>Mortgage-Backed Securities</b>			
<b>Market Rates</b>				<b>GNMA 8%</b>			
Discount Rate	6.00	5.25	4.50	8.11	8.01	6.94	
Federal Funds	6.50	5.75	4.75	FHLMC 8%	8.24	8.03	6.88
Prime Rate	9.50	8.75	7.75	FNMA 8%	8.23	8.00	6.84
30-day CP (A1/P1)	6.48	5.75	4.80	FNMA ARM	6.57	6.55	5.83
3-month LIBOR	6.83	6.10	5.07	<b>Corporate Bonds</b>			
<b>Bank CDs</b>				Financial (10-year) A			
6-month	5.02	4.97	4.00	8.33	7.68	6.80	
1-year	5.42	5.12	4.12	Industrial (25/30-year) A	8.32	7.69	7.16
5-year	6.00	6.05	4.57	Utility (25/30-year) A	8.41	7.95	7.17
<b>U.S. Treasury Securities</b>				Utility (25/30-year) Baa/BBB			
3-month	5.90	5.80	4.63	8.66	8.07	7.54	
6-month	6.35	6.00	4.81	<b>Foreign Bonds (10-Year)</b>			
1-year	6.20	6.20	4.97	Canada			
5-year	6.60	6.55	5.59	6.32	6.11	5.47	
10-year	6.40	6.36	5.62	Germany			
30-year	6.10	6.13	5.85	5.31	5.40	4.07	
30-year Zero	6.14	6.04	5.95	Japan			
				1.70	1.85	1.50	
				United Kingdom			
				5.40	5.35	4.96	
				<b>Preferred Stocks</b>			
				Utility A			
				6.80	6.80	6.83	
				Financial A			
				6.20	5.94	4.95	
				Financial Adjustable A			
				4.96	5.53	5.01	



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>			
20-Bond Index (GOs)	6.01	5.94	5.23
25-Bond Index (Revs)	6.27	6.27	5.41
<b>General Obligation Bonds (GOs)</b>			
1-year Aaa	4.55	4.10	3.15
1-year A	4.75	4.25	3.33
5-year Aaa	5.08	4.94	4.00
5-year A	5.35	5.21	4.23
10-year Aaa	5.35	5.23	4.48
10-year A	5.64	5.50	4.75
25/30-year Aaa	5.99	5.90	5.16
25/30-year A	6.26	6.16	5.40
<b>Revenue Bonds (Revs) (25/30-Year)</b>			
Education AA	6.14	6.09	5.42
Electric AA	6.19	6.14	5.31
Housing AA	6.40	6.37	5.45
Hospital AA	6.40	6.45	5.50
Toll Road Aaa	6.32	6.25	5.40

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	05/17/00	05/03/00	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	922	1019	-97	1129	1334	1256
Borrowed Reserves	303	276	27	223	259	258
Net Free/Borrowed Reserves	619	743	-124	906	1075	997

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

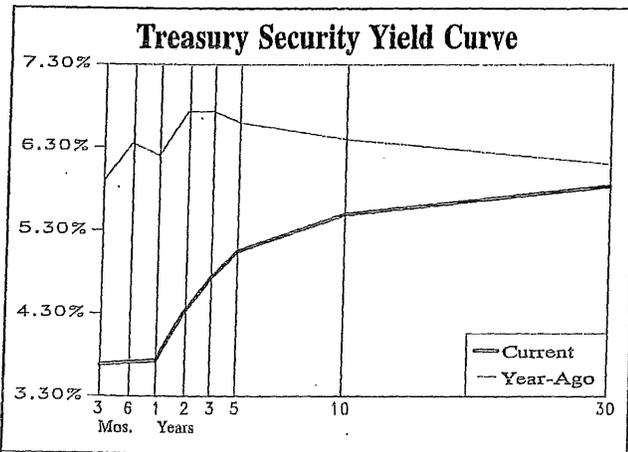
	Recent Levels			Growth Rates Over the Last...		
	05/15/00	05/08/00	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1103.1	1093.4	9.7	0.3%	-1.1%	0.4%
M2 (M1+savings+small time deposits)	4753.5	4739.6	13.9	6.5%	5.8%	5.4%
M3 (M2+large time deposits)	6660.1	6636.0	24.1	8.9%	8.9%	8.2%

## Value Line Forecast for the U.S. Economy

	ACTUAL					ESTIMATED				
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS</b> (1996 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS										
Final Sales	7783	8095	8435	8827	9251	9471	9681	10001	10341	10703
Total Consumption	5237	5424	5679	5979	6294	6475	6685	6919	7168	7433
Nonresidential Fixed Investment	899	1009	1140	1255	1414	1440	1478	1566	1660	1768
Construction	225	245	263	259	283	307	295	298	301	306
Equipment & Software	674	764	879	1003	1141	1143	1200	1284	1387	1498
Residential Fixed Investment	313	320	346	368	366	355	347	360	375	394
Exports	874	981	1004	1033	1126	1146	1205	1295	1391	1495
Imports	963	1095	1225	1355	1539	1575	1666	1775	1883	1996
Federal Government	532	530	527	540	548	565	579	591	602	612
State & Local Governments	890	926	959	996	1031	1060	1088	1113	1136	1159
Gross Domestic Product	7813	8318	8790	9299	9963	10369	10902	11488	12109	12775
Real GDP (1996 Chain Weighted \$)	7813	8159	8516	8876	9318	9472	9758	10100	10473	10871
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Price Index (1996 Chain Weighted)	2.1	1.9	1.2	1.5	2.1	2.4	2.2	2.2	2.3	2.3
CPI-All Urban Consumers	2.9	2.3	1.6	2.2	3.4	3.0	2.7	2.7	2.7	2.8
PPI-Finished Goods	2.6	0.4	-0.9	1.8	3.7	2.5	1.8	2.0	2.1	2.2
Employment Cost Index—Total Comp.	2.8	3.1	3.5	3.2	4.6	4.5	3.8	3.7	3.5	3.5
Output per Hour-Nonfarm	0.8	1.2	2.8	2.9	4.3	2.0	2.8	3.2	3.2	3.3
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	2.8	6.0	4.3	4.1	5.6	-0.3	2.4	3.3	3.4	3.5
Capacity Utilization Rate (%)	81.5	82.4	80.9	80.5	81.3	77.7	77.4	78.0	79.0	80.0
Housing Starts (Mill. Units)	1.47	1.47	1.62	1.68	1.61	1.54	1.47	1.53	1.57	1.60
Total Light Vehicle Sales (Mill. Units)	15.1	15.1	15.6	16.9	17.4	16.4	16.6	17.0	17.3	17.5
Unit Car Sales (Mill. Units)	8.5	8.3	8.1	8.7	8.8	8.4	8.4	8.5	8.5	8.5
National Unemployment Rate (%)	5.4	4.9	4.5	4.2	4.0	4.7	5.2	5.0	4.9	4.8
Federal Budget Surplus (Unified, FY, \$Bill)	-107.0	-22.0	69.2	158.3	131.4	132.0	135.0	135.0	137.0	139.0
Price of Oil (\$Bbl., U.S. Refiners' Cost)	20.69	19.11	12.58	17.42	28.21	26.50	24.75	23.50	22.50	22.00
<b>MONEY AND INTEREST RATES</b>										
Annual Money Supply (M2)	3806	4023	4363	4624	4912	5498	5946	6279	6591	6907
Yr-to-Yr % Change (Q4/Q4)	4.6	5.8	8.5	6.3	6.2	11.9	8.2	5.6	5.0	4.8
3-Month Treasury Bill Rate (%)	5.0	5.1	4.8	4.6	5.8	4.0	3.8	3.9	4.2	4.5
Federal Funds Rate (%)	5.3	5.5	5.4	5.0	6.2	4.2	3.9	4.2	4.7	5.0
10-Year Treasury Note Rate (%)	6.4	6.4	5.3	5.6	6.0	5.1	5.5	5.5	5.6	5.7
30-Year Treasury Bond Rate (%)	6.7	6.6	5.6	5.9	5.9	5.6	5.9	5.9	5.9	6.0
AAA Corporate Bond Rate (%)	7.4	7.3	6.5	7.0	7.7	7.6	7.9	8.0	8.0	8.0
Prime Rate (%)	8.3	8.4	8.4	8.0	9.2	7.2	7.0	7.3	7.5	8.0
<b>INCOMES</b>										
Personal Income (% Change)	5.6	6.0	6.5	5.4	6.3	4.4	4.8	5.7	5.5	5.5
Real Disp. Inc. (% Change)	2.5	3.1	4.8	3.2	2.8	3.0	3.8	4.3	4.2	4.0
Personal Savings Rate (%)	4.8	4.2	4.2	2.2	-0.1	-0.8	-0.2	0.2	0.4	0.4
Pretax Corporate Profits (\$Bill)	726.4	792.4	758.2	823.0	926.0	931.0	1008.0	1079.0	1160.0	1252.0
Aftertax Corporate Profits (\$Bill)	502.7	555.2	513.4	567.0	641.0	622.0	665.0	712.0	765.0	827.0
Yr-to-Yr % Change	9.3	7.5	-2.9	10.4	13.1	-3.1	7.0	7.0	7.5	8.0
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	3.6	4.4	4.4	4.2	5.0	1.6	3.0	3.5	3.7	3.8
Final Sales	3.6	4.0	4.2	4.6	4.8	2.4	2.2	3.3	3.4	3.5
Total Consumption	3.2	3.6	4.7	5.3	5.3	2.9	3.2	3.5	3.6	3.7
Nonresidential Fixed Investment	10.0	12.2	13.0	10.1	12.6	1.9	2.6	6.0	6.0	6.5
Construction	7.1	9.1	7.2	-1.4	9.1	8.4	-3.9	1.0	1.2	1.5
Equipment & Software	11.0	13.3	15.0	14.1	13.7	0.2	5.0	7.0	8.0	8.0
Residential Fixed Investment	7.4	2.0	8.3	6.4	-0.5	-3.0	-2.4	4.0	4.0	5.0
Exports	8.2	12.3	2.3	2.9	9.0	1.8	5.1	7.5	7.4	7.5
Imports	8.6	13.7	11.9	10.7	13.5	2.4	5.8	6.5	6.1	6.0
Federal Government	-0.9	-0.4	-0.5	2.5	1.5	3.0	2.6	2.0	1.8	1.7
State & Local Governments	2.3	4.0	3.6	3.8	3.5	2.9	2.6	2.3	2.1	2.0

## Selected Yields

	Recent (5/24/01)	3 Months Ago (2/22/01)	Year Ago (5/25/00)		Recent (5/24/01)	3 Months Ago (2/22/01)	Year Ago (5/25/00)
<b>TAXABLE</b>				<b>Mortgage-Backed Securities</b>			
<b>Market Rates</b>				<b>GNMA 8%</b>			
Discount Rate	3.50	5.00	6.00	FHLMC 8%	6.51	7.08	8.11
Federal Funds	4.00	5.50	6.50	FNMA 8%	6.44	6.94	8.24
Prime Rate	7.00	8.50	9.50	FNMA ARM	6.37	6.89	8.23
30-day CP (A1/P1)	3.98	5.37	6.48	<b>Corporate Bonds</b>			
3-month LIBOR	4.03	5.35	6.83	Financial (10-year) A	7.02	6.92	8.33
<b>Bank CDs</b>				Industrial (25/30-year) A	7.36	7.21	8.32
6-month	3.41	4.43	5.02	Utility (25/30-year) A	8.07	7.77	8.41
1-year	3.50	4.47	5.42	Utility (25/30-year) Baa/BBB	8.45	8.07	8.66
5-year	4.41	4.84	6.00	<b>Foreign Bonds (10-Year)</b>			
<b>U.S. Treasury Securities</b>				Canada	5.87	5.40	6.32
3-month	3.68	4.99	5.90	Germany	5.18	4.85	5.31
6-month	3.71	4.85	6.35	Japan	1.29	1.46	1.70
1-year	3.73	4.73	6.20	United Kingdom	5.21	4.99	5.40
5-year	5.05	4.90	6.60	<b>Preferred Stocks</b>			
10-year	5.50	5.15	6.40	Utility A	6.37	6.83	6.80
30-year	5.84	5.52	6.10	Financial A	6.57	6.57	6.20
30-year Zero	5.96	5.75	6.14	Financial Adjustable A	4.96	5.01	4.96



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>			
20-Bond Index (GOs)	5.30	5.21	6.01
25-Bond Index (Revs)	5.65	5.52	6.27
<b>General Obligation Bonds (GOs)</b>			
1-year Aaa	2.73	3.30	4.55
1-year A	2.85	3.42	4.75
5-year Aaa	3.79	3.85	5.08
5-year A	4.00	4.05	5.35
10-year Aaa	4.41	4.32	5.35
10-year A	4.63	4.56	5.64
25/30-year Aaa	5.29	5.20	5.99
25/30-year A	5.49	5.44	6.26
<b>Revenue Bonds (Revs) (25/30-Year)</b>			
Education AA	5.48	5.33	6.14
Electric AA	5.39	5.31	6.19
Housing AA	5.65	5.55	6.40
Hospital AA	5.55	5.60	6.40
Toll Road Aaa	5.39	5.33	6.32

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	05/16/01	05/02/01	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	892	1216	-324	1305	1281	1186
Borrowed Reserves	346	59	287	97	137	314
Net Free/Borrowed Reserves	546	1157	-611	1209	1144	872

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

	Recent Levels			Growth Rates Over the Last...		
	05/14/01	05/07/01	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1102.6	1106.7	-4.1	5.1%	3.8%	-0.3%
M2 (M1+savings+small time deposits)	5153.9	5150.6	3.3	10.6%	10.7%	8.4%
M3 (M2+large time deposits)	7493.1	7467.2	25.9	14.0%	14.4%	11.0%

MAY 31, 2002

VALUE LINE SELECTION & OPINION

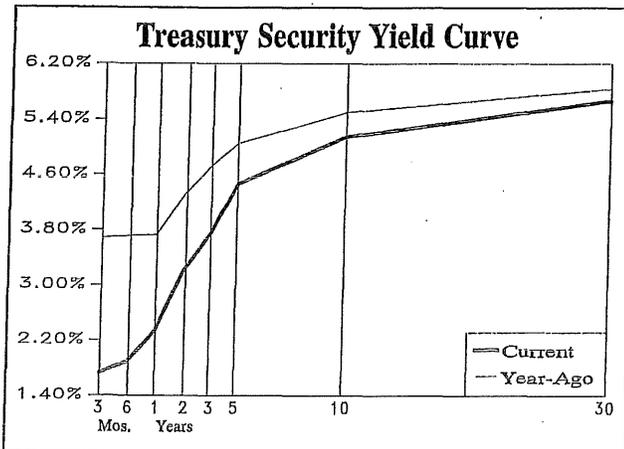
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## Value Line Forecast for the U.S. Economy

	ACTUAL					ESTIMATED				
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS (1996 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS</b>										
Final Sales	8095	8432	8792	9167	9377	9564	9906	10263	10642	11036
Total Consumption	5424	5684	5968	6258	6450	6678	6897	7138	7388	7646
Nonresidential Fixed Investment	1009	1136	1229	1351	1308	1243	1355	1450	1558	1683
Construction	245	262	257	273	275	236	256	264	272	280
Equipment & Software	764	875	978	1087	1039	1024	1116	1216	1337	1471
Residential Fixed Investment	320	345	368	371	377	387	383	391	401	413
Exports	981	1002	1035	1133	1082	1038	1102	1204	1301	1405
Imports	1095	1224	1352	1532	1490	1535	1632	1717	1794	1866
Federal Government	530	525	537	546	560	601	627	641	647	654
State & Local Governments	926	958	995	1026	1067	1096	1107	1127	1149	1172
Gross Domestic Product	8318	8782	9269	9873	10208	10621	11210	11847	12545	13289
Real GDP (1996 Chain Weighted \$)	8159	8509	8857	9224	9334	9590	9928	10275	10655	11060
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Price Index (1996 Chain Weighted)	1.9	1.2	1.4	2.3	2.2	1.7	2.5	2.5	2.5	2.6
CPI-All Urban Consumers	2.3	1.5	2.2	3.4	2.8	2.4	2.5	2.6	2.6	2.7
PPI-Finished Goods	0.4	-0.9	1.8	3.7	2.0	1.7	2.1	2.1	2.2	2.2
Employment Cost Index—Total Comp.	3.1	3.5	3.2	4.6	4.1	3.5	3.6	3.3	3.3	3.5
Output per Hour-Nonfarm	1.2	2.6	2.3	3.3	1.8	4.6	3.1	3.5	3.2	3.0
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	6.0	4.3	4.1	4.5	-3.7	4.4	6.5	6.0	5.0	5.0
Capacity Utilization Rate (%)	82.4	81.3	80.5	81.3	75.1	75.0	76.6	77.0	77.5	78.0
Housing Starts (Mill. Units)	1.47	1.62	1.65	1.57	1.61	1.60	1.58	1.62	1.63	1.65
Total Light Vehicle Sales (Mill. Units)	15.1	15.5	16.9	17.4	17.1	16.5	17.0	17.1	17.3	17.3
Unit Car Sales (Mill. Units)	8.3	8.1	8.7	8.9	8.4	8.1	8.1	8.0	8.0	8.0
National Unemployment Rate (%)	4.9	4.5	4.2	4.0	4.8	6.0	5.8	5.5	5.0	5.0
Federal Budget Surplus (Unified, FY, \$Bill)	-22.0	69.2	124.4	236.6	127.0	-90.0	-80.0	-75.0	-45.0	-15.0
Price of Oil (\$Bbl., U.S. Refiners' Cost)	19.11	12.58	17.42	28.21	22.96	22.80	21.75	22.25	23.25	24.00
<b>MONEY AND INTEREST RATES</b>										
Annual Money Supply (M2)	4023	4352	4626	4910	5421	5673	5957	6247	6558	6884
Yr-to-Yr % Change (Q4/Q4)	5.8	8.5	6.3	6.1	10.4	4.7	5.0	4.9	5.0	5.0
3-Month Treasury Bill Rate (%)	5.1	4.8	4.6	5.8	3.4	2.0	3.4	3.8	4.2	4.5
Federal Funds Rate (%)	5.5	5.4	5.0	6.2	3.9	1.9	3.2	3.8	4.5	5.0
10-Year Treasury Note Rate (%)	6.4	5.3	5.6	6.0	5.0	5.3	5.9	5.9	6.0	6.2
30-Year Treasury Bond Rate (%)	6.6	5.6	5.9	5.9	5.5	5.7	6.3	6.3	6.4	6.5
AAA Corporate Bond Rate (%)	7.3	6.5	7.0	7.6	7.1	6.9	7.3	7.2	7.2	7.3
Prime Rate (%)	8.4	8.4	8.0	9.2	6.9	4.9	6.1	7.0	8.0	8.5
<b>INCOMES</b>										
Personal Income (% Change)	6.0	7.0	4.7	7.0	4.9	4.8	6.0	5.5	5.3	5.3
Real Disp. Inc. (% Change)	3.1	5.4	2.5	3.5	3.6	4.9	3.4	3.3	3.0	3.0
Personal Savings Rate (%)	4.2	4.7	2.4	1.0	1.6	2.1	2.1	2.0	1.8	1.8
Pretax Corporate Profits (\$Bill)	792.4	721.1	776.0	845.0	699.0	739.0	792.0	847.0	915.0	997.0
Aftertax Corporate Profits (\$Bill)	555.2	482.3	523.0	574.0	483.0	489.0	523.0	559.0	604.0	658.0
Yr-to-Yr % Change	7.5	-13.1	8.5	9.7	-15.9	1.4	6.8	7.0	8.0	9.0
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	4.4	4.3	4.1	4.1	1.2	2.7	3.5	3.5	3.7	3.8
Final Sales	4.0	4.2	4.6	4.3	2.3	2.0	3.6	3.6	3.7	3.7
Total Consumption	3.6	4.7	5.0	4.9	3.1	3.5	3.3	3.5	3.5	3.5
Nonresidential Fixed Investment	12.2	12.6	10.1	9.9	-3.2	-5.0	9.0	7.0	7.5	8.0
Construction	9.1	7.2	-1.4	6.2	0.9	-14.2	8.6	3.0	3.0	3.0
Equipment & Software	13.3	15.0	14.1	11.1	-4.4	-1.5	9.0	9.0	10.0	10.0
Residential Fixed Investment	2.0	8.3	6.4	0.8	1.5	2.6	-0.9	2.0	2.5	3.0
Exports	12.3	2.3	2.9	9.5	-4.5	-4.1	6.2	9.3	8.0	8.0
Imports	13.7	11.8	10.7	13.4	-2.7	3.0	6.3	5.2	4.5	4.0
Federal Government	-0.4	-0.5	2.5	1.7	2.7	7.3	4.3	2.3	1.0	1.0
State & Local Governments	4.0	3.6	3.8	3.2	4.0	2.7	1.0	1.8	2.0	2.0

## Selected Yields

	Recent (5/23/02)	3 Months Ago (2/21/02)	Year Ago (5/24/01)		Recent (5/23/02)	3 Months Ago (2/21/02)	Year Ago (5/24/01)
<b>TAXABLE</b>				<b>Mortgage-Backed Securities</b>			
<b>Market Rates</b>				<b>GNMA 8%</b>			
Discount Rate	1.25	1.25	3.50	4.98	4.98	6.51	
Federal Funds	1.75	1.75	4.00	5.00	5.07	6.44	
Prime Rate	4.75	4.75	7.00	3.82	4.22	6.37	
30-day CP (A1/P1)	1.75	1.75	3.98	<b>Corporate Bonds</b>			
3-month LIBOR	1.90	1.90	4.03	Financial (10-year) A	6.56	6.38	7.02
<b>Bank CDs</b>				Industrial (25/30-year) A	6.87	6.63	7.36
6-month	1.63	1.52	3.41	Utility (25/30-year) A	7.51	7.12	8.07
1-year	2.03	1.83	3.50	Utility (25/30-year) Baa/BBB	8.14	7.39	8.45
5-year	4.31	4.10	4.41	<b>Foreign Bonds (10-Year)</b>			
<b>U.S. Treasury Securities</b>				Canada	5.31	5.02	5.87
3-month	1.73	1.75	3.68	Germany	5.12	4.98	5.18
6-month	1.89	1.85	3.71	Japan	1.43	1.49	1.29
1-year	2.34	1.68	3.73	United Kingdom	5.01	4.99	5.21
5-year	4.46	4.16	5.05	<b>Preferred Stocks</b>			
10-year	5.15	4.85	5.50	Utility A	6.83	6.74	6.37
30-year	5.67	5.37	5.84	Financial A	6.79	6.38	6.57
30-year Zero	5.58	5.60	5.96	Financial Adjustable A	5.01	5.01	4.96



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>			
20-Bond Index (GOs)	5.19	5.10	5.30
25-Bond Index (Revs)	5.55	5.43	5.65
<b>General Obligation Bonds (GOs)</b>			
1-year Aaa	1.80	1.58	2.73
1-year A	2.01	1.79	2.85
5-year Aaa	3.37	3.40	3.79
5-year A	3.66	3.68	4.00
10-year Aaa	4.23	4.15	4.41
10-year A	4.55	4.44	4.63
25/30-year Aaa	5.20	5.06	5.29
25/30-year A	5.44	5.32	5.49
<b>Revenue Bonds (Revs) (25/30-Year)</b>			
Education AA	5.35	5.20	5.48
Electric AA	5.35	5.26	5.39
Housing AA	5.45	5.35	5.65
Hospital AA	5.50	5.35	5.55
Toll Road Aaa	5.30	5.29	5.39

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	5/15/02	5/1/02	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	1188	1194	-6	1306	1405	2738
Borrowed Reserves	100	71	29	69	67	383
Net Free/Borrowed Reserves	1088	1123	-35	1237	1338	2355

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

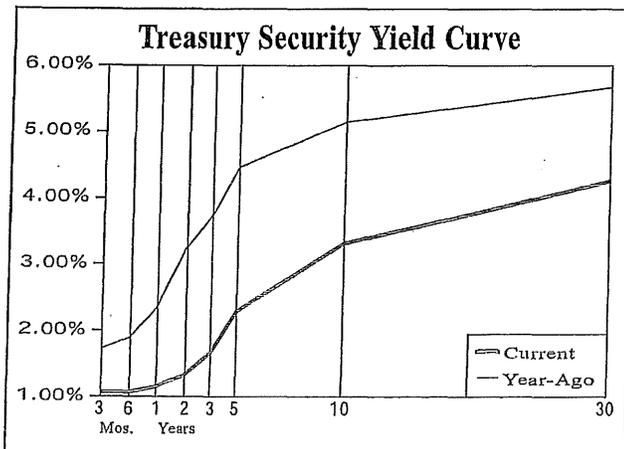
	Recent Levels			Growth Rates Over the Last...		
	5/13/02	5/6/02	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1166.7	1171.6	-4.9	-3.2%	1.6%	5.1%
M2 (M1+savings+small time deposits)	5535.3	5517.1	18.2	3.0%	4.9%	7.8%
M3 (M2+large time deposits)	8131.5	8098.4	33.1	4.0%	4.2%	8.3%

## Value Line Forecast for the U.S. Economy

	ACTUAL					ESTIMATED				
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS</b>										
<b>(1996 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS</b>										
Final Sales	8432	8794	9121	9258	9424	9639	9980	10329	10711	11118
Total Consumption	5684	5965	6224	6377	6576	6729	6976	7220	7473	7742
Nonresidential Fixed Investment	1136	1228	1324	1255	1183	1192	1284	1400	1498	1588
Construction	262	259	276	271	226	213	222	242	254	264
Equipment & Software	875	976	1056	988	971	1000	1093	1180	1263	1364
Residential Fixed Investment	345	368	372	374	388	401	390	394	400	408
Exports	1002	1036	1137	1076	1059	1086	1201	1306	1409	1516
Imports	1224	1357	1536	1492	1547	1594	1718	1819	1914	2008
Federal Government	525	538	544	571	613	660	689	699	704	713
State & Local Governments	958	1002	1037	1069	1100	1105	1112	1133	1152	1169
Gross Domestic Product	8782	9274	9825	10082	10446	10838	11348	11980	12655	13430
Real GDP (1996 Chain Weighted \$)	8509	8859	9191	9215	9440	9626	9902	10229	10587	10978
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Deflator	1.2	1.4	2.1	2.4	1.1	1.7	1.9	2.0	2.1	2.2
CPI-All Urban Consumers	1.5	2.2	3.4	2.8	1.6	1.7	1.9	2.1	2.3	2.5
PPI-Finished Goods	-0.9	1.8	3.7	2.0	-1.3	2.5	1.6	1.7	1.9	2.0
Employment Cost Index—Total Comp.	3.5	3.2	4.6	4.1	3.8	3.6	3.3	3.1	3.2	3.3
Productivity	2.6	2.4	2.9	1.1	4.8	2.5	3.0	2.5	2.5	2.5
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	6.5	4.9	5.0	-4.1	-1.1	2.3	7.5	7.0	4.0	3.0
Factory Operating Rate (%)	81.9	81.4	81.4	75.6	73.7	74.3	77.6	79.0	80.0	81.0
Nonfarm Inven. Chg. (1996 Chain Weighted \$)	75.0	64.2	67.2	-63.2	4.1	15.2	65.0	50.0	45.0	45.0
Housing Starts (Mill. Units)	1.62	1.65	1.57	1.60	1.71	1.65	1.61	1.62	1.63	1.65
Total Light Vehicle Sales (Mill. Units)	15.5	16.9	17.4	17.1	16.8	16.1	17.0	17.5	17.7	17.8
Unit Car Sales (Mill. Units)	8.1	8.7	8.9	8.4	8.1	7.6	7.9	8.0	8.0	8.0
National Unemployment Rate (%)	4.5	4.2	4.0	4.8	5.8	6.1	6.0	5.7	5.6	5.5
Federal Budget Surplus (Unified, FY, \$Bill)	69.2	124.4	236.9	127.3	-157.8	-380.0	-400.0	-360.0	-275.0	-200.0
Price of Oil (\$Bbl., U.S. Refiners' Cost)	12.58	17.42	28.21	22.96	24.04	26.75	22.00	22.25	23.00	23.75
<b>MONEY AND INTEREST RATES</b>										
3-Month Treasury Bill Rate (%)	4.8	4.6	5.8	3.4	1.6	1.2	1.9	2.6	3.0	3.5
Federal Funds Rate (%)	5.4	5.0	6.2	3.9	1.7	1.1	1.4	3.0	3.5	4.0
10-Year Treasury Note Rate (%)	5.3	5.6	6.0	5.0	4.6	3.8	4.2	5.5	5.7	6.0
30-Year Treasury Bond Rate (%)	5.6	5.9	5.9	5.5	5.4	4.7	5.1	6.2	6.4	6.7
AAA Corporate Bond Rate (%)	6.5	7.0	7.6	7.1	6.5	5.3	5.7	6.7	7.0	7.5
Prime Rate (%)	8.4	8.0	9.2	6.9	4.7	4.2	4.9	6.0	6.5	7.0
<b>INCOMES</b>										
Personal Income (% Change)	7.0	4.9	8.0	3.3	2.8	3.4	4.3	5.0	5.3	5.5
Real Disp. Inc. (% Change)	5.4	2.6	4.8	1.8	4.3	2.4	3.8	3.0	3.0	3.0
Personal Savings Rate (%)	4.8	2.6	2.8	2.3	3.7	4.0	4.3	4.0	3.0	3.0
Pretax Corporate Profits (\$Bill)	721.1	762.0	782.0	670.0	665.0	771.0	898.0	970.0	1037.0	1120.0
Aftertax Corporate Profits (\$Bill)	482.3	514.0	523.0	471.0	452.0	515.0	593.0	640.0	685.0	739.0
Yr-to-Yr % Change	-13.1	6.6	1.7	-10.0	-4.0	14.0	15.0	8.0	7.0	8.0
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	4.3	4.1	3.8	0.3	2.4	2.0	2.9	3.3	3.5	3.7
Final Sales	4.2	4.3	3.7	1.5	1.8	2.3	3.5	3.5	3.7	3.8
Total Consumption	4.8	4.9	4.3	2.5	3.1	2.3	3.7	3.5	3.5	3.6
Nonresidential Fixed Investment	12.5	8.1	7.8	-5.2	-5.7	0.7	7.7	9.0	7.0	6.0
Construction	6.8	-1.3	6.5	-1.7	-16.4	-5.9	4.0	9.0	5.0	4.0
Equipment & Software	14.6	11.5	8.2	-6.4	-1.7	3.0	9.3	8.0	7.0	8.0
Residential Fixed Investment	8.0	6.8	1.1	0.3	3.9	3.4	-2.8	1.0	1.5	2.0
Exports	2.1	3.4	9.7	-5.4	-1.6	2.6	10.6	8.7	7.9	7.6
Imports	11.8	10.8	13.2	-2.9	3.7	3.0	7.8	5.9	5.2	4.9
Federal Government	-0.8	2.4	1.2	4.8	7.5	7.5	4.4	1.4	0.8	1.2
State & Local Governments	3.4	4.6	3.5	3.1	2.9	0.4	0.7	1.8	1.7	1.5

## Selected Yields

	Recent (5/22/03)	3 Months Ago (2/20/03)	Year Ago (5/23/02)		Recent (5/22/03)	3 Months Ago (2/20/03)	Year Ago (5/23/02)
<b>TAXABLE</b>				<b>Mortgage-Backed Securities</b>			
<b>Market Rates</b>				<b>GNMA 6.5%</b>			
Discount Rate	2.25	2.25	1.25	3.46	4.00	5.94	
Federal Funds	1.25	1.25	1.75	FHLMC 6.5% (Gold)	2.98	3.07	5.69
Prime Rate	4.25	4.25	4.75	FNMA 6.5%	2.79	3.20	5.57
30-day CP (A1/P1)	1.23	1.24	1.75	FNMA ARM	2.97	3.14	3.82
3-month LIBOR	1.28	1.34	1.90	<b>Corporate Bonds</b>			
<b>Bank CDs</b>				Financial (10-year) A			
6-month	0.85	0.94	1.63	5.44	5.11	6.56	
1-year	0.95	1.12	2.03	Industrial (25/30-year) A	5.22	5.87	6.87
5-year	2.74	2.98	4.31	Utility (25/30-year) A	5.48	6.73	7.51
<b>U.S. Treasury Securities</b>				Utility (25/30-year) Baa/BBB			
3-month	1.07	1.18	1.73	6.16	7.26	8.14	
6-month	1.07	1.19	1.89	<b>Foreign Bonds (10-Year)</b>			
1-year	1.15	1.31	2.34	Canada			
5-year	2.29	2.83	4.46	4.67	4.99	5.61	
10-year	3.31	3.87	5.15	Germany	3.70	3.90	5.12
30-year	4.26	4.81	5.67	Japan	0.57	0.86	1.43
30-year Zero	4.53	4.85	5.58	United Kingdom	4.03	4.14	5.01
				<b>Preferred Stocks</b>			
				Utility A			
				6.83	6.81	6.83	
				Financial A			
				5.90	6.18	6.79	
				Financial Adjustable A			
				5.01	5.01	5.01	



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>			
20-Bond Index (GOs)	4.30	4.79	5.19
25-Bond Index (Revs)	4.82	5.14	5.55
<b>General Obligation Bonds (GOs)</b>			
1-year Aaa	0.98	1.10	1.80
1-year A	1.20	1.32	2.01
5-year Aaa	2.05	2.53	3.37
5-year A	2.40	2.91	3.66
10-year Aaa	3.08	3.72	4.23
10-year A	3.47	4.15	4.55
25/30-year Aaa	4.31	4.78	5.20
25/30-year A	4.61	5.05	5.44
<b>Revenue Bonds (Revs) (25/30-Year)</b>			
Education AA	4.35	4.97	5.35
Electric AA	4.34	4.84	5.35
Housing AA	4.50	5.05	5.45
Hospital AA	4.74	5.31	5.50
Toll Road Aaa	4.50	5.06	5.30

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	5/14/03	4/30/03	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	1559	1566	-7	1666	1706	1521
Borrowed Reserves	51	29	22	29	76	112
Net Free/Borrowed Reserves	1508	1537	-29	1637	1630	1409

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

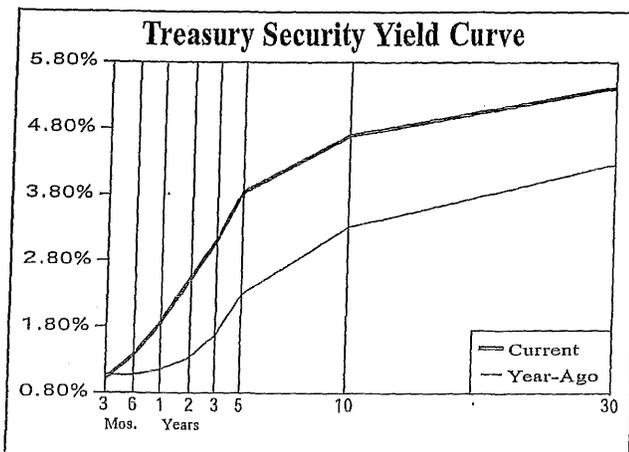
	Recent Levels			Growth Rates Over the Last...		
	5/12/03	5/5/03	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1248.0	1252.8	-4.8	10.1%	8.3%	6.1%
M2 (M1+savings+small time deposits)	6002.1	5992.6	9.5	9.3%	7.9%	8.1%
M3 (M2+large time deposits)	8684.4	8673.8	10.6	6.0%	6.3%	6.8%

## Value Line Forecast for the U.S. Economy

	ACTUAL					ESTIMATED				
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS (2000 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS</b>										
Final Sales	9404	9760	9901	10077	10395	10847	11237	11630	12014	12434
Total Consumption	6439	6739	6905	7140	7365	7659	7881	8118	8361	8612
Nonresidential Fixed Investment	1133	1232	1177	1093	1126	1239	1352	1460	1562	1671
Construction	293	313	305	249	238	235	248	263	279	298
Equipment & Software	840	919	871	847	894	1002	1085	1161	1248	1348
Residential Fixed Investment	444	447	448	470	505	530	509	499	504	524
Exports	1008	1096	1039	1014	1035	1143	1282	1410	1537	1660
Imports	1304	1476	1437	1485	1544	1658	1748	1844	1946	2024
Federal Government	574	579	600	648	704	747	757	761	765	768
State & Local Governments	1113	1143	1168	1189	1195	1199	1234	1259	1284	1303
Gross Domestic Product	9268	9817	10101	10481	10988	11709	12327	12970	13680	14478
Real GDP (2000 Chain Weighted \$)	9470	9817	9867	10083	10398	10874	11271	11677	12085	12532
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Deflator	1.4	2.2	2.4	1.5	1.7	2.1	1.6	1.7	1.8	2.0
CPI-All Urban Consumers	2.2	3.4	2.8	1.6	2.3	2.8	2.1	2.3	2.4	2.5
PPI-Finished Goods	1.8	3.7	2.0	-1.3	3.2	2.8	1.5	1.3	1.5	1.8
Employment Cost Index—Total	3.2	4.6	4.1	3.8	4.0	3.6	3.6	3.5	3.7	4.0
Productivity	2.8	2.7	2.2	4.9	4.4	3.0	2.0	2.1	2.3	2.5
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	4.4	4.4	-3.4	-0.6	0.3	5.7	4.9	4.5	4.0	4.5
Factory Operating Rate (%)	81.4	81.1	75.4	73.9	73.4	76.5	78.5	79.0	79.5	80.0
Nonfarm Inven. Chg. (2000 Chain Weighted \$)	71.5	57.8	-36.3	9.3	0.5	30.0	48.8	45.0	40.0	40.0
Housing Starts (Mill. Units)	1.65	1.57	1.60	1.71	1.85	1.92	1.75	1.65	1.68	1.70
Existing House Sales (Mill. Units)	5.19	5.16	5.29	5.60	6.10	6.16	5.83	5.70	5.75	5.80
Total Light Vehicle Sales (Mill. Units)	16.9	17.4	17.1	16.8	16.6	17.1	17.5	17.3	17.4	17.5
National Unemployment Rate (%)	4.2	4.0	4.8	5.8	6.0	5.5	5.5	5.4	5.3	5.3
Federal Budget Surplus (Unified, FY, \$Bill)	124.4	236.9	127.3	-158.5	-374.2	-475.0	-350.0	-275.0	-250.0	-275.0
Price of Oil (\$Bbl., U.S. Refiners' Cost)	17.42	28.21	22.95	24.00	28.60	36.10	33.00	30.50	28.75	27.75
<b>MONEY AND INTEREST RATES</b>										
3-Month Treasury Bill Rate (%)	4.6	5.8	3.4	1.6	1.0	1.1	2.1	2.5	2.7	3.0
Federal Funds Rate (%)	5.0	6.2	3.9	1.7	1.1	1.3	2.4	3.0	3.2	3.5
10-Year Treasury Note Rate (%)	5.6	6.0	5.0	4.6	4.0	4.6	5.3	5.4	5.6	5.7
Long-Term Treasury Bond Rate	5.9	5.9	5.5	5.4	5.0	5.4	5.9	6.0	6.2	6.3
AAA Corporate Bond Rate (%)	7.0	7.6	7.1	6.5	5.7	6.0	6.5	6.5	6.6	6.8
Prime Rate (%)	8.0	9.2	6.9	4.7	4.1	4.3	5.3	6.0	6.3	6.5
<b>INCOMES</b>										
Personal Income (% Change)	5.1	8.0	3.4	2.3	3.3	5.2	4.6	5.5	5.5	5.5
Real Disp. Inc. (% Change)	3.0	4.8	1.8	3.8	2.6	3.1	2.6	3.2	3.0	3.0
Personal Savings Rate (%)	2.4	2.4	1.7	2.3	2.1	1.5	1.5	2.0	2.3	2.5
Pretax Corporate Profits (\$Bill)	776.0	773.0	694.0	665.0	856.0	1105.0	1286.0	1389.0	1514.0	1665.0
Aftertax Corporate Profits (\$Bill)	517.0	508.0	496.0	550.0	632.0	739.0	836.0	903.0	984.0	1082.0
Yr-to-Yr % Change	10.1	-1.7	-2.5	11.0	14.8	17.1	13.1	8.0	9.0	10.0
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	4.4	3.7	0.5	-2.2	3.1	4.6	3.7	3.6	3.5	3.7
Final Sales	4.5	3.8	1.4	1.8	3.2	4.3	3.6	3.5	3.3	3.5
Total Consumption	5.1	4.7	2.5	3.4	3.2	4.0	2.9	3.0	3.0	3.0
Nonresidential Fixed Investment	9.2	8.7	-4.5	-7.1	3.0	10.1	9.0	8.0	7.0	7.0
Construction	-0.4	6.8	-2.6	-18.4	-4.6	-1.2	5.5	6.0	6.0	7.0
Equipment & Software	12.7	9.4	-5.2	-2.8	5.5	12.1	8.3	7.0	7.5	8.0
Residential Fixed Investment	6.0	0.7	0.2	4.9	7.5	4.9	-3.9	-2.0	1.0	4.0
Exports	4.3	8.7	-5.2	-2.4	2.0	10.4	12.2	10.0	9.0	8.0
Imports	11.5	13.2	-2.6	3.3	4.0	7.4	5.5	5.5	5.5	4.0
Federal Government	2.2	0.9	3.6	8.0	8.7	6.1	1.4	0.5	0.5	0.5
State & Local Governments	4.7	2.7	2.2	1.8	0.5	0.3	2.9	2.0	2.0	1.5

## Selected Yields

	Recent (5/20/04)	3 Months Ago (2/19/04)	Year Ago (5/22/03)		Recent (5/20/04)	3 Months Ago (2/19/04)	Year Ago (5/22/03)
<b>TAXABLE</b>							
<b>Market Rates</b>							
Discount Rate	2.00	2.00	2.25				
Federal Funds	1.00	1.00	1.25				
Prime Rate	4.00	4.00	4.25				
30-day CP (A1/P1)	1.02	1.01	1.23				
3-month LIBOR	1.28	1.12	1.28				
<b>Bank CDs</b>							
6-month	0.75	0.72	0.85				
1-year	1.11	0.92	0.95				
5-year	3.33	2.93	2.74				
<b>U.S. Treasury Securities</b>							
3-month	1.02	0.93	1.07				
6-month	1.35	0.99	1.07				
1-year	1.85	1.23	1.15				
5-year	3.84	3.00	2.29				
10-year	4.70	4.03	3.31				
30-year	5.42	4.89	4.26				
30-year Zero	5.53	5.08	4.53				
<b>Mortgage-Backed Securities</b>							
CNMA 6.5%	5.38	3.42	3.46				
FHLMC 6.5% (Gold)	5.48	3.49	2.98				
FNMA 6.5%	5.40	3.41	2.79				
FNMA ARM	2.78	2.86	2.97				
<b>Corporate Bonds</b>							
Financial (10-year) A	5.60	4.98	4.40				
Industrial (25/30-year) A	6.27	5.57	5.22				
Utility (25/30-year) A	6.17	5.60	5.48				
Utility (25/30-year) Baa/BBB	6.66	6.04	6.16				
<b>Foreign Bonds (10-Year)</b>							
Canada	4.83	4.46	4.67				
Germany	4.33	4.12	3.70				
Japan	1.48	1.22	0.57				
United Kingdom	5.16	4.85	4.03				
<b>Preferred Stocks</b>							
Utility A	6.83	6.82	6.83				
Financial A	6.38	5.72	5.90				
Financial Adjustable A	5.52	5.46	5.01				



<b>TAX-EXEMPT</b>							
<b>Bond Buyer Indexes</b>							
20-Bond Index (GOs)	5.13	4.50	4.30				
25-Bond Index (Revs)	5.44	4.83	4.82				
<b>General Obligation Bonds (GOs)</b>							
1-year Aaa	1.52	1.03	0.98				
1-year A	1.67	1.20	1.20				
5-year Aaa	3.25	2.24	2.05				
5-year A	3.56	2.55	2.40				
10-year Aaa	4.11	3.33	3.08				
10-year A	4.46	3.67	3.47				
25/30-year Aaa	5.09	4.47	4.31				
25/30-year A	5.34	4.75	4.61				
<b>Revenue Bonds (Revs) (25/30-Year)</b>							
Education AA	5.29	4.56	4.35				
Electric AA	5.23	4.55	4.34				
Housing AA	5.40	4.70	4.50				
Hospital AA	5.65	4.90	4.74				
Toll Road Aaa	5.33	4.63	4.50				

## Federal Reserve Data

<b>BANK RESERVES</b>							
<i>(Two-Week Period; in Millions, Not Seasonally Adjusted)</i>							
	Recent Levels			Average Levels Over the Last...			
	5/12/04	4/28/04	Change	12 Wks.	26 Wks.	52 Wks.	
Excess Reserves	1518	1637	-119	1782	1682	1857	
Borrowed Reserves	99	91	8	63	69	106	
Net Free/Borrowed Reserves	1419	1546	-127	1719	1613	1751	

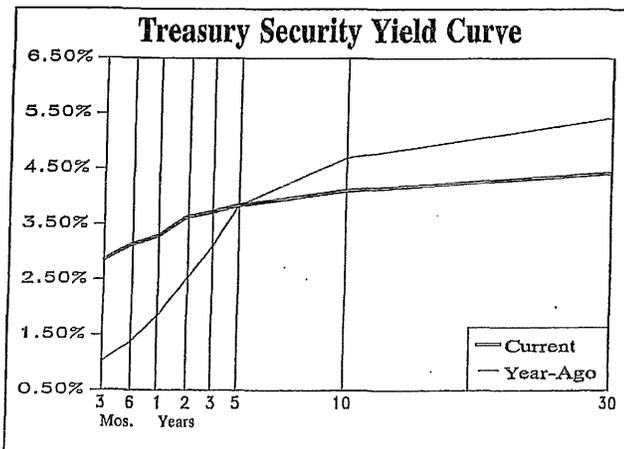
<b>MONEY SUPPLY</b>							
<i>(One-Week Period; in Billions, Seasonally Adjusted)</i>							
	Recent Levels			Growth Rates Over the Last...			
	5/10/04	5/3/04	Change	3 Mos.	6 Mos.	12 Mos.	
M1 (Currency+demand deposits)	1299.8	1362.5	-62.7	2.7%	2.7%	4.0%	
M2 (M1+savings+small time deposits)	6267.3	6274.8	-7.5	11.5%	6.3%	4.6%	
M3 (M2+large time deposits)	9172.8	9169.6	3.2	12.6%	8.0%	5.3%	

## Value Line Forecast for the U.S. Economy

	ACTUAL					ESTIMATED				
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS</b> (2000 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS										
Final Sales	9760	9921	10063	10380	10795	11153	11513	11881	12273	12691
Total Consumption	6739	6910	7123	7356	7632	7894	8110	8353	8604	8862
Nonresidential Fixed Investment	1232	1180	1076	1111	1229	1344	1447	1534	1641	1772
Structures	313	306	252	237	241	246	270	280	294	312
Equipment & Software	919	874	826	879	999	1112	1190	1249	1324	1404
Residential Fixed Investment	447	448	470	511	561	591	578	566	578	607
Exports	1096	1037	1012	1032	1120	1191	1282	1412	1547	1676
Imports	1476	1436	1484	1550	1704	1837	1901	1989	2098	2205
Federal Government	579	601	647	690	722	744	760	766	772	778
State & Local Governments	1143	1179	1211	1220	1225	1237	1268	1293	1314	1335
Gross Domestic Product	9817	10128	10487	11004	11735	12443	13103	13789	14578	15437
Real GDP (2000 Chain Weighted \$)	9817	9891	10075	10381	10842	11210	11558	11917	12310	12741
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Deflator	2.2	2.4	1.7	1.8	2.2	2.6	2.1	2.1	2.2	2.3
CPI-All Urban Consumers	3.4	2.8	1.6	2.3	2.7	2.8	2.5	2.3	2.4	2.5
PPI-Finished Goods	3.7	2.0	-1.3	3.2	3.6	3.2	2.4	2.0	2.1	2.2
Employment Cost Index—Total Comp.	4.6	4.1	3.8	4.0	3.9	3.3	4.0	4.0	4.0	4.0
Productivity	2.7	2.2	4.9	4.5	4.0	1.8	1.8	2.3	2.4	2.6
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	4.4	-3.4	-0.6	0.0	4.1	2.9	2.4	3.0	3.2	3.3
Factory Operating Rate (%)	81.1	75.4	73.9	73.7	76.7	78.2	78.4	79.0	79.5	80.0
Inventory Change (2000 Chain Weighted \$)	56.5	-31.7	11.8	-0.7	42.4	57.0	45.0	35.0	36.0	50.0
Housing Starts (Mill. Units)	1.57	1.60	1.71	1.85	1.95	2.10	1.86	1.80	1.77	1.80
Existing House Sales (Mill. Units)	5.16	5.29	5.59	6.10	6.72	6.71	6.36	6.10	5.90	6.00
Total Light Vehicle Sales (Mill. Units)	17.4	17.1	16.8	16.6	16.8	16.8	17.0	17.3	17.5	17.7
National Unemployment Rate (%)	4.0	4.8	5.8	6.0	5.5	5.2	5.2	5.2	5.2	5.2
Federal Budget Surplus (Unified, FY, \$Bill)	236.9	127.3	-157.8	-377.0	-413.0	-370.0	-335.0	-325.0	-325.0	-300.0
Price of Oil (\$Bbl., U.S. Refiners' Cost)	28.21	22.95	24.00	28.60	36.91	44.35	44.00	42.00	41.00	40.00
<b>MONEY AND INTEREST RATES</b>										
3-Month Treasury Bill Rate (%)	5.8	3.4	1.6	1.0	1.4	3.2	3.8	3.9	4.1	4.2
Federal Funds Rate (%)	6.2	3.9	1.7	1.1	1.4	3.2	4.0	4.2	4.5	4.7
10-Year Treasury Note Rate (%)	6.0	5.0	4.6	4.0	4.3	4.5	4.8	5.4	5.5	5.7
Long-Term Treasury Bond Rate (%)	5.9	5.5	5.4	5.0	5.1	4.8	5.3	5.9	6.0	6.2
AAA Corporate Bond Rate (%)	7.6	7.1	6.5	5.7	5.6	5.4	5.8	6.5	6.6	6.8
Prime Rate (%)	9.2	6.9	4.7	4.1	4.3	6.1	7.0	7.2	7.5	7.8
<b>INCOMES</b>										
Personal Income (% Change)	8.0	3.5	1.8	3.2	5.6	4.6	5.3	5.3	5.6	5.8
Real Disp., Inc. (% Change)	4.8	1.9	3.1	2.3	3.5	1.6	3.3	3.4	3.5	3.5
Personal Savings Rate (%)	2.4	1.8	2.0	1.4	1.2	0.3	0.8	1.0	1.5	1.5
Corporate Economic Profits (\$Bill)	818.0	767.0	875.0	1021.0	1182.0	1327.0	1394.0	1463.0	1555.0	1679.0
Yr-to-Yr % Change	-3.9	-6.2	14.0	16.8	15.7	12.3	4.3	5.0	7.0	8.0
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	3.7	0.8	1.9	3.0	4.4	3.4	3.1	3.1	3.3	3.5
Final Sales	3.8	1.6	1.4	3.2	4.0	3.3	3.2	3.2	3.3	3.4
Total Consumption	4.7	2.5	3.1	3.3	3.8	3.4	2.7	3.0	3.0	3.0
Nonresidential Fixed Investment	8.7	-4.2	-8.8	3.3	10.6	9.3	7.7	6.0	7.0	8.0
Structures	6.8	-2.2	-17.6	-5.6	1.4	2.2	9.5	4.0	5.0	6.0
Equipment & Software	9.4	-4.9	-5.5	6.4	13.6	11.3	7.0	5.0	6.0	6.0
Residential Fixed Investment	0.7	0.2	4.9	8.7	9.7	5.3	-2.2	-2.0	2.0	5.0
Exports	8.7	-5.4	-2.4	2.0	8.6	6.4	7.6	10.1	9.6	8.3
Imports	13.2	-2.7	3.3	4.4	9.9	7.8	3.5	4.6	5.5	5.1
Federal Government	0.9	3.8	7.7	6.6	4.7	3.1	2.0	0.8	0.8	0.8
State & Local Governments	2.7	3.1	2.7	0.7	0.4	1.0	2.5	2.0	1.6	1.6

## Selected Yields

	Recent (5/19/05)	3 Months Ago (2/17/05)	Year Ago (5/20/04)		Recent (5/19/05)	3 Months Ago (2/17/05)	Year Ago (5/20/04)
<b>TAXABLE</b>							
<b>Market Rates</b>				<b>Mortgage-Backed Securities</b>			
Discount Rate	4.00	3.50	2.00	GNMA 6.5%	4.96	4.35	5.38
Fed Funds (Target)	3.00	2.50	1.00	FHLMC 6.5% (Gold)	5.09	4.42	5.48
Prime Rate	6.00	5.50	4.00	FNMA 6.5%	4.86	4.34	5.40
30-day CP (A1/P1)	3.02	2.51	1.02	FNMA ARM	3.48	3.22	2.78
3-month LIBOR	3.28	2.85	1.28	<b>Corporate Bonds</b>			
<b>Bank CDs</b>				Financial (10-year) A	4.89	4.91	5.60
6-month	2.26	1.79	0.75	Industrial (25/30-year) A	5.36	5.30	6.27
1-year	2.77	2.22	1.11	Utility (25/30-year) A	5.25	5.17	6.17
5-year	3.80	3.51	3.33	Utility (25/30-year) Baa/BBB	5.61	5.64	6.66
<b>U.S. Treasury Securities</b>				<b>Foreign Bonds (10-Year)</b>			
3-month	2.86	2.57	1.02	Canada	4.09	4.20	4.83
6-month	3.13	2.84	1.35	Germany	3.35	3.57	4.33
1-year	3.29	3.05	1.85	Japan	1.27	1.41	1.48
5-year	3.85	3.77	3.84	United Kingdom	4.37	4.63	5.16
10-year	4.11	4.18	4.70	<b>Preferred Stocks</b>			
10-year (inflation-protected)	1.64	1.60	N/A	Utility A	6.96	6.85	6.83
30-year	4.43	4.57	5.42	Financial A	5.94	5.98	6.38
30-year Zero	4.45	4.63	5.53	Financial Adjustable A	5.52	5.33	5.52



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>			
20-Bond Index (GOs)	4.25	4.35	5.13
25-Bond Index (Revs)	4.81	4.88	5.44
<b>General Obligation Bonds (GOs)</b>			
1-year Aaa	2.72	2.25	1.52
1-year A	2.89	2.42	1.67
5-year Aaa	2.98	2.87	3.25
5-year A	3.28	3.15	3.56
10-year Aaa	3.49	3.51	4.11
10-year A	3.84	3.82	4.46
25/30-year Aaa	4.30	4.40	5.09
25/30-year A	4.54	4.61	5.34
<b>Revenue Bonds (Revs) (25/30-Year)</b>			
Education AA	4.31	4.44	5.29
Electric AA	4.44	4.45	5.23
Housing AA	4.65	4.63	5.40
Hospital AA	4.48	4.68	5.65
Toll Road Aaa	4.44	4.54	5.33

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	5/11/05	4/27/05	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	1376	1631	-255	1645	1726	1689
Borrowed Reserves	123	94	29	80	91	149
Net Free/Borrowed Reserves	1253	1537	-284	1565	1635	1540

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

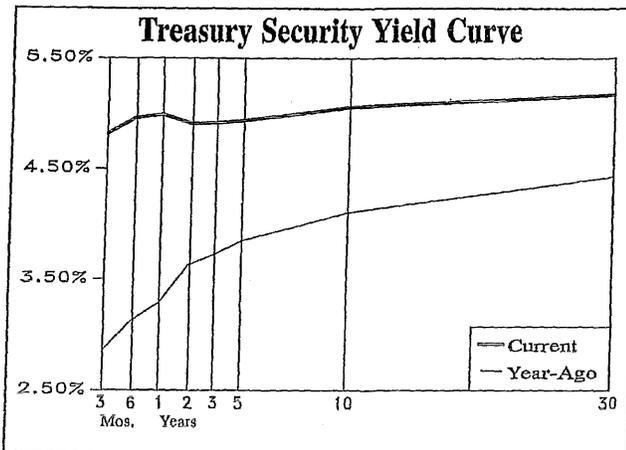
	Recent Levels			Growth Rates Over the Last...		
	5/9/05	5/2/05	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1359.9	1358.3	1.6	-0.1%	0.8%	2.6%
M2 (M1+savings+small time deposits)	6466.7	6478.8	-12.1	-0.1%	2.5%	3.3%
M3 (M2+large time deposits)	9584.6	9590.3	-5.7	3.4%	4.1%	3.8%

## Value Line Forecast for the U.S. Economy

	ACTUAL					ESTIMATED				
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS (2000 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS</b>										
Final Sales	9921	10036	10304	10702	11113	11484	11804	12158	12547	12974
Total Consumption	6910	7099	7306	7589	7857	8121	8360	8611	8878	9171
Nonresidential Fixed Investment	1180	1072	1085	1187	1289	1413	1507	1583	1662	1778
Structures	306	254	243	248	253	271	287	296	308	323
Equipment & Software	874	820	847	948	1051	1160	1233	1295	1373	1483
Residential Fixed Investment	448	470	509	562	602	603	562	551	557	573
Exports	1037	1013	1031	1118	1195	1287	1401	1539	1683	1811
Imports	1436	1485	1553	1719	1828	1953	2038	2111	2225	2348
Federal Government	601	643	688	724	740	760	765	772	777	786
State & Local Governments	1179	1216	1223	1228	1246	1254	1279	1296	1321	1339
Gross Domestic Product	10128	10470	10971	11734	12487	13296	13935	14614	15369	16194
Real GDP (2000 Chain Weighted \$)	9891	10049	10321	10756	11135	11520	11865	12233	12637	13079
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Deflator	2.4	1.7	2.0	2.6	2.8	2.8	2.2	2.0	2.1	2.2
CPI-All Urban Consumers	2.8	1.6	2.3	2.7	3.4	2.7	2.4	2.2	2.3	2.5
PPI-Finished Goods	1.9	-1.3	3.2	3.6	4.9	2.0	1.7	1.3	1.5	2.0
Employment Cost Index—Total Comp.	4.1	3.8	4.0	3.9	3.1	3.2	3.4	3.3	3.4	3.5
Productivity	2.2	4.3	3.8	3.4	2.7	2.4	1.8	2.0	2.3	2.5
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	-3.4	-0.3	0.0	4.1	3.2	4.4	2.7	2.5	2.7	3.0
Factory Operating Rate (%)	75.4	73.5	73.7	76.7	78.9	80.6	80.1	79.5	80.0	80.5
Inventory Change (2000 Chain Weighted \$)	-31.7	15.2	15.4	49.9	25.0	36.0	61.0	75.0	90.0	105.0
Housing Starts (Mill. Units)	1.60	1.71	1.85	1.95	2.07	1.92	1.79	1.75	1.73	1.80
Existing House Sales (Mill. Units)	5.29	5.65	6.17	6.72	7.06	6.54	6.05	6.00	6.05	6.10
Total Light Vehicle Sales (Mill. Units)	17.1	16.8	16.6	16.9	16.9	16.5	16.4	16.7	17.0	17.5
National Unemployment Rate (%)	4.8	5.8	6.0	5.5	5.1	4.7	4.9	4.8	4.7	4.8
Federal Budget Surplus (Unified, FY, \$Bill)	127.3	-157.8	-377.0	-413.0	-318.0	-310.0	-260.0	-315.0	-295.0	-280.0
Price of Oil (\$Bbl., U.S. Refiners' Cost)	22.95	24.00	28.60	36.91	50.31	61.50	60.00	56.35	50.75	45.00
<b>MONEY AND INTEREST RATES</b>										
3-Month Treasury Bill Rate (%)	3.4	1.6	1.0	1.4	3.1	4.8	4.8	4.6	4.7	4.8
Federal Funds Rate (%)	3.9	1.7	1.1	1.4	3.2	5.0	5.0	4.8	5.0	5.2
10-Year Treasury Note Rate (%)	5.0	4.6	4.0	4.3	4.3	5.0	5.1	5.3	5.4	5.5
Long-Term Treasury Bond Rate (%)	5.5	5.4	5.0	5.1	4.6	5.2	5.3	5.5	5.6	5.8
AAA Corporate Bond Rate (%)	7.1	6.5	5.7	5.6	5.2	6.0	6.1	6.4	6.6	6.6
Prime Rate (%)	6.9	4.7	4.1	4.3	6.2	8.0	8.0	7.8	7.9	8.0
<b>INCOMES</b>										
Personal Income (% Change)	3.5	1.8	3.2	5.9	5.5	6.1	5.5	5.6	5.7	5.8
Real Disp. Inc. (% Change)	1.9	3.1	2.4	3.4	1.5	3.5	3.7	3.7	3.8	3.8
Personal Savings Rate (%)	1.8	2.4	2.1	1.7	-0.4	-0.5	0.3	0.8	1.0	1.2
Corporate Economic Profits (\$Bill)	767.0	886.0	1032.0	1162.0	1352.0	1468.0	1527.0	1603.0	1715.0	1852.0
Yr-to-Yr % Change	-6.2	15.5	16.4	12.6	16.4	8.6	4.0	5.0	7.0	8.0
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	0.8	1.6	2.7	4.2	3.5	3.5	3.0	3.1	3.3	3.5
Final Sales	1.6	1.2	2.7	3.9	3.8	3.3	2.8	3.0	3.2	3.4
Total Consumption	2.5	2.7	2.9	3.9	3.5	3.4	2.9	3.0	3.1	3.3
Nonresidential Fixed Investment	-4.2	-9.2	1.2	9.4	8.6	9.7	6.6	5.0	5.0	7.0
Structures	-2.2	-17.0	-4.3	2.2	2.0	7.0	6.1	3.0	4.0	5.0
Equipment & Software	-4.9	-6.2	3.3	11.9	10.9	10.4	6.3	5.0	6.0	8.0
Residential Fixed Investment	0.2	4.9	8.3	10.3	7.1	0.2	-6.8	-2.0	1.0	3.0
Exports	-5.4	-2.3	1.8	8.4	6.9	7.7	8.8	9.9	9.3	7.6
Imports	-2.7	3.4	4.6	10.7	6.3	6.9	4.3	3.6	5.4	5.5
Federal Government	3.8	7.0	7.0	5.2	2.3	2.8	0.6	0.9	0.7	1.1
State & Local Governments	3.1	3.1	0.6	0.4	1.5	0.6	2.0	1.3	1.9	1.4

## Selected Yields

	Recent (5/18/06)	3 Months Ago (2/16/06)	Year Ago (5/19/05)		Recent (5/18/06)	3 Months Ago (2/16/06)	Year Ago (5/19/05)
<b>TAXABLE</b>							
<b>Market Rates</b>				<b>Mortgage-Backed Securities</b>			
Discount Rate	6.00	5.50	4.00	GNMA 6.5%	6.01	5.33	4.96
Federal Funds	5.00	4.50	3.00	FHLMC 6.5% (Gold)	6.19	5.88	5.09
Prime Rate	8.00	7.50	6.00	FNMA 6.5%	6.15	5.74	4.86
30-day CP (A1/P1)	5.00	4.49	3.02	FNMA ARM	4.81	4.47	3.48
3-month LIBOR	5.19	4.77	3.28	<b>Corporate Bonds</b>			
<b>Bank CDs</b>				Financial (10-year) A	6.01	5.50	4.89
6-month	3.06	2.89	2.26	Industrial (25/30-year) A	6.28	5.68	5.36
1-year	3.87	3.46	2.77	Utility (25/30-year) A	6.28	5.63	5.25
5-year	4.03	3.97	3.80	Utility (25/30-year) Baa/BBB	6.59	5.98	5.61
<b>U.S. Treasury Securities</b>				<b>Foreign Bonds (10-Year)</b>			
3-month	4.82	4.53	2.86	Canada	4.32	4.19	4.09
6-month	4.96	4.68	3.13	Germany	4.03	3.51	3.35
1-year	4.99	4.70	3.29	Japan	1.95	1.57	1.27
5-year	4.94	4.58	3.85	United Kingdom	4.58	4.17	4.37
10-year	5.06	4.58	4.11	<b>Preferred Stocks</b>			
10-year (inflation-protected)	2.37	2.08	1.64	Utility A	7.25	7.07	6.96
30-year	5.17	4.57	4.43	Financial A	6.37	6.22	5.94
30-year Zero	5.06	4.62	4.45	Financial Adjustable A	5.52	5.52	5.52



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>			
20-Bond Index (GOs)	4.58	4.42	4.25
25-Bond Index (Revs)	5.24	5.14	4.81
<b>General Obligation Bonds (GOs)</b>			
1-year Aaa	3.62	3.26	2.72
1-year A	3.75	3.38	2.89
5-year Aaa	3.67	3.50	2.98
5-year A	3.95	3.78	3.28
10-year Aaa	4.10	3.86	3.49
10-year A	4.42	4.17	3.84
25/30-year Aaa	4.53	4.36	4.30
25/30-year A	4.79	4.61	4.54
<b>Revenue Bonds (Revs) (25/30-Year)</b>			
Education AA	4.65	4.37	4.31
Electric AA	4.66	4.44	4.44
Housing AA	4.70	4.63	4.65
Hospital AA	4.90	4.79	4.48
Toll Road Aaa	4.77	4.63	4.44

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	5/10/06	4/26/06	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	2145	1466	679	1678	1694	1730
Borrowed Reserves	156	103	53	160	147	221
Net Free/Borrowed Reserves	1989	1363	626	1518	1547	1509

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

	Recent Levels			Growth Rates Over the Last...		
	5/8/06	5/1/06	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1382.8	1388.3	-5.5	-0.1%	3.5%	1.2%
M2 (M1+savings+small time deposits)	6770.9	6794.8	-23.9	2.2%	4.2%	4.4%

MAY 25, 2007

VALUE LINE SELECTION & OPINION

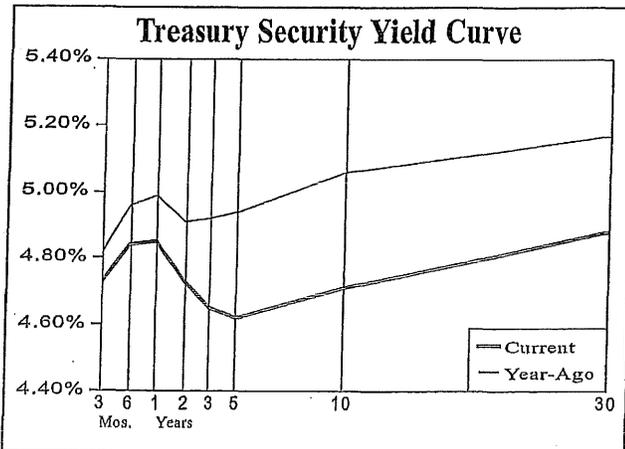
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## Value Line Forecast for the U.S. Economy

	ACTUAL					ESTIMATED				
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS (2000 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS</b>										
Final Sales	10036	10285	10648	11025	11366	11629	11938	12296	12677	13070
Total Consumption	7099	7295	7577	7841	8091	8348	8588	8854	9137	9439
Nonresidential Fixed Investment	1072	1082	1146	1224	1312	1356	1409	1465	1524	1589
Structures	254	244	249	252	274	293	298	301	307	316
Equipment & Software	820	843	904	985	1049	1065	1116	1172	1237	1311
Residential Fixed Investment	470	509	560	608	582	494	479	493	518	560
Exports	1013	1026	1120	1196	1303	1386	1513	1649	1783	1908
Imports	1485	1545	1711	1815	1921	1964	2044	2161	2286	2414
Federal Government	643	687	717	728	742	756	770	768	771	768
State & Local Governments	1216	1218	1224	1230	1256	1286	1300	1313	1331	1350
Gross Domestic Product	10470	10961	11712	12456	13247	13853	14487	15220	16041	16928
Real GDP (2000 Chain Weighted \$)	10049	10301	10704	11049	11415	11647	11946	12304	12698	13117
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Deflator	1.7	2.1	2.8	3.0	2.9	2.5	2.0	2.1	2.2	2.3
CPI-All Urban Consumers	1.6	2.3	2.7	3.4	3.2	3.5	2.4	2.4	2.5	2.5
PPI-Finished Goods	-1.3	3.2	3.6	4.9	2.9	4.8	2.0	2.0	2.2	2.3
Employment Cost Index—Total Comp.	3.8	3.8	3.8	3.1	2.9	3.0	3.1	3.3	3.5	3.6
Productivity	4.3	3.9	3.4	2.7	1.6	1.7	2.5	2.5	2.6	2.8
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	-0.3	0.6	4.1	3.2	4.0	1.9	2.5	2.5	2.6	2.6
Factory Operating Rate (%)	73.5	73.7	77.1	78.9	80.4	80.1	80.2	79.8	80.0	80.2
Nonfarm Inven. Change (2000 Chain Weighted \$)	15.2	14.0	47.0	19.6	40.6	15.0	30.0	40.0	42.0	45.0
Housing Starts (Mill. Units)	1.71	1.85	1.95	2.07	1.82	1.44	1.49	1.60	1.70	1.80
Existing House Sales (Mill. Units)	5.65	6.18	6.72	7.06	6.51	6.03	5.89	6.00	6.20	6.40
Total Light Vehicle Sales (Mill. Units)	16.8	16.6	16.9	16.9	16.5	16.5	16.6	16.8	17.0	17.3
National Unemployment Rate (%)	5.8	6.0	5.5	5.1	4.6	4.6	4.9	4.7	4.7	4.6
Federal Budget Surplus (Unified, FY, \$Bill)	-157.8	-377.0	-413.0	-318.0	-248.0	-190.0	-220.0	-230.0	-215.0	-185.0
Price of Oil (\$Bbl., U.S. Refiners' Cost)	24.00	28.60	36.91	50.31	60.09	57.60	55.85	56.25	56.25	56.25
<b>MONEY AND INTEREST RATES</b>										
3-Month Treasury Bill Rate (%)	1.6	1.0	1.4	3.1	4.7	4.9	4.9	4.9	5.0	5.2
Federal Funds Rate (%)	1.7	1.1	1.4	3.2	5.0	5.3	4.9	5.0	5.2	5.5
10-Year Treasury Note Rate (%)	4.6	4.0	4.3	4.3	4.8	4.7	4.8	5.1	5.4	5.6
Long-Term Treasury Bond Rate (%)	5.4	5.0	5.1	4.6	4.9	4.8	5.0	5.3	5.6	5.8
AAA Corporate Bond Rate (%)	6.5	5.7	5.6	5.2	5.6	5.4	5.6	6.1	6.4	6.6
Prime Rate (%)	4.7	4.1	4.3	6.2	8.0	8.3	7.9	8.0	8.2	8.5
<b>INCOMES</b>										
Personal Income (% Change)	1.8	3.2	6.2	5.2	6.3	5.9	5.7	5.6	5.6	5.8
Real Disp. Inc. (% Change)	3.1	2.2	3.6	1.2	2.6	3.6	3.6	3.5	3.6	3.7
Personal Savings Rate (%)	2.4	2.1	2.0	-0.4	-1.1	-1.1	-0.4	0.2	0.6	0.9
Corporate Economic Profits (\$Bill)	886	993	1183	1331	1616	1735	1852	1963	2100	2268
Yr-to-Yr % Change	15.5	12.1	19.1	12.5	21.4	7.4	6.7	6.0	7.0	8.0
<b>COMPOSITION OF REAL GDP- ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	1.6	2.5	3.9	3.2	3.3	2.0	2.6	3.0	3.2	3.3
Final Sales	1.2	2.5	3.5	3.5	3.1	2.3	2.7	3.0	3.1	3.1
Total Consumption	2.7	2.8	3.9	3.5	3.2	3.2	2.9	3.1	3.2	3.3
Nonresidential Fixed Investment	-9.2	1.0	5.9	6.8	7.2	3.4	3.9	4.0	4.0	4.3
Structures	-17.0	-4.1	2.2	1.1	9.0	6.8	1.9	1.0	2.0	3.0
Equipment & Software	-6.2	2.8	7.3	8.9	6.5	1.6	4.8	5.0	5.5	6.0
Residential Fixed Investment	4.9	8.4	9.9	8.6	-4.2	-15.1	-3.0	3.0	5.0	8.0
Exports	-2.3	1.3	9.2	6.8	8.9	6.3	9.2	9.0	8.1	7.0
Imports	3.4	4.1	10.8	6.1	5.8	2.3	4.1	5.7	5.8	5.6
Federal Government	7.0	6.8	4.3	1.5	2.0	1.9	1.8	-0.2	0.4	-0.4
State & Local Governments	3.1	0.2	0.5	0.5	2.1	2.4	1.1	1.0	1.4	1.4

## Selected Yields

	Recent (5/16/07)	3 Months Ago (2/14/07)	Year Ago (5/18/06)		Recent (5/16/07)	3 Months Ago (2/14/07)	Year Ago (5/18/06)
<b>TAXABLE</b>							
<b>Market Rates</b>							
Discount Rate	6.25	6.25	6.00				
Federal Funds	5.25	5.25	5.00				
Prime Rate	8.25	8.25	8.00				
30-day CP (A1/P1)	5.24	5.23	5.00				
3-month LIBOR	5.36	5.36	5.19				
<b>Bank CDs</b>							
6-month	3.11	3.27	3.06				
1-year	3.73	3.86	3.87				
5-year	3.91	3.91	4.03				
<b>U.S. Treasury Securities</b>							
3-month	4.73	5.15	4.82				
6-month	4.84	5.14	4.96				
1-year	4.85	5.10	4.99				
5-year	4.62	4.72	4.94				
10-year	4.71	4.74	5.06				
10-year (inflation-protected)	2.37	2.39	2.37				
30-year	4.88	4.83	5.17				
30-year Zero	4.85	4.76	5.06				
<b>Mortgage-Backed Securities</b>							
GNMA 6.5%	5.58	5.72	6.01				
FHLMC 6.5% (Gold)	5.80	5.82	6.19				
FNMA 6.5%	5.73	5.74	6.15				
FNMA ARM	5.49	5.62	4.81				
<b>Corporate Bonds</b>							
Financial (10-year) A	5.69	5.52	6.01				
Industrial (25/30-year) A	5.89	5.77	6.28				
Utility (25/30-year) A	6.07	5.77	6.28				
Utility (25/30-year) Baa/BBB	6.21	6.02	6.59				
<b>Foreign Bonds (10-Year)</b>							
Canada	4.24	4.15	4.32				
Germany	4.30	4.10	4.03				
Japan	1.67	1.74	1.95				
United Kingdom	5.13	4.95	4.58				
<b>Preferred Stocks</b>							
Utility A	7.29	7.24	7.25				
Financial A	6.30	6.32	6.37				
Financial Adjustable A	5.52	5.51	5.52				



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>							
20-Bond Index (GOs)	4.24	4.21	4.58				
25-Bond Index (Revs)	4.44	4.53	5.24				
<b>General Obligation Bonds (GOs)</b>							
1-year Aaa	3.60	3.60	3.62				
1-year A	3.70	3.70	3.75				
5-year Aaa	3.63	3.63	3.67				
5-year A	3.74	3.72	3.95				
10-year Aaa	3.76	3.78	4.10				
10-year A	4.26	4.30	4.42				
25/30-year Aaa	4.13	4.08	4.53				
25/30-year A	4.43	4.39	4.79				
<b>Revenue Bonds (Revs) (25/30-Year)</b>							
Education AA	4.55	4.49	4.65				
Electric AA	4.45	4.48	4.66				
Housing AA	4.63	4.54	4.70				
Hospital AA	4.65	4.55	4.90				
Toll Road Aaa	4.55	4.49	4.77				

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	5/9/07	4/25/07	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	1467	1334	133	1554	1617	1655
Borrowed Reserves	71	83	-12	57	122	206
Net Free/Borrowed Reserves	1396	1251	145	1497	1495	1449

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

	Recent Levels			Growth Rates Over the Last...		
	4/30/07	4/23/07	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1383.3	1367.4	15.9	4.1%	1.2%	0.8%
M2 (M1+savings+small time deposits)	7211.9	7237.3	-25.4	6.6%	7.5%	6.2%

MAY 23, 2008

VALUE LINE SELECTION & OPINION

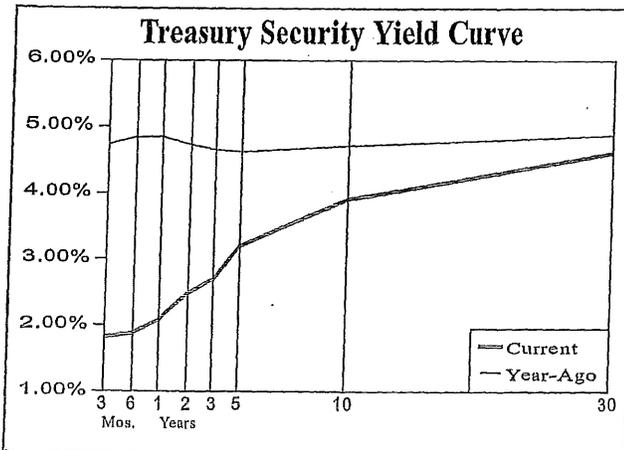
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## Value Line Forecast for the U.S. Economy

	ACTUAL					ESTIMATED				
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS</b>										
<b>(2000 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS</b>										
Final Sales	10285	10620	10967	11276	11562	<b>11736</b>	<b>11917</b>	<b>12275</b>	<b>12655</b>	<b>13035</b>
Total Consumption	7295	7561	7804	8044	8278	<b>8413</b>	<b>8546</b>	<b>8785</b>	<b>9058</b>	<b>9338</b>
Nonresidential Fixed Investment	1082	1144	1226	1307	1368	<b>1384</b>	<b>1376</b>	<b>1431</b>	<b>1495</b>	<b>1570</b>
Structures	244	247	248	269	303	<b>311</b>	<b>288</b>	<b>280</b>	<b>291</b>	<b>311</b>
Equipment & Software	843	905	992	1051	1064	<b>1069</b>	<b>1069</b>	<b>1133</b>	<b>1213</b>	<b>1285</b>
Residential Fixed Investment	509	560	597	570	473	<b>365</b>	<b>349</b>	<b>391</b>	<b>430</b>	<b>464</b>
Exports	1026	1126	1203	1304	1410	<b>1527</b>	<b>1653</b>	<b>1784</b>	<b>1900</b>	<b>2010</b>
Imports	1545	1720	1822	1929	1966	<b>1970</b>	<b>2006</b>	<b>2120</b>	<b>2260</b>	<b>2387</b>
Federal Government	687	716	726	742	755	<b>783</b>	<b>793</b>	<b>787</b>	<b>781</b>	<b>779</b>
State & Local Governments	1218	1216	1220	1239	1266	<b>1279</b>	<b>1268</b>	<b>1265</b>	<b>1277</b>	<b>1294</b>
Gross Domestic Product	10961	11686	12434	13195	13841	<b>14310</b>	<b>14835</b>	<b>15569</b>	<b>16395</b>	<b>17294</b>
Real GDP (2000 Chain Weighted \$)	10301	10676	11004	11319	11567	<b>11720</b>	<b>11901</b>	<b>12258</b>	<b>12650</b>	<b>13067</b>
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Deflator	2.1	2.9	3.2	3.2	2.7	<b>2.1</b>	<b>2.3</b>	<b>2.3</b>	<b>2.3</b>	<b>2.5</b>
CPI-All Urban Consumers	2.3	2.7	3.4	3.2	2.9	<b>3.3</b>	<b>2.4</b>	<b>2.4</b>	<b>2.5</b>	<b>2.7</b>
PPI-Finished Goods	3.2	3.6	4.9	2.9	3.9	<b>4.6</b>	<b>1.9</b>	<b>2.2</b>	<b>2.3</b>	<b>2.4</b>
Employment Cost Index—Total Comp.	3.8	3.8	3.1	2.9	3.1	<b>3.1</b>	<b>2.9</b>	<b>3.0</b>	<b>3.2</b>	<b>3.4</b>
Productivity	3.9	2.7	1.9	1.0	1.8	<b>1.2</b>	<b>1.8</b>	<b>2.7</b>	<b>3.0</b>	<b>3.2</b>
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	0.6	2.5	3.2	4.0	1.7	<b>0.4</b>	<b>2.5</b>	<b>3.0</b>	<b>3.1</b>	<b>3.3</b>
Factory Operating Rate (%)	73.7	76.6	78.8	80.4	79.4	<b>78.2</b>	<b>78.1</b>	<b>80.0</b>	<b>80.5</b>	<b>81.0</b>
Nonfarm Inven. Change (2000 Chain Weighted \$)	14.0	48.2	34.0	41.7	0.0	<b>-22.1</b>	<b>-1.3</b>	<b>45.0</b>	<b>50.0</b>	<b>40.0</b>
Housing Starts (Mill. Units)	1.85	1.95	2.07	1.81	1.34	<b>0.92</b>	<b>1.05</b>	<b>1.40</b>	<b>1.60</b>	<b>1.70</b>
Existing House Sales (Mill. Units)	6.18	6.73	7.08	6.51	5.67	<b>4.64</b>	<b>4.75</b>	<b>5.25</b>	<b>5.70</b>	<b>6.10</b>
Total Light Vehicle Sales (Mill. Units)	16.6	16.9	16.9	16.5	16.1	<b>14.9</b>	<b>15.1</b>	<b>15.5</b>	<b>16.0</b>	<b>17.0</b>
National Unemployment Rate (%)	6.0	5.5	5.1	4.6	4.6	<b>5.2</b>	<b>5.7</b>	<b>5.7</b>	<b>5.5</b>	<b>5.2</b>
Federal Budget Surplus (Unified, FY, \$Bill)	-377.0	-411.0	-321.0	-248.0	-163.0	<b>-400.0</b>	<b>-335.0</b>	<b>-400.0</b>	<b>-335.0</b>	<b>-315.0</b>
Price of Oil (\$Bbl., U.S. Refiners' Cost)	28.60	36.91	50.31	60.09	67.95	<b>107.65</b>	<b>115.00</b>	<b>113.00</b>	<b>112.00</b>	<b>112.00</b>
<b>MONEY AND INTEREST RATES</b>										
3-Month Treasury Bill Rate (%)	1.0	1.4	3.1	4.7	4.4	<b>1.6</b>	<b>2.3</b>	<b>3.0</b>	<b>3.7</b>	<b>4.0</b>
Federal Funds Rate (%)	1.1	1.4	3.2	5.0	5.0	<b>2.4</b>	<b>2.8</b>	<b>4.0</b>	<b>4.7</b>	<b>5.0</b>
10-Year Treasury Note Rate (%)	4.0	4.3	4.3	4.8	4.6	<b>3.6</b>	<b>3.8</b>	<b>4.8</b>	<b>5.3</b>	<b>5.5</b>
Long-Term Treasury Bond Rate (%)	5.0	5.1	4.6	4.9	4.8	<b>4.0</b>	<b>4.2</b>	<b>5.1</b>	<b>5.6</b>	<b>5.8</b>
AAA Corporate Bond Rate (%)	5.7	5.6	5.2	5.6	5.6	<b>4.7</b>	<b>4.9</b>	<b>5.8</b>	<b>6.3</b>	<b>6.5</b>
Prime Rate (%)	4.1	4.3	6.2	8.0	8.0	<b>5.2</b>	<b>5.7</b>	<b>7.0</b>	<b>7.7</b>	<b>8.0</b>
<b>INCOMES</b>										
Personal Income (% Change)	3.2	6.2	5.9	6.6	6.2	<b>3.9</b>	<b>4.4</b>	<b>5.0</b>	<b>5.4</b>	<b>5.5</b>
Real Disp. Inc. (% Change)	2.2	3.6	1.7	3.1	3.1	<b>1.4</b>	<b>2.1</b>	<b>3.2</b>	<b>3.5</b>	<b>3.5</b>
Personal Savings Rate (%)	2.1	2.1	0.5	0.4	0.4	<b>1.3</b>	<b>1.0</b>	<b>1.7</b>	<b>1.8</b>	<b>2.0</b>
Corporate Economic Profits (\$Bill)	993	1231	1373	1554	1595	<b>1609</b>	<b>1686</b>	<b>1804</b>	<b>1939</b>	<b>2094</b>
Yr-to-Yr % Change	12.1	24.0	11.5	13.2	2.7	<b>0.9</b>	<b>4.8</b>	<b>7.0</b>	<b>7.5</b>	<b>8.0</b>
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	2.5	3.6	3.1	2.9	2.2	<b>1.3</b>	<b>1.5</b>	<b>3.0</b>	<b>3.2</b>	<b>3.3</b>
Final Sales	2.5	3.3	3.3	2.8	2.5	<b>1.5</b>	<b>1.5</b>	<b>3.0</b>	<b>3.1</b>	<b>3.0</b>
Total Consumption	2.8	3.6	3.2	3.1	2.9	<b>1.6</b>	<b>1.6</b>	<b>2.8</b>	<b>3.1</b>	<b>3.1</b>
Nonresidential Fixed Investment	1.0	5.8	7.1	6.6	4.7	<b>1.2</b>	<b>-0.6</b>	<b>4.0</b>	<b>4.5</b>	<b>5.0</b>
Structures	-4.1	1.3	0.5	8.4	12.9	<b>2.8</b>	<b>-7.4</b>	<b>-3.0</b>	<b>4.0</b>	<b>7.0</b>
Equipment & Software	2.8	7.4	9.6	5.9	1.3	<b>0.5</b>	<b>0.0</b>	<b>6.0</b>	<b>7.0</b>	<b>6.0</b>
Residential Fixed Investment	8.4	10.0	6.6	-4.6	-17.0	<b>-22.9</b>	<b>-4.3</b>	<b>12.0</b>	<b>10.0</b>	<b>8.0</b>
Exports	1.3	9.7	6.9	8.4	8.1	<b>8.3</b>	<b>8.3</b>	<b>7.9</b>	<b>6.5</b>	<b>5.8</b>
Imports	4.1	11.3	5.9	5.9	1.9	<b>0.2</b>	<b>1.8</b>	<b>5.7</b>	<b>6.6</b>	<b>5.6</b>
Federal Government	6.8	4.2	1.5	2.2	1.7	<b>3.8</b>	<b>1.2</b>	<b>-0.7</b>	<b>-0.8</b>	<b>-0.3</b>
State & Local Governments	0.2	-0.2	0.3	1.6	2.2	<b>1.0</b>	<b>-0.9</b>	<b>-0.2</b>	<b>0.9</b>	<b>1.4</b>

## Selected Yields

	Recent (5/14/08)	3 Months Ago (2/13/08)	Year Ago (5/16/07)		Recent (5/14/08)	3 Months Ago (2/13/08)	Year Ago (5/16/07)
<b>TAXABLE</b>							
<b>Market Rates</b>							
Discount Rate	2.25	3.50	6.25				
Federal Funds	2.00	3.00	5.25				
Prime Rate	5.00	6.00	8.25				
30-day CP (A1/P1)	2.70	3.00	5.24				
3-month LIBOR	2.72	3.07	5.36				
<b>Bank CDs</b>							
6-month	1.77	2.15	3.11				
1-year	2.05	2.34	3.73				
5-year	3.16	2.85	3.91				
<b>U.S. Treasury Securities</b>							
3-month	1.82	2.26	4.73				
6-month	1.88	2.09	4.84				
1-year	2.08	2.06	4.85				
5-year	3.20	2.73	4.62				
10-year	3.91	3.73	4.71				
10-year (inflation-protected)	1.35	1.34	2.37				
30-year	4.61	4.54	4.88				
30-year Zero	4.71	4.65	4.85				
<b>Mortgage-Backed Securities</b>							
GNMA 6.5%	5.04	4.46	5.58				
FHLMC 6.5% (Gold)	5.16	5.10	5.80				
FNMA 6.5%	4.90	4.71	5.73				
FNMA ARM	4.41	5.18	5.49				
<b>Corporate Bonds</b>							
Financial (10-year) A	5.68	5.78	5.69				
Industrial (25/30-year) A	6.06	6.29	5.89				
Utility (25/30-year) A	6.10	6.20	6.07				
Utility (25/30-year) Baa/BBB	6.41	6.35	6.21				
<b>Foreign Bonds (10-Year)</b>							
Canada	3.60	3.87	4.24				
Germany	4.17	3.96	4.30				
Japan	1.68	1.43	1.67				
United Kingdom	4.82	4.62	5.13				
<b>Preferred Stocks</b>							
Utility A	6.28	6.13	6.07				
Financial A	7.69	7.00	6.48				
Financial Adjustable A	5.51	5.51	5.52				



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>							
20-Bond Index (GOs)	4.62	4.33	4.24				
25-Bond Index (Revs)	5.07	4.72	4.44				
<b>General Obligation Bonds (GOs)</b>							
1-year Aaa	1.83	1.05	3.60				
1-year A	1.93	1.15	3.70				
5-year Aaa	2.97	2.67	3.63				
5-year A	3.07	2.77	3.74				
10-year Aaa	3.62	3.40	3.76				
10-year A	3.83	3.60	4.26				
25/30-year Aaa	4.55	4.36	4.13				
25/30-year A	4.75	4.56	4.43				
<b>Revenue Bonds (Revs) (25/30-Year)</b>							
Education AA	4.80	4.60	4.55				
Electric AA	4.85	4.65	4.45				
Housing AA	5.00	4.80	4.63				
Hospital AA	5.05	4.85	4.65				
Toll Road Aaa	4.85	4.65	4.55				

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	5/7/08	4/23/08	Change	12 W/ks.	26 W/ks.	52 W/ks.
Excess Reserves	1980	1718	262	2201	1953	2042
Borrowed Reserves	129197	133027	-3830	89011	52907	27699
Net Free/Borrowed Reserves	-127217	-131309	4092	-86810	-50954	-25657

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

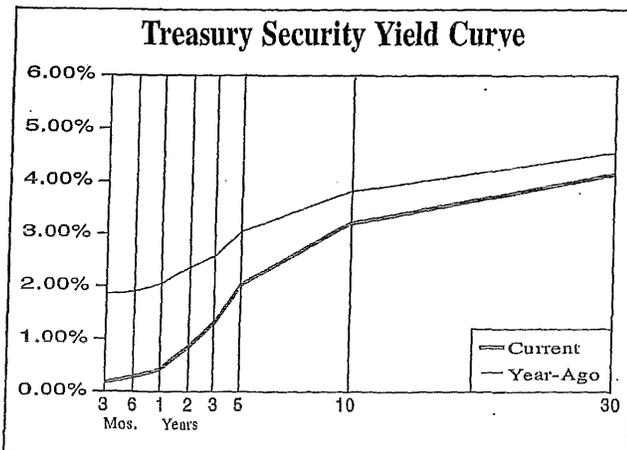
	Recent Levels			Growth Rates Over the Last...		
	4/28/08	4/21/08	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1379.9	1372.1	7.8	4.6%	1.4%	-0.2%
M2 (M1+savings+small time deposits)	7654.1	7693.3	-39.2	7.6%	7.1%	6.1%

## Value Line Forecast for the U.S. Economy

	ACTUAL					ESTIMATED				
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS</b> (2000 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS										
Final Sales	10620	10947	11249	11523	11681	11376	11441	11784	12173	12599
Total Consumption	7561	7792	8029	8253	8272	8242	8397	8565	8770	8998
Nonresidential Fixed Investment	1144	1226	1318	1383	1405	1132	1132	1279	1432	1576
Structures	247	250	270	305	339	268	236	248	273	306
Equipment & Software	905	990	1061	1079	1047	853	911	1048	1184	1302
Residential Fixed Investment	560	595	553	454	360	275	307	384	441	485
Exports	1126	1205	1315	1426	1514	1303	1304	1426	1579	1737
Imports	1720	1822	1930	1972	1904	1639	1740	1866	1992	2088
Federal Government	716	724	741	753	798	830	838	807	793	787
State & Local Governments	1216	1214	1230	1259	1273	1253	1249	1243	1246	1267
Gross Domestic Product	11686	12422	13178	13808	14265	14015	14324	14916	15625	16415
Real GDP (2000 Chain Weighted \$)	10676	10990	11295	11524	11652	11296	11454	11775	12151	12552
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Deflator	2.9	3.3	3.2	2.7	2.2	0.8	1.2	1.3	1.5	1.7
CPI-All Urban Consumers	2.7	3.4	3.2	2.9	3.8	0.0	2.0	2.3	2.5	2.8
PPI-Finished Goods	3.6	4.9	3.0	3.9	6.4	-2.1	1.6	2.4	2.8	3.0
Employment Cost Index—Total Comp.	3.8	3.1	2.9	3.1	2.8	1.3	1.6	1.5	2.0	2.5
Productivity	2.7	1.8	1.0	1.4	2.8	1.5	2.6	1.5	1.7	2.0
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	2.5	3.3	2.2	1.7	-2.2	-6.8	2.5	4.0	5.0	5.0
Factory Operating Rate (%)	76.6	78.6	79.4	79.4	75.1	65.8	67.0	70.0	72.0	74.0
Nonfarm Inven. Change (2000 Chain Weighted \$)	48.2	39.1	46.3	-3.7	-34.3	-85.4	-1.3	35.0	45.0	50.0
Housing Starts (Mill. Units)	1.95	2.07	1.81	1.34	0.90	0.54	0.86	1.25	1.55	1.75
Existing House Sales (Mill. Units)	6.73	7.08	6.51	5.67	4.89	4.41	4.40	5.00	5.90	6.40
Total Light Vehicle Sales (Mill. Units)	16.9	17.0	16.5	16.1	13.1	9.7	11.4	14.0	15.5	16.5
National Unemployment Rate (%)	5.5	5.1	4.6	4.6	5.8	9.2	9.9	9.0	8.0	7.0
Federal Budget Surplus (Unified, FY, \$Bill)	-411.0	-321.0	-248.0	-162.0	-455.0	-1585.0	-1350.0	-900.0	-600.0	-500.0
Price of Oil (\$Bbl., U.S. Refiners' Cost)	36.91	50.31	60.09	67.95	94.30	42.85	50.45	59.00	71.50	80.00
<b>MONEY AND INTEREST RATES</b>										
3-Month Treasury Bill Rate (%)	1.4	3.1	4.7	4.4	1.4	0.2	0.5	2.0	3.0	3.5
Federal Funds Rate (%)	1.4	3.2	5.0	5.0	1.9	0.2	0.4	2.0	3.0	3.5
10-Year Treasury Note Rate (%)	4.3	4.3	4.8	4.6	3.7	3.1	3.3	3.7	4.2	4.7
Long-Term Treasury Bond Rate (%)	5.1	4.6	4.9	4.8	4.3	4.0	4.3	4.5	5.0	5.5
AAA Corporate Bond Rate (%)	5.6	5.2	5.6	5.6	5.6	5.5	5.7	5.8	6.2	6.7
Prime Rate (%)	4.3	6.2	8.0	8.0	5.1	3.3	3.9	4.7	6.0	7.0
<b>INCOMES</b>										
Personal Income (% Change)	6.2	5.6	7.1	6.1	3.8	-0.1	2.9	4.0	5.0	5.5
Real Disp. Inc. (% Change)	3.6	1.4	3.5	2.8	1.3	1.8	0.6	1.5	2.0	2.5
Personal Savings Rate (%)	2.1	0.4	0.7	0.6	1.8	4.5	3.1	2.2	2.1	2.0
After-Tax Profits (\$Bill)	897	1207	1405	1436	1231	1053	1191	1333	1440	1526
Yr-to-Yr % Change	35.0	34.5	16.4	2.2	-14.3	-14.4	13.0	12.0	8.0	6.0
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	3.6	2.9	2.8	2.0	1.1	-3.1	1.4	2.8	3.2	3.3
Final Sales	3.3	3.1	2.8	2.4	1.4	-2.6	0.6	3.0	3.3	3.5
Total Consumption	3.6	3.0	3.0	2.8	0.2	-0.4	1.9	2.0	2.4	2.6
Nonresidential Fixed Investment	5.8	7.2	7.5	4.9	1.6	-19.4	0.0	13.0	12.0	10.0
Structures	1.3	1.3	8.2	12.7	11.2	-21.1	-11.7	5.0	10.0	12.0
Equipment & Software	7.4	9.3	7.2	1.7	-3.0	-18.5	6.8	15.0	13.0	10.0
Residential Fixed Investment	10.0	6.3	-7.1	-17.9	-20.8	-23.7	11.7	25.0	15.0	10.0
Exports	9.7	7.0	9.1	8.4	6.2	-13.9	0.1	9.3	10.8	10.0
Imports	11.3	5.9	6.0	2.2	-3.5	-13.9	6.2	7.2	6.8	4.8
Federal Government	4.2	1.2	2.3	1.6	6.0	4.0	1.0	-3.7	-1.8	-0.7
State & Local Governments	-0.2	-0.1	1.3	2.3	1.1	-1.6	-0.3	-0.5	0.2	1.7

## Selected Yields

	Recent (5/20/09)	3 Months Ago (2/18/09)	Year Ago (5/21/08)		Recent (5/20/09)	3 Months Ago (2/18/09)	Year Ago (5/21/08)
<b>TAXABLE</b>							
<b>Market Rates</b>							
Discount Rate	0.50	0.50	2.25				
Federal Funds	0.00-0.25	0.00-0.25	2.00				
Prime Rate	3.25	3.25	5.00				
30-day CP (A1/P1)	0.26	0.52	2.55				
3-month LIBOR	0.72	1.25	2.64				
<b>Bank CDs</b>							
6-month	0.72	0.87	1.77				
1-year	0.97	1.20	2.05				
5-year	1.92	2.14	3.17				
<b>U.S. Treasury Securities</b>							
3-month	0.17	0.30	1.86				
6-month	0.27	0.48	1.89				
1-year	0.42	0.63	2.05				
5-year	2.03	1.80	3.04				
10-year	3.19	2.76	3.81				
10-year (inflation-protected)	1.51	1.61	1.16				
30-year	4.14	3.55	4.54				
30-year Zero	4.26	3.43	4.64				
<b>Mortgage-Backed Securities</b>							
GNMA 6.5%	3.02	4.05	4.98				
FHLMC 6.5% (Gold)	2.27	3.92	5.11				
FNMA 6.5%	2.03	3.78	4.89				
FNMA ARM	2.78	3.90	4.41				
<b>Corporate Bonds</b>							
Financial (10-year) A	6.66	8.33	5.54				
Industrial (25/30-year) A	6.21	6.14	6.03				
Utility (25/30-year) A	6.01	5.74	6.04				
Utility (25/30-year) Baa/BBB	7.59	7.07	6.36				
<b>Foreign Bonds (10-Year)</b>							
Canada	3.14	2.86	3.58				
Germany	3.43	2.99	4.27				
Japan	1.43	1.26	1.62				
United Kingdom	3.58	3.39	4.88				
<b>Preferred Stocks</b>							
Utility A	6.09	6.03	6.31				
Financial A	8.37	13.57	6.73				
Financial Adjustable A	5.52	5.52	5.52				



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>							
20-Bond Index (GOs)	4.61	4.89	4.53				
25-Bond Index (Revs)	5.53	5.67	4.98				
<b>General Obligation Bonds (GOs)</b>							
1-year Aaa	0.43	0.55	1.80				
1-year A	1.16	0.65	1.90				
5-year Aaa	1.82	1.85	2.92				
5-year A	3.25	2.15	3.02				
10-year Aaa	2.81	2.90	3.56				
10-year A	4.35	3.40	3.76				
25/30-year Aaa	4.40	4.72	4.45				
25/30-year A	5.92	5.72	4.65				
<b>Revenue Bonds (Revs) (25/30-Year)</b>							
Education AA	5.97	5.80	4.75				
Electric AA	6.02	5.90	4.80				
Housing AA	6.32	6.15	5.00				
Hospital AA	6.27	6.10	5.05				
Toll Road Aaa	6.07	5.95	4.80				

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	5/6/09	4/22/09	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	777464	862393	-84929	731759	706418	385094
Borrowed Reserves	507911	565360	-57449	579211	611473	433308
Net Free/Borrowed Reserves	269553	297033	-27480	152548	94946	-48213

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

	Recent Levels			Growth Rates Over the Last...		
	5/4/09	4/27/09	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1608.2	1576.7	31.5	10.0%	11.2%	16.6%
M2 (M1+savings+small time deposits)	8303.9	8285.0	18.9	4.2%	10.4%	9.1%

## Value Line Forecast for the U.S. Economy

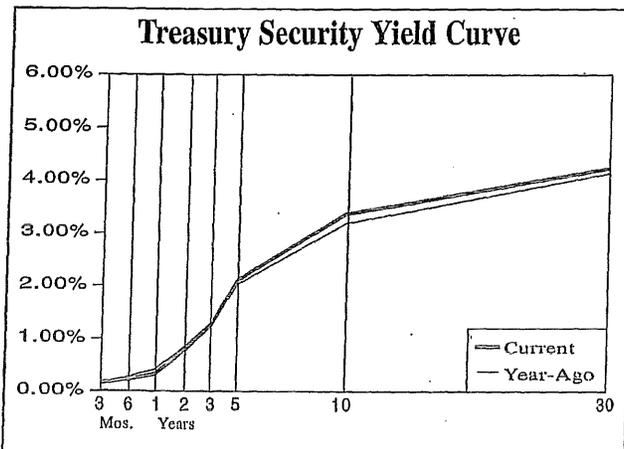
	ACTUAL					ESTIMATED				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS</b> (2005 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS										
Final Sales	12588	12917	13234	13341	13111	13405	13797	14239	14708	15194
Total Consumption	8819	9074	9314	9291	9235	9495	9794	10038	10289	10547
Nonresidential Fixed Investment	1347	1454	1544	1570	1291	1342	1444	1588	1731	1870
Structures	351	384	441	487	390	340	326	365	412	466
Equipment & Software	996	1070	1097	1069	891	1004	1138	1252	1390	1529
Residential Fixed Investment	775	718	585	451	359	369	451	541	595	643
Exports	1305	1422	1546	1629	1472	1646	1765	1897	2060	2225
Imports	2028	2151	2194	2124	1828	2040	2211	2333	2435	2533
Federal Government	876	895	906	976	1027	1061	1039	1002	984	970
State & Local Governments	1494	1507	1537	1544	1541	1527	1538	1554	1574	1598
Gross Domestic Product	12638	13399	14078	14441	14377	14904	15612	16417	17298	18244
Real GDP (2005 Chain Weighted \$)	12638	12976	13254	13312	12987	13425	13849	14306	14792	15295
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Deflator	3.3	3.2	2.7	2.2	1.2	1.4	1.6	1.8	1.9	2.0
CPI-All Urban Consumers	3.4	3.2	2.9	3.8	-0.3	1.4	2.1	2.2	2.4	2.6
PPI-Finished Goods	4.9	3.0	3.9	6.4	-2.5	2.7	2.2	2.3	2.5	2.8
Employment Cost Index—Total Comp.	3.1	2.9	3.1	2.8	1.5	2.0	2.5	2.5	2.6	2.8
Productivity	1.8	1.0	1.4	2.8	3.7	2.2	0.6	0.8	1.0	1.5
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	3.3	2.2	1.7	-2.2	-9.7	6.5	4.4	3.5	3.6	3.8
Factory Operating Rate (%)	78.6	79.4	79.4	75.1	66.8	72.0	75.0	76.0	77.0	78.0
Nonfarm Inven. Change (2005 Chain Weighted \$)	39.1	46.3	-3.7	-34.3	-108.3	50.0	60.0	55.0	50.0	50.0
Housing Starts (Mill. Units)	2.07	1.81	1.34	0.90	0.55	0.71	1.18	1.55	1.70	1.80
Existing House Sales (Mill. Units)	7.08	6.51	5.67	4.89	5.16	5.53	5.74	6.10	6.30	6.50
Total Light Vehicle Sales (Mill. Units)	17.0	16.5	16.1	13.1	10.4	11.8	13.8	15.0	16.0	17.0
National Unemployment Rate (%)	5.1	4.6	4.6	5.8	9.3	9.7	9.1	8.3	7.7	7.2
Federal Budget Surplus (Unified, FY, \$Bill)	-321	-248	-162	-455	-1416	-1280	-990	-850	-650	-600
Price of Oil (\$Bbl., U.S. Refiners' Cost)	56.56	66.12	72.18	99.75	59.40	73.30	81.00	85.00	90.00	95.00
<b>MONEY AND INTEREST RATES</b>										
3-Month Treasury Bill Rate (%)	3.1	4.7	4.4	1.4	0.2	0.3	1.8	3.4	3.8	4.2
Federal Funds Rate (%)	3.2	5.0	5.0	1.9	0.2	0.2	1.6	3.3	3.7	4.3
10-Year Treasury Note Rate (%)	4.3	4.8	4.6	3.7	3.3	3.7	4.1	4.6	5.0	5.5
Long-Term Treasury Bond Rate (%)	4.6	4.9	4.8	4.3	4.1	4.5	4.9	5.2	5.6	6.0
AAA Corporate Bond Rate (%)	5.2	5.6	5.6	5.6	5.3	5.5	5.7	6.0	6.4	6.8
Prime Rate (%)	6.2	8.0	8.0	5.1	3.3	3.4	4.3	6.0	6.5	7.0
<b>INCOMES</b>										
Personal Income (% Change)	5.6	7.1	6.1	3.8	-1.7	4.0	4.5	5.0	5.2	5.5
Real Disp. Inc. (% Change)	1.4	3.5	2.8	1.3	0.9	2.8	1.9	2.3	2.6	3.0
Personal Savings Rate (%)	0.4	0.7	0.6	1.8	4.2	3.4	2.5	2.3	2.1	2.0
After-Tax Profits (\$Bill)	1207	1405	1436	1231	1113	1417	1462	1535	1627	1741
Yr-to-Yr % Change	34.5	16.4	2.2	-14.3	-9.6	27.3	3.2	5.0	6.0	7.0
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	3.1	2.7	2.1	0.4	-2.4	3.4	3.2	3.3	3.4	3.4
Final Sales	3.1	2.8	2.4	1.4	-1.7	2.2	2.9	3.2	3.3	3.3
Total Consumption	3.0	3.0	2.8	0.2	-0.6	2.8	3.1	2.5	2.5	2.5
Nonresidential Fixed Investment	7.2	7.5	4.9	1.6	-17.8	3.9	7.6	10.0	9.0	8.0
Structures	1.3	8.2	12.7	11.2	-19.8	-12.8	-4.2	12.0	13.0	13.0
Equipment & Software	9.3	7.2	1.7	-3.0	-16.6	12.7	13.3	10.0	11.0	10.0
Residential Fixed Investment	6.3	-7.1	-17.9	-20.8	-20.5	2.7	22.3	20.0	10.0	8.0
Exports	7.0	9.1	8.4	6.2	-9.6	11.8	7.2	7.5	8.6	8.0
Imports	5.9	6.0	2.2	-3.5	-13.9	11.6	8.4	5.5	4.4	4.0
Federal Government	1.2	2.3	1.6	6.0	5.2	3.3	-2.1	-3.5	-1.8	-1.5
State & Local Governments	-0.1	1.3	2.3	1.1	-0.2	-0.9	0.7	1.0	1.3	1.5

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VALUE LINE SELECTION & OPINION

## Selected Yields

	Recent (5/19/10)	3 Months Ago (2/17/10)	Year Ago (5/20/09)		Recent (5/19/10)	3 Months Ago (2/17/10)	Year Ago (5/20/09)
<b>TAXABLE</b>							
<b>Market Rates</b>				<b>Mortgage-Backed Securities</b>			
Discount Rate	0.75	0.50	0.50	GNMA 6.5%	1.70	2.99	3.02
Federal Funds	0.00-0.25	0.00-0.25	0.00-0.25	FHLMC 6.5% (Gold)	1.14	1.75	2.27
Prime Rate	3.25	3.25	3.25	FNMA 6.5%	1.19	2.61	2.03
30-day CP (A1/P1)	0.33	0.16	0.26	FNMA ARM	3.01	2.98	2.78
3-month LIBOR	0.48	0.25	0.72	<b>Corporate Bonds</b>			
<b>Bank CDs</b>				Financial (10-year) A	4.74	5.41	6.66
6-month	0.25	0.25	0.72	Industrial (25/30-year) A	5.37	5.85	6.21
1-year	0.43	0.45	0.97	Utility (25/30-year) A	5.53	5.93	6.01
5-year	1.99	1.97	1.92	Utility (25/30-year) Baa/BBB	5.93	6.44	7.59
<b>U.S. Treasury Securities</b>				<b>Foreign Bonds (10-Year)</b>			
3-month	0.16	0.09	0.17	Canada	3.40	3.47	3.14
6-month	0.22	0.18	0.27	Germany	2.77	3.19	3.43
1-year	0.33	0.34	0.42	Japan	1.30	1.33	1.43
5-year	2.12	2.38	2.03	United Kingdom	3.66	4.03	3.58
10-year	3.37	3.73	3.19	<b>Preferred Stocks</b>			
10-year (inflation-protected)	1.29	1.44	1.51	Utility A	6.01	5.40	6.09
30-year	4.24	4.70	4.14	Financial A	6.56	7.14	8.37
30-year Zero	4.46	4.96	4.26	Financial Adjustable A	5.52	5.52	5.52



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>			
20-Bond Index (GOs)	4.32	4.34	4.61
25-Bond Index (Revs)	4.90	4.96	5.53
<b>General Obligation Bonds (GOs)</b>			
1-year Aaa	0.37	0.31	0.43
1-year A	1.20	1.10	1.16
5-year Aaa	1.76	1.55	1.82
5-year A	2.70	2.59	3.25
10-year Aaa	3.12	3.12	2.81
10-year A	4.09	4.10	4.35
25/30-year Aaa	4.39	4.45	4.40
25/30-year A	5.46	5.50	5.92
<b>Revenue Bonds (Revs) (25/30-Year)</b>			
Education AA	4.74	4.77	5.97
Electric AA	4.74	4.76	6.02
Housing AA	5.64	5.63	6.32
Hospital AA	5.08	5.03	6.27
Toll Road Aaa	4.72	4.83	6.07

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	5/5/10	4/21/10	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	1009469	1055015	-45546	1105241	1084241	952250
Borrowed Reserves	78088	79450	-1362	94490	139947	258022
Net Free/Borrowed Reserves	931381	975565	-44184	1010751	944294	694228

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

	Recent Levels			Growth Rates Over the Last...		
	5/3/10	4/26/10	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1736.1	1694.6	41.5	10.1%	7.1%	8.7%
M2 (M1+savings+small time deposits)	8504.3	8470.0	34.3	0.5%	-0.1%	1.5%

MAY 27, 2011

VALUE LINE SELECTION & OPINION

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## Value Line Forecast for the U.S. Economy

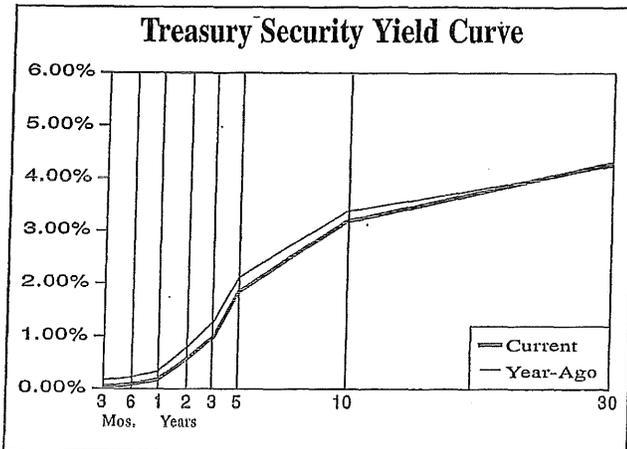
	ACTUAL					ESTIMATED				
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS</b> (2005 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS										
Final Sales	12917	13234	13341	13111	13177	13540	13977	14453	14944	15467
Total Consumption	9074	9314	9265	9154	9314	9580	9850	10047	10288	10566
Nonresidential Fixed Investment	1454	1544	1557	1291	1365	1477	1623	1721	1875	2026
Structures	384	441	464	370	319	310	308	338	365	391
Equipment & Software	1070	1097	1082	916	1056	1166	1326	1458	1560	1638
Residential Fixed Investment	718	585	444	343	333	337	420	517	569	597
Exports	1422	1546	1648	1491	1666	1801	1973	2140	2312	2473
Imports	2151	2194	2152	1854	2088	2183	2320	2413	2546	2648
Federal Government	895	906	972	1028	1076	1081	1058	1021	1000	980
State & Local Governments	1507	1537	1533	1519	1497	1475	1460	1467	1482	1497
Gross Domestic Product	13399	14062	14369	14119	14660	15317	16091	16921	17811	18785
Real GDP (2005 Chain Weighted \$)	12976	13229	13229	12881	13249	13594	14034	14497	14975	15484
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Deflator	3.2	2.7	2.2	0.9	1.0	2.1	1.8	1.8	1.9	2.0
CPI-All Urban Consumers	3.2	2.9	3.8	-0.3	1.6	3.1	1.7	2.2	2.3	2.5
PPI-Finished Goods	3.0	3.9	6.4	-2.5	4.2	5.4	1.7	2.2	2.4	2.5
Employment Cost Index—Total Comp.	2.9	3.1	2.8	1.5	1.9	2.0	2.4	2.5	2.7	2.8
Productivity	1.0	1.4	2.8	3.5	3.8	1.0	1.0	1.0	1.3	1.5
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	2.2	1.7	-2.2	-9.3	5.3	4.9	2.8	3.0	3.3	3.5
Factory Operating Rate (%)	79.4	79.4	75.1	67.2	71.7	76.1	78.6	79.0	80.0	80.0
Nonfarm Inven. Change (2005 Chain Weighted \$)	46.3	-3.7	-34.3	-116.9	57.3	61.5	67.5	50.0	55.0	60.0
Housing Starts (Mill. Units)	1.81	1.34	0.90	0.55	0.59	0.62	1.03	1.35	1.55	1.70
Existing House Sales (Mill. Units)	6.51	5.67	4.89	5.16	4.92	5.26	5.70	5.85	6.10	6.40
Total Light Vehicle Sales (Mill. Units)	16.5	16.1	13.1	10.4	11.6	12.8	14.3	15.5	16.0	17.0
National Unemployment Rate (%)	4.6	4.6	5.8	9.3	9.6	8.8	8.3	7.8	7.5	7.2
Federal Budget Surplus (Unified, FY, \$Bill)	-248.0	-162.0	-455.0	-1416	-1294	-1440	-1000	-750	-675	-600
Price of Oil (\$Bbl., U.S. Refiners' Cost)	66.12	72.18	99.75	59.40	76.70	99.19	103.50	104.00	112.00	120.00
<b>MONEY AND INTEREST RATES</b>										
3-Month Treasury Bill Rate (%)	4.7	4.4	1.4	0.2	0.1	0.2	1.5	3.0	3.5	4.0
Federal Funds Rate (%)	5.0	5.0	1.9	0.2	0.2	0.1	1.3	3.3	3.7	4.0
10-Year Treasury Note Rate (%)	4.8	4.6	3.7	3.3	3.2	3.5	3.9	4.3	4.5	5.0
Long-Term Treasury Bond Rate (%)	4.9	4.8	4.3	4.1	4.7	4.8	5.2	5.5	5.7	6.0
AAA Corporate Bond Rate (%)	5.6	5.6	5.6	5.3	4.9	5.1	5.4	5.8	6.2	6.5
Prime Rate (%)	8.0	8.0	5.1	3.3	3.3	3.3	4.8	6.0	6.5	7.0
<b>INCOMES</b>										
Personal Income (% Change)	7.1	6.1	3.8	-1.7	3.1	5.6	4.3	4.7	4.8	5.0
Real Disp. Inc. (% Change)	3.5	2.8	1.3	0.6	1.4	2.5	2.0	2.0	2.5	3.0
Personal Savings Rate (%)	0.7	0.6	1.8	5.9	5.8	5.5	4.8	4.5	4.5	4.5
After-Tax Profits (\$Bill)	1405	1436	1231	1062	1384	1407	1517	1668	1785	1928
Yr-to-Yr % Change	16.4	2.2	-14.3	-13.7	30.4	1.7	7.8	10.0	7.0	8.0
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	2.7	2.1	0.4	-2.6	2.9	2.6	3.2	3.3	3.3	3.4
Final Sales	2.8	2.4	1.4	-2.1	1.4	2.8	3.2	3.4	3.4	3.5
Total Consumption	3.0	2.8	0.2	-1.2	1.7	2.9	2.8	2.0	2.4	2.7
Nonresidential Fixed Investment	7.5	4.9	1.6	-17.1	5.7	8.2	9.9	6.0	9.0	8.0
Structures	8.2	12.7	11.2	-20.4	-13.7	-2.7	-0.9	10.0	8.0	7.0
Equipment & Software	7.2	1.7	-3.0	-15.3	15.3	12.3	11.8	10.0	7.0	5.0
Residential Fixed Investment	-7.1	-17.9	-20.8	-22.9	-3.0	1.2	24.6	23.0	10.0	5.0
Exports	9.1	8.4	6.2	-9.5	11.7	8.1	9.5	8.5	8.0	7.0
Imports	6.0	2.2	-3.5	-13.8	12.6	4.6	6.3	4.0	5.5	4.0
Federal Government	2.3	1.6	6.0	5.7	4.8	0.5	-2.2	-3.5	-2.0	-2.0
State & Local Governments	1.3	2.3	1.1	-0.9	-1.4	-1.5	-1.0	0.5	1.0	1.0

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VALUE LINE SELECTION & OPINION

## Selected Yields

	Recent (5/18/11)	3 Months Ago (2/16/11)	Year Ago (5/19/10)		Recent (5/18/11)	3 Months Ago (2/16/11)	Year Ago (5/19/10)
<b>TAXABLE</b>							
<b>Market Rates</b>							
Discount Rate	0.75	0.75	0.75				
Federal Funds	0.00-0.25	0.00-0.25	0.00-0.25				
Prime Rate	3.25	3.25	3.25				
30-day CP (A1/P1)	0.16	0.31	0.33				
3-month LIBOR	0.27	0.31	0.48				
<b>Bank CDs</b>							
6-month	0.27	0.21	0.25				
1-year	0.45	0.29	0.43				
5-year	1.71	1.65	1.99				
<b>U.S. Treasury Securities</b>							
3-month	0.04	0.11	0.16				
6-month	0.08	0.15	0.22				
1-year	0.17	0.27	0.33				
5-year	1.85	2.35	2.12				
10-year	3.18	3.62	3.37				
10-year (inflation-protected)	0.78	1.25	1.29				
30-year	4.30	4.68	4.24				
30-year Zero	4.63	5.01	4.46				
<b>Mortgage-Backed Securities</b>							
GNMA 6.5%	2.05	2.96	1.70				
FHLMC 6.5% (Gold)	2.60	3.51	1.14				
FNMA 6.5%	2.53	3.45	1.19				
FNMA ARM	2.60	2.66	3.01				
<b>Corporate Bonds</b>							
Financial (10-year) A	4.52	4.85	4.74				
Industrial (25/30-year) A	5.25	5.65	5.37				
Utility (25/30-year) A	5.30	5.77	5.53				
Utility (25/30-year) Baa/BBB	5.79	6.15	5.93				
<b>Foreign Bonds (10-Year)</b>							
Canada	3.23	3.50	3.40				
Germany	3.12	3.24	2.77				
Japan	1.16	1.36	1.30				
United Kingdom	3.39	3.81	3.66				
<b>Preferred Stocks</b>							
Utility A	5.71	5.79	6.01				
Financial A	6.48	6.07	6.56				
Financial Adjustable A	5.52	5.52	5.52				



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>							
20-Bond Index (GOs)	4.61	5.29	4.32				
25-Bond Index (Revs)	5.41	5.67	4.90				
<b>General Obligation Bonds (GOs)</b>							
1-year Aaa	0.25	0.38	0.37				
1-year A	1.10	1.16	1.20				
5-year Aaa	1.34	1.95	1.76				
5-year A	2.53	2.87	2.70				
10-year Aaa	2.84	3.52	3.12				
10-year A	4.21	4.52	4.09				
25/30-year Aaa	4.43	4.94	4.39				
25/30-year A	5.95	6.25	5.46				
<b>Revenue Bonds (Revs) (25/30-Year)</b>							
Education AA	4.91	5.33	4.74				
Electric AA	5.19	5.48	4.74				
Housing AA	5.86	6.42	5.64				
Hospital AA	5.35	5.71	5.08				
Toll Road Aaa	5.07	5.46	4.72				

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	5/4/11	4/20/11	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	1433322	1474432	-41110	1330196	1163742	1092180
Borrowed Reserves	16908	17930	-1022	19864	31461	47019
Net Free/Borrowed Reserves	1416414	1456502	-40088	1310332	1132281	1045161

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

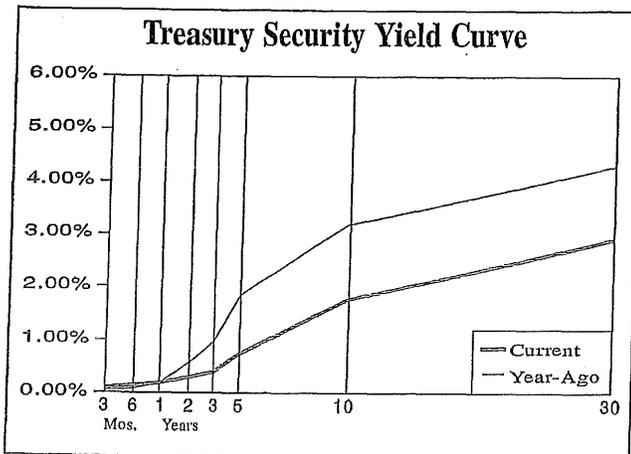
	Recent Levels			Growth Rates Over the Last...		
	5/2/11	4/25/11	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1937.1	1916.9	20.2	8.9%	19.9%	12.3%
M2 (M1+savings+small time deposits)	8992.6	8964.5	28.1	5.7%	4.9%	5.1%

## Value Line Forecast for the U.S. Economy

	ACTUAL					ESTIMATED				
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS</b> (2005 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS										
Final Sales	13178	13201	12853	13029	13282	<b>13540</b>	<b>13884</b>	<b>14273</b>	<b>14687</b>	<b>15127</b>
Total Consumption	9263	9212	9038	9221	9421	<b>9645</b>	<b>9879</b>	<b>10097</b>	<b>10329</b>	<b>10567</b>
Nonresidential Fixed Investment	1550	1538	1263	1319	1436	<b>1519</b>	<b>1617</b>	<b>1730</b>	<b>1834</b>	<b>1944</b>
Structures	438	466	367	309	323	<b>324</b>	<b>337</b>	<b>360</b>	<b>389</b>	<b>420</b>
Equipment & Software	1107	1059	890	1019	1126	<b>1218</b>	<b>1318</b>	<b>1410</b>	<b>1495</b>	<b>1584</b>
Residential Fixed Investment	584	444	346	331	326	<b>363</b>	<b>422</b>	<b>498</b>	<b>567</b>	<b>624</b>
Exports	1554	1649	1494	1663	1774	<b>1858</b>	<b>1985</b>	<b>2124</b>	<b>2273</b>	<b>2432</b>
Imports	2203	2144	1853	2085	2188	<b>2266</b>	<b>2355</b>	<b>2461</b>	<b>2560</b>	<b>2662</b>
Federal Government	906	971	1030	1076	1055	<b>1035</b>	<b>1012</b>	<b>981</b>	<b>962</b>	<b>952</b>
State & Local Governments	1528	1528	1514	1487	1454	<b>1432</b>	<b>1418</b>	<b>1418</b>	<b>1425</b>	<b>1440</b>
Gross Domestic Product	14029	14292	13939	14527	15088	<b>15639</b>	<b>16249</b>	<b>17038</b>	<b>17900</b>	<b>18823</b>
Real GDP (2005 Chain Weighted \$)	13206	13162	12703	13088	13315	<b>13616</b>	<b>13950</b>	<b>14369</b>	<b>14829</b>	<b>15318</b>
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>										
GDP Deflator	2.9	2.2	1.1	1.2	2.1	<b>1.4</b>	<b>1.5</b>	<b>1.7</b>	<b>1.8</b>	<b>1.8</b>
CPI-All Urban Consumers	2.9	3.8	-0.3	1.6	3.1	<b>1.9</b>	<b>2.1</b>	<b>2.2</b>	<b>2.3</b>	<b>2.5</b>
PPI-Finished Goods	3.9	6.4	-2.5	4.2	6.0	<b>0.8</b>	<b>1.8</b>	<b>1.8</b>	<b>2.0</b>	<b>2.3</b>
Employment Cost Index—Total Comp.	3.1	2.9	1.4	1.9	2.2	<b>2.0</b>	<b>2.3</b>	<b>2.6</b>	<b>2.8</b>	<b>3.0</b>
Productivity	1.5	0.6	2.3	4.1	0.6	<b>0.1</b>	<b>1.1</b>	<b>1.4</b>	<b>1.4</b>	<b>1.5</b>
<b>PRODUCTION AND OTHER KEY MEASURES</b>										
Industrial Prod. (% Change)	2.7	-3.7	-11.2	5.3	4.1	<b>4.0</b>	<b>3.3</b>	<b>3.5</b>	<b>3.5</b>	<b>3.5</b>
Factory Operating Rate (%)	79.2	74.9	66.2	71.7	75.0	<b>78.3</b>	<b>79.2</b>	<b>80.0</b>	<b>80.5</b>	<b>81.0</b>
Nonfarm Inven. Change (2005 Chain Weighted \$)	28.7	-37.6	-143.8	60.7	44.3	<b>49.1</b>	<b>50.0</b>	<b>40.0</b>	<b>40.0</b>	<b>40.0</b>
Housing Starts (Mill. Units)	1.34	0.90	0.55	0.59	0.61	<b>0.75</b>	<b>1.00</b>	<b>1.20</b>	<b>1.40</b>	<b>1.60</b>
Existing House Sales (Mill. Units)	5.68	4.89	5.15	4.92	4.28	<b>4.71</b>	<b>5.03</b>	<b>5.25</b>	<b>5.60</b>	<b>5.70</b>
Total Light Vehicle Sales (Mill. Units)	16.1	13.2	10.4	11.6	12.7	<b>14.3</b>	<b>14.9</b>	<b>15.5</b>	<b>16.0</b>	<b>16.5</b>
National Unemployment Rate (%)	4.6	5.8	9.3	9.6	9.0	<b>8.1</b>	<b>7.8</b>	<b>7.5</b>	<b>7.0</b>	<b>6.5</b>
Federal Budget Surplus (Unified, FY, \$Bill)	-162.0	-455.0	-1416	-1294	-1297	<b>-1107</b>	<b>-825</b>	<b>-650</b>	<b>-550</b>	<b>-500</b>
Price of Oil (\$Bbl., U.S. Refiners' Cost)	67.98	95.29	59.20	76.70	101.80	<b>101.50</b>	<b>107.00</b>	<b>112.00</b>	<b>117.00</b>	<b>120.00</b>
<b>MONEY AND INTEREST RATES</b>										
3-Month Treasury Bill Rate (%)	4.4	1.4	0.2	0.1	0.1	<b>0.1</b>	<b>0.1</b>	<b>0.3</b>	<b>1.8</b>	<b>3.0</b>
Federal Funds Rate (%)	5.0	1.9	0.2	0.2	0.1	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>1.8</b>	<b>3.5</b>
10-Year Treasury Note Rate (%)	4.6	3.7	3.3	3.2	2.8	<b>2.1</b>	<b>2.6</b>	<b>3.0</b>	<b>4.0</b>	<b>4.5</b>
Long-Term Treasury Bond Rate (%)	4.8	4.3	4.1	4.3	3.9	<b>3.2</b>	<b>3.7</b>	<b>4.0</b>	<b>4.8</b>	<b>5.3</b>
AAA Corporate Bond Rate (%)	5.6	5.6	5.3	4.9	4.6	<b>4.0</b>	<b>4.4</b>	<b>4.7</b>	<b>5.3</b>	<b>6.0</b>
Prime Rate (%)	8.1	5.1	3.3	3.3	3.3	<b>3.3</b>	<b>3.3</b>	<b>3.5</b>	<b>4.5</b>	<b>6.5</b>
<b>INCOMES</b>										
Personal Income (% Change)	5.7	4.6	-4.3	3.7	5.1	<b>4.2</b>	<b>4.0</b>	<b>4.7</b>	<b>5.0</b>	<b>5.1</b>
Real Disp. Inc. (% Change)	2.4	2.4	-2.3	1.8	1.3	<b>1.6</b>	<b>1.8</b>	<b>3.0</b>	<b>3.0</b>	<b>3.2</b>
Personal Savings Rate (%)	2.4	5.4	5.2	5.3	4.7	<b>4.0</b>	<b>3.5</b>	<b>3.7</b>	<b>4.0</b>	<b>4.5</b>
After-Tax Profits (\$Bill)	1293	1051	1183	1408	1480	<b>1684</b>	<b>1807</b>	<b>1897</b>	<b>1992</b>	<b>2092</b>
Yr-to-Yr % Change	-4.2	-18.7	12.6	19.0	5.1	<b>13.8</b>	<b>7.3</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>										
Gross Domestic Product	1.9	-0.3	-3.5	3.0	1.7	<b>2.3</b>	<b>2.5</b>	<b>3.0</b>	<b>3.2</b>	<b>3.3</b>
Final Sales	2.2	0.2	-2.6	1.4	2.0	<b>1.9</b>	<b>2.5</b>	<b>2.8</b>	<b>2.9</b>	<b>3.0</b>
Total Consumption	2.3	-0.6	-1.9	2.0	2.2	<b>2.4</b>	<b>2.4</b>	<b>2.2</b>	<b>2.3</b>	<b>2.3</b>
Nonresidential Fixed Investment	6.5	-0.8	-17.9	4.4	8.8	<b>5.8</b>	<b>6.5</b>	<b>7.0</b>	<b>6.0</b>	<b>6.0</b>
Structures	14.1	6.4	-21.2	-15.8	4.6	<b>0.2</b>	<b>4.0</b>	<b>7.0</b>	<b>8.0</b>	<b>8.0</b>
Equipment & Software	3.3	-4.3	-16.0	14.6	10.4	<b>0.2</b>	<b>0.2</b>	<b>7.0</b>	<b>6.0</b>	<b>6.0</b>
Residential Fixed Investment	-18.7	-23.9	-22.2	-4.3	-1.3	<b>11.2</b>	<b>16.3</b>	<b>18.0</b>	<b>14.0</b>	<b>10.0</b>
Exports	9.3	6.1	-9.4	11.3	6.7	<b>4.8</b>	<b>6.8</b>	<b>7.0</b>	<b>7.0</b>	<b>7.0</b>
Imports	2.4	-2.7	-13.6	12.5	4.9	<b>3.6</b>	<b>3.9</b>	<b>4.5</b>	<b>4.0</b>	<b>4.0</b>
Federal Government	1.2	7.2	6.0	4.5	-1.9	<b>-1.9</b>	<b>-2.3</b>	<b>-3.0</b>	<b>-2.0</b>	<b>-1.0</b>
State & Local Governments	1.4	0.0	-0.9	-1.8	-2.2	<b>-1.5</b>	<b>-1.0</b>	<b>0.0</b>	<b>0.5</b>	<b>1.0</b>

## Selected Yields

	Recent (5/16/12)	3 Months Ago (2/15/12)	Year Ago (5/18/11)		Recent (5/16/12)	3 Months Ago (2/15/12)	Year Ago (5/18/11)
<b>TAXABLE</b>							
<b>Market Rates</b>							
Discount Rate	0.75	0.75	0.75				
Federal Funds	0.00-0.25	0.00-0.25	0.00-0.25				
Prime Rate	3.25	3.25	3.25				
30-day CP (A1/P1)	0.31	0.29	0.16				
3-month LIBOR	0.47	0.50	0.27				
<b>Bank CDs</b>							
6-month	0.22	0.22	0.27				
1-year	0.33	0.35	0.45				
5-year	1.12	1.15	1.71				
<b>U.S. Treasury Securities</b>							
3-month	0.09	0.11	0.04				
6-month	0.14	0.12	0.08				
1-year	0.18	0.15	0.17				
5-year	0.74	0.79	1.85				
10-year	1.76	1.93	3.18				
10-year (inflation-protected)	-0.38	-0.42	0.78				
30-year	2.90	3.09	4.30				
30-year Zero	3.13	3.32	4.63				
<b>Mortgage-Backed Securities</b>							
GNMA 5.5%	1.13	1.41	2.05				
FHLMC 5.5% (Gold)	2.09	1.79	2.60				
FNMA 5.5%	1.87	1.82	2.53				
FNMA ARM	2.32	2.37	2.60				
<b>Corporate Bonds</b>							
Financial (10-year) A	3.36	3.91	4.52				
Industrial (25/30-year) A	4.05	4.30	5.25				
Utility (25/30-year) A	4.00	4.10	5.30				
Utility (25/30-year) Baa/BBB	4.48	4.58	5.79				
<b>Foreign Bonds (10-Year)</b>							
Canada	1.92	2.01	3.23				
Germany	1.47	1.86	3.12				
Japan	0.83	0.97	1.16				
United Kingdom	1.88	2.08	3.39				
<b>Preferred Stocks</b>							
Utility A	5.31	5.61	5.71				
Financial A	6.69	6.07	6.48				
Financial Adjustable A	5.52	5.51	5.52				



### TAX-EXEMPT

<b>Bond Buyer Indexes</b>							
20-Bond Index (GOs)	3.71	3.70	4.61				
25-Bond Index (Revs)	4.73	4.77	5.41				
<b>General Obligation Bonds (GOs)</b>							
1-year Aaa	0.21	0.17	0.25				
1-year A	0.95	1.09	1.10				
5-year Aaa	0.78	0.70	1.34				
5-year A	1.78	1.98	2.53				
10-year Aaa	1.92	1.95	2.84				
10-year A	3.06	2.95	4.21				
25/30-year Aaa	3.50	3.56	4.43				
25/30-year A	4.95	4.98	5.95				
<b>Revenue Bonds (Revs) (25/30-Year)</b>							
Education AA	4.30	4.44	4.91				
Electric AA	4.60	4.53	5.19				
Housing AA	4.70	4.86	5.86				
Hospital AA	4.56	4.63	5.35				
Toll Road Aaa	4.42	4.47	5.07				

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	5/2/12	4/18/12	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	1457763	1510011	-52248	1518025	1512031	1536369
Borrowed Reserves	6627	7009	-382	7403	8577	10664
Net Free/Borrowed Reserves	1451136	1503002	-51866	1510622	1503454	1525705

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

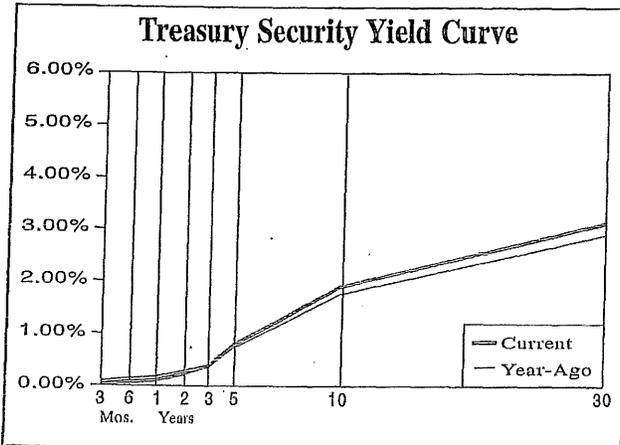
	Recent Levels			Ann'l Growth Rates Over the Last...		
	4/30/12	4/23/12	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	2248.5	2246.3	2.2	5.3%	10.8%	18.0%
M2 (M1+savings+small time deposits)	9871.3	9814.2	57.1	4.6%	6.9%	9.5%

## Value Line Forecast for the U.S. Economy

	ACTUAL			ESTIMATED				
	2012:4	2013:1	2013:2	2013:3	2013:4	2014:1	2014:2	2014:3
<b>GROSS DOMESTIC PRODUCT AND ITS COMPONENTS</b> (2005 CHAIN WEIGHTED \$) BILLIONS OF DOLLARS								
Final Sales	13642	13693	13744	13812	13904	14001	14101	14202
Total Consumption	9655	9740	9786	9835	9893	9955	10019	10083
Nonresidential Fixed Investment	1565	1530	1545	1564	1591	1622	1650	1674
Structures	356	364	363	366	371	378	384	390
Equipment & Software	1222	1175	1192	1216	1242	1266	1288	1310
Residential Fixed Investment	385	397	412	426	442	459	478	500
Exports	1835	1851	1860	1883	1911	1939	1967	1991
Imports	2213	2251	2257	2279	2307	2341	2375	2410
Federal Government	1016	983	963	958	965	977	984	989
State & Local Governments	1426	1453	1445	1442	1440	1438	1440	1442
Gross Domestic Product	15864	15982	16082	16242	16424	16616	16805	16993
Real GDP (2005 Chain Weighted \$)	13665	13741	13792	13861	13947	14040	14137	14239
<b>PRICES AND WAGES-ANNUAL RATES OF CHANGE</b>								
GDP Deflator	1.0	1.2	1.0	2.0	2.0	2.0	1.8	1.6
CPI-All Urban Consumers	2.2	1.4	-0.5	2.0	1.8	1.8	1.7	1.6
PPI-Finished Goods	2.0	0.7	-1.0	1.5	1.3	1.0	1.0	1.0
Employment Cost Index—Total Comp.	1.7	1.4	2.0	2.0	2.0	2.5	2.5	2.4
Productivity	-1.7	0.7	0.7	0.8	1.0	1.0	1.0	1.0
<b>PRODUCTION AND OTHER KEY MEASURES</b>								
Industrial Prod. (% Change, Annualized)	2.3	5.0	3.0	4.0	4.0	3.0	3.0	3.0
Factory Operating Rate (%)	75.7	76.3	76.5	77.0	77.5	77.7	77.8	78.0
Nonfarm Inven. Change (2005 Chain Weighted \$)	34.8	42.6	50.0	50.0	50.0	50.0	45.0	45.0
Housing Starts (Mill. Units)	0.90	0.96	0.93	1.00	1.05	1.10	1.20	1.30
Existing House Sales (Mill. Units)	4.90	4.94	5.00	5.10	5.20	5.30	5.50	5.60
Total Light Vehicle Sales (Mill. Units)	15.0	15.3	15.0	15.2	15.3	15.5	15.6	15.6
National Unemployment Rate (%)	7.8	7.7	7.5	7.5	7.4	7.3	7.2	7.0
Federal Budget Surplus (Unified, FY, \$Bill)	-293	-307	-100	-200	-250	-300	-100	-150
Price of Oil (\$Bbl., U.S. Refiners' Cost)	97.29	100.45	99.00	100.00	100.55	102.00	103.00	102.00
<b>MONEY AND INTEREST RATES</b>								
3-Month Treasury Bill Rate (%)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Federal Funds Rate (%)	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2
10-Year Treasury Note Rate (%)	1.7	2.0	1.9	2.0	2.3	2.5	2.6	2.8
Long-Term Treasury Bond Rate (%)	2.9	3.1	3.0	3.1	3.2	3.4	3.6	3.7
AAA Corporate Bond Rate (%)	3.5	3.9	3.7	3.8	4.0	4.1	4.3	4.4
Prime Rate (%)	3.3	3.3	3.3	3.3	3.3	3.3	3.5	4.0
<b>INCOMES</b>								
Personal Income (Annualized % Change)	8.1	-3.2	3.0	4.0	5.0	5.0	5.0	4.5
Real Disp. Inc. (Annualized % Change)	6.2	-5.3	3.0	2.0	3.0	4.0	3.5	3.3
Personal Savings Rate (%)	4.7	2.6	3.0	3.0	3.0	3.5	3.5	3.0
After-Tax Profits (Annualized \$Bill)	1731	1705	1700	1806	1818	1876	1904	1987
Yr-to-Yr % Change	13.3	-1.7	1.0	2.0	5.0	10.0	12.0	10.0
<b>COMPOSITION OF REAL GDP-ANNUAL RATES OF CHANGE</b>								
Gross Domestic Product	0.4	2.5	1.5	2.0	2.5	2.7	2.8	2.9
Final Sales	1.9	1.5	1.5	2.0	2.7	2.8	2.9	2.9
Total Consumption	1.8	3.2	1.9	2.0	2.4	2.5	2.6	2.6
Nonresidential Fixed Investment	13.1	2.1	4.0	5.0	7.0	8.0	7.0	6.0
Structures	16.7	-0.3	-1.0	4.0	5.0	8.0	7.0	6.0
Equipment & Software	11.8	3.0	6.0	8.0	9.0	8.0	7.0	7.0
Residential Fixed Investment	17.5	12.6	15.0	15.0	16.0	16.0	18.0	19.0
Exports	-2.8	2.9	2.0	5.0	6.0	6.0	6.0	5.0
Imports	-4.2	5.4	1.0	4.0	5.0	6.0	6.0	6.0
Federal Government	-14.8	-8.4	-8.0	-2.0	3.0	5.0	3.0	2.0
State & Local Governments	-1.5	-1.2	-2.0	-1.0	-0.5	-0.5	0.5	0.5

## Selected Yields

	Recent (5/15/13)	3 Months Ago (2/13/13)	Year Ago (5/16/12)		Recent (5/15/13)	3 Months Ago (2/13/13)	Year Ago (5/16/12)
<b>TAXABLE</b>							
<b>Market Rates</b>							
Discount Rate	0.75	0.75	0.75				
Federal Funds	0.00-0.25	0.00-0.25	0.00-0.25				
Prime Rate	3.25	3.25	3.25				
30-day CP (A1/P1)	0.19	0.21	0.31				
3-month LIBOR	0.27	0.29	0.47				
<b>Bank CDs</b>							
6-month	0.09	0.10	0.22				
1-year	0.11	0.13	0.33				
5-year	0.64	0.70	1.12				
<b>U.S. Treasury Securities</b>							
3-month	0.03	0.09	0.09				
6-month	0.07	0.12	0.14				
1-year	0.10	0.15	0.18				
5-year	0.80	0.89	0.74				
10-year	1.90	2.04	1.76				
10-year (inflation-protected)	-0.40	-0.68	-0.38				
30-year	3.12	3.22	2.90				
30-year Zero	3.41	3.48	3.13				
<b>Mortgage-Backed Securities</b>							
GNMA 5.5%	2.08	1.85	1.13				
FHLMC 5.5% (Gold)	2.22	2.16	2.09				
FNMA 5.5%	1.87	1.90	1.87				
FNMA ARM	2.12	2.23	2.32				
<b>Corporate Bonds</b>							
Financial (10-year) A	2.96	3.23	3.36				
Industrial (25/30-year) A	4.13	4.18	4.05				
Utility (25/30-year) A	4.07	4.15	4.00				
Utility (25/30-year) Baa/BBB	4.42	4.50	4.48				
<b>Foreign Bonds (10-Year)</b>							
Canada	1.92	2.04	1.92				
Germany	1.38	1.67	1.47				
Japan	0.86	0.75	0.83				
United Kingdom	1.92	2.21	1.88				
<b>Preferred Stocks</b>							
Utility A	5.47	5.50	5.31				
Financial BBB	6.22	5.92	6.69				
Financial Adjustable A	5.51	5.51	5.52				



<b>TAX-EXEMPT</b>							
<b>Bond Buyer Indexes</b>							
20-Bond Index (GOs)	3.67	3.68	3.71				
25-Bond Index (Revs)	4.22	4.29	4.73				
<b>General Obligation Bonds (GOs)</b>							
1-year Aaa	0.17	0.20	0.21				
1-year A	0.82	0.78	0.95				
5-year Aaa	0.85	0.83	0.78				
5-year A	1.78	1.83	1.78				
10-year Aaa	1.99	1.99	1.92				
10-year A	2.99	2.90	3.06				
25/30-year Aaa	3.19	3.12	3.50				
25/30-year A	4.94	4.83	4.95				
<b>Revenue Bonds (Revs) (25/30-Year)</b>							
Education AA	4.24	4.21	4.30				
Electric AA	4.37	4.31	4.60				
Housing AA	4.69	4.68	4.70				
Hospital AA	4.54	4.43	4.56				
Toll Road Aaa	4.39	4.36	4.42				

Source: Bloomberg Finance L.P.

## Federal Reserve Data

### BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

	Recent Levels			Average Levels Over the Last...		
	5/1/13	4/17/13	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	1751987	1793542	-41555	1687300	1571604	1514671
Borrowed Reserves	407	397	10	428	666	2320
Net Free/Borrowed Reserves	1751580	1793145	-41565	1686872	1570938	1512351

### MONEY SUPPLY

(One-Week Period; in Billions, Seasonally Adjusted)

	Recent Levels			Ann'l Growth Rates Over the Last...		
	4/29/13	4/22/13	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	2523.1	2508.5	14.6	10.1%	8.4%	12.0%
M2 (M1+savings+small time deposits)	10535.0	10501.4	33.6	4.4%	4.8%	6.9%

Source: United States Federal Reserve Bank

OUC 76-008

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Does American Water Works anticipate that it will “pay” (submit cash) to the Federal Government for income taxes for the twelve month period December 1, 2014 through November 30, 2015?

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Office of Utility Consumer Counselor (OUCC)

**Witness: Carl R. Meyers**

**Information Provided:**

No, American Water Works Company, Inc. does not anticipate that it will pay Federal Income Taxes to the Federal Government (Internal Revenue Service) in tax years 2014 & 2015 due to its ability to use its NOL carryforward. It will incur income tax expense, however, as the differences between the amount paid and the amount incurred are largely timing differences caused by normalization, as was fully explained in Cause No. 44022. Normalization creates deferred taxes, which are reflected in the capital structure used in this Cause.

OUC 77-001

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

In its supplemental response to OUC Data Request No. 22-010(d), Petitioner stated as follows:

Using the process outlined in Petitioner's response to part a) of OUC 22-010 and ignoring long-term usage trends for the residential/commercial classes, while maintaining the per customer industrial and SFR customer usage forecasts and simultaneously maintaining the number of customers projected for the Test Year, the Petitioner estimates the following approximate impact on the Test Year as filed; revenues would be increased by \$1.989 million, expenses would be increased by \$ 946 thousand and the revenue requirement increase request would be reduced by \$ 942 thousand.

Please answer the following questions related to Petitioner's supplemental response:

- a. Earlier in its initial response to OUC Data Request 22-010(d), Petitioner referred us to the 2014 IN Rate Case – Test Year Billing Determinants file. Please confirm that Petitioner calculated the \$1.989 million figure (as referenced above) as follows: Residential Monthly Consumption Charges of \$54,505,280 [Cell EN 34] \* 2.94% = \$1,602,455 + Commercial Monthly Consumption Charges of \$30,207,319 [Cell EN 58] \* 1.28% = \$386,654 (\$1,602,455 + \$386,654 = \$1,989,103)? If this is incorrect, please provide the precise calculation (with cites to source data) to show how Petitioner calculated the \$1.989 million figure from its supplemental response.
- b. Does the \$1.989 million figure provided in Petitioner's response include only one year's worth of estimated declining consumption? Please explain.
- c. Are Petitioner's proposed forecasted revenues for the test year ended November 2015 based on more than one year's worth of estimated declining consumption? Please explain.
- d. Does Petitioner project declining consumption starting in April 2013 when forecasting its proposed forecasted revenues for the test year ended November 2015? Please explain.

OUCG 77-001

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

- e. Are 32 months of declining consumption included in Indiana-American's 2015 forecasted test year revenues from the end of the base period in September 2013 to the end of the forecasted test year ended November 2015? If not, please state the number of months of declining consumption included in Indiana-American's 2015 forecasted test year revenues.
- f. To project the revenue impact of estimated declining consumption on forecasted revenues, please explain why Petitioner did not multiply the \$1.989 million dollar figure by 32/12 (the number of months included in its forecasted revenues)?
- g. Please provide the precise calculation, including cites to source data, of how Petitioner calculated the \$946 thousand figure from its supplemental response.

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Office of Utility Consumer Counselor (OUCC)

**Witness: Gregory P. Roach**

**Information Provided:**

- a. The referenced calculation is correct.
- b. Yes, the \$1.989 million figure provided includes only one year's worth of estimated declining consumption. The Petitioner's test year covers a one year timespan and hence one year's worth of declining consumption was reported.

OUC 77-001

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Provided (Continued):**

- c. As delineated in Mr. Roach's direct testimony in this Cause, the Petitioner's customer consumption forecast for the residential and commercial customer classes were based on the regression models whose parameters were estimated over the period 2009-2013. Those regression models were based on consumption as a function of time. The forecast for the calendar years 2014 and 2015 (of which the Test Year overlaps) were derived based on the estimated relationship of consumption with time. To the extent that there would be a greater time interval involved in forecasting 2015 as compared to 2014, the model would estimate a greater effect on customer consumption patterns for the longer time interval of the forecast.
- d. Petitioner's forecast begins in January 2014.
- e. See Petitioner's response to OUC 77-001 (c).
- f. The \$946 thousand figure provided in OUC 22-010 (d) Supplemental Response was incorrectly stated. The increase in expenses should actually be \$246 thousand. This number was derived by calculating a cost per thousand gallons for each expense impacted by the increase in water sales. The attached file, OUC 77-001-R1 shows this calculation. Row 12 takes each filed expense amount, taken from the IN 2014 Rate Case – Pro Forma Income Statement file (Total Company tab, Column N), and divides them by filed sales for the test year of 31,881,976, as shown in 2014 IN Rate Case – Test Year Billing Determinants MSFR 11, Cell P153, to come up with a cost per thousand gallons.

Applying a 2.94% increase to residential sales and a 1.28% increase to commercial sales results in sales of 32,369,566 for a difference of 487,590 thousand gallons. The 487,590 was then divided by one minus 16.9% (non-revenue water percentage) to come up with increased water sales of 586,751. Adjusted sales with non-revenue water are 32,468,727. The cost per thousand gallons for each affected expense is then multiplied by the new increased sales to come up with an adjusted expense amount. The difference between the adjusted expense amounts and the filed expense amounts equals \$246 thousand.

OUCC 22-010  
Supplemental

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

Starting on page 7 of his direct testimony, Petitioner's witness Mr. Greg Roach explains the basis for Petitioner's proposal to recognize declining usage in its proposed revenues. Please answer the following questions related to Petitioner's proposal to recognize declining usage in its revenue requirements:

- a. How does Petitioner translate Mr. Roach's testimony on declining usage into Petitioner's determination of Operating Revenues at Present Rates? Please provide any calculations used by Mr. Roach to recognize the impact of declining usage in revenue requirements. If the analysis is performed in Excel, please provide a copy of the Excel spreadsheet with formulas intact. If these calculations exist in Petitioner's workpapers, please provide a precise cite to the workpaper(s).
- b. What is the dollar amount that Petitioner has adjusted (reduced) its Total Company Operating Revenue at Present Rates of \$199,574,356, as reflected on GMV-1, Schedule 1, page 1 of 1?
- c. Please provide any calculations used to determine the amount of Petitioner's proposed declining consumption adjustment. If the analysis is performed in Excel, please provide a copy of the Excel spreadsheet with formulas intact. If these calculations exist in Petitioner's workpapers, please provide a precise cite to the workpaper(s).
- d. If the Commission were to not accept Petitioner's proposal to recognize declining consumption, what would its "Total Company Operating Revenue at Present Rates" be?
- e. Please provide any calculations used to determine the amount of Petitioner's "Total Company Operating Revenue at Present Rates" absent including its proposed declining consumption. If the analysis is performed in Excel, please provide a copy of the Excel spreadsheet with formulas intact. If these calculations exist in Petitioner's workpapers, please provide a precise cite to the workpaper(s).

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Office of Utility Consumer Counselor (OUCC)

**Witness: Gregory P. Roach**

OUC 22-010  
Supplemental

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Original Information Provided:**

- a. Mr. Roach's testimony on declining usage supports what is shown in Indiana American's forecast for the test year ending November 30, 2015. As stated in Mr. Roach's testimony, Indiana American Water Company (IAWC) uses a revenue forecast model that projects customer usage over specific periods of time based on a time series model capturing the movement of customer usage over the period of 2009 through 2013. The revenue model forecasts not only customer usage, but also customer count and the expected revenue based on customer count and usage. The goal of this model is to provide the most accurate data possible for IAWC to use as its basis for forecasting revenues. The model uses historic data and patterns to help forecast future revenues that take customer usage patterns and normalized weather into account. Historic data shows that customer usage has consistently declined from year-to-year, using both the five and ten year data analyses. Revenues were calculated for the test year based on the forecast, with three adjustments to forecasted revenues. The three adjustments made to forecasted revenues are: the bill analysis adjustment, distribution system improvement charge (DSIC) adjustment, and the usage data reading adjustment. IAWC did not make a specific declining usage adjustment to forecasted revenues aside from its projection of customer usage for the Future Test Year.

Please reference the electronic files provided on the jump drives filed with the case. On the USB drive, go to Departmental Folders > Finance > Rates > IN > Rate Cases > 2014 > Exhibits > Revenue > Bill Analysis Files > 2014 IN Rate Case – Test Year Billing Determinants. This file contains the billing determinants used for the test year ending November 30, 2015. In Mr. Roach's testimony he states that declining use is 2.94% for residential and 1.28% for commercial. Applying these percentage increases to the respective class for volumetric sales in each block for every district represents sales with the effects of declining use omitted. This will generate revenues for residential and commercial classes to calculate Total Company Operating Revenue at Present Rates located in cell EN198.

- b. Please reference the response in Part A, Paragraph 1. Indiana American Water Company has not made any adjustments for declining usage in its Total Company Operating Revenue at Present Rates of \$199,574,356, as reflected on GMV-1, Schedule 1, page 1 of 1.
- c. Please reference the response in Part A, Paragraph 2. The 2014 IN Rate Case – Test Year Billing Determinants file is where the declining use percentages may be applied to calculate usage and revenue amounts.

OUCC 22-010  
Supplemental

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Provided (Continued):**

- d. Since there was no adjustment made to revenues for declining usage, Total Company Operating Revenue at Present Rates would remain at \$199,574,356.
- e. Please reference the response in Part A, Paragraph 2. The file referenced on the USB drive provided with the filing of the case is where the amount of Total Company Operating Revenue at Present Rates can be found.

**Supplemental Information Provided:**

- d. Using the process outlined in Petitioner's response to part a) of OUCC 22-010 and ignoring long-term usage trends for the residential/commercial classes, while maintaining the per customer industrial and SFR customer usage forecasts and simultaneously maintaining the number of customers projected for the Test Year, the Petitioner estimates the following approximate impact on the Test Year as filed; revenues would be increased by \$1.989 million, expenses would be increased by \$ 946 thousand and the revenue requirement increase request would be reduced by \$ 942 thousand.

OUC 66-001

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

For the data points used to create the graph in Petitioner's Exhibit GPR-1, Schedule 2, provide comparable data points for 2013 and 2014 to date including all winter and non-winter months.

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Office of Utility Consumer Counselor (OUCC)

**Witness: Gregory P. Roach**

**Information Provided:**

Please see comparable data points to Petitioner's Exhibit GPR-1, Schedule 2 for 2013 and 2014 in the table below.

<u>DATE</u>	<u>RESIDENTIAL USAGE (KGAL)</u>	<u># Customer</u>	<u>Monthly Usage per customer</u>
Jan-13	1,049,887	255,181	4,114
Feb-13	1,036,960	255,753	4,055
Mar-13	1,008,132	256,137	3,936
Apr-13	1,014,216	257,120	3,945
May-13	1,117,807	260,021	4,299
Jun-13	1,230,389	260,563	4,722
Jul-13	1,222,674	261,059	4,684
Aug-13	1,374,320	261,546	5,255
Sep-13	1,337,829	261,642	5,113
Oct-13	1,223,383	260,228	4,701
Nov-13	1,034,808	259,359	3,990
Dec-13	1,054,472	259,062	4,070
Jan-14	1,120,866	258,854	4,330
Feb-14	1,169,125	259,051	4,513

OUCC 79-002  
Supplemental

**DATA INFORMATION REQUEST**  
**Indiana-American Water Company**  
**Cause No. 44450**

**Information Requested:**

For the data points used to create the graph in Petitioner's Exhibit GPR-1, Schedule 2, provide comparable data points for March 2014.

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Office of Utility Consumer Counselor (OUCC)

**Witness: Gregory P. Roach**

**Original Information Provided:**

This information will not be available until mid-April 2014. We shall provide an updated response to this request when that data is available.

**Supplemental Information Provided:**

Comparable datapoints for Schedule 2 of Petitioner's Exhibit GPR-1 are below.

<u>DATE</u>	<u>USAGE (KGAL)</u>	<u># Cust.</u>	<u>Monthly Usage per customer (gal/cust/month)</u>
Mar-14	1,038,585	259,182	4,007

**DURBIN-WATSON STATISTIC**  
for  
First-order Autocorrelation Testing

The Durbin-Watson statistic is used to test for the presence of first-order autocorrelation in the residuals of a regression equation. The test compares the residual for time period t with the residual from time period t-1 and develops a statistic that measures the significance of the correlation between these successive comparisons. The formula for the statistic is:

$$d = \frac{\sum_{t=2}^n (e_t - e_{t-1})^2}{\sum_{t=1}^n (e_t^2)}$$

where: d = Durbin-Watson Statistic  
e = residual (Y<sub>i</sub> - Y<sub>c</sub>)  
t = time period counter

The statistic is used to test for the presence of both positive and negative correlation in the residuals. The statistic has a range of from 0 to 4, with a midpoint of 2. The Null Hypothesis (H<sub>0</sub>) is that there is no significant correlation.

Regions of Acceptance and Rejection of the Null Hypothesis				
Zero to d <sub>1</sub>	d <sub>1</sub> to d <sub>u</sub>	d <sub>u</sub> to (4 - d <sub>u</sub> )	(4-d <sub>u</sub> ) to (4-d <sub>1</sub> )	(4-d <sub>1</sub> ) to 4
Reject Null H <sub>0</sub> : Positive Autocorrelation	Neither accept or reject	Accept the Null Hypothesis	Neither accept or reject	Reject Null H <sub>0</sub> : Negative Autocorrelation

Significance Points of d <sub>1</sub> and d <sub>u</sub> at 5%										
n	k=1		k=2		k=3		k=4		k=5+	
	d <sub>1</sub>	d <sub>u</sub>								
50	1.50	1.59	1.46	1.63	1.42	1.67	1.38	1.72	1.34	1.77
60	1.55	1.62	1.51	1.65	1.48	1.69	1.44	1.73	1.41	1.77
70	1.58	1.64	1.55	1.67	1.52	1.7	1.49	1.74	1.46	1.77
80	1.61	1.66	1.59	1.69	1.56	1.72	1.53	1.74	1.51	1.77
90	1.63	1.68	1.61	1.70	1.59	1.73	1.57	1.75	1.54	1.78
100+	1.65	1.69	1.63	1.72	1.61	1.74	1.59	1.76	1.57	1.78

where: k = the number of independent variables in the equation.



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**American Water Increases Quarterly Dividend by 11 Percent**

*The company has increased its dividend every year since IPO in 2008*

VOORHEES, N.J.--(BUSINESS WIRE)--Apr. 29, 2014-- American Water Works Company, Inc. (NYSE: AWK) announced today that its Board of Directors increased its quarterly cash dividend payment from \$0.28 to \$0.31 per share, an approximate 11 percent increase. The company has increased its dividend every year since its IPO in April 2008.

The increased payment is consistent with American Water's dividend practice, which is to link dividend increases to earnings per share growth and target a payout ratio between 50 to 60 percent of net income.

"American Water continues our commitment to pay dividends that are aligned with our financial performance," said Jeff Sterba, president and CEO of American Water. "This increase reflects the company's objective of striking the right balance between increased dividend payouts to shareholders and continued proactive investment in our systems on behalf of our customers."

The increased dividend will be payable on June 2, 2014 to all shareholders of record as of May 12, 2014.

American Water offers a dividend reinvestment and direct stock purchase plan called American Water Stock Direct, which enables stockholders to reinvest cash dividends and purchase additional American Water common shares without any brokerage commissions or service charges. Stockholders and other persons may obtain a copy of the Plan prospectus and an enrollment form by contacting American Stock Transfer & Trust Company ("AST") at 888-566-0423, visiting AST's website at [www.amstock.com](http://www.amstock.com), contacting American Water's Investor Relations at 877-310-7174 or by visiting the [Investor Relations](#) page at [www.amwater.com](http://www.amwater.com).

This press release shall not constitute an offer to sell or the solicitation of an offer to buy any securities. The offer is being made solely through the Plan prospectus.

Founded in 1886, American Water is the largest publicly traded U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs approximately 6,600 dedicated professionals who provide drinking water, wastewater and other related services to an estimated 14 million people in more than 40 states and parts of Canada. More information can be found at [www.amwater.com](http://www.amwater.com).

[Click here to subscribe to Mobile Alerts for American Water.](#)

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