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# Regulated Utilities

Branko Terzic, *moderator*  
Deloitte Services LLP



**Deloitte.**

# Federal Energy Regulatory Commission Update

Scott Molony

Accountant

Federal Energy Regulatory Commission



# Disclaimer

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The views expressed in this presentation are those of the presenter and do not necessarily reflect the views, comments, or positions of the Federal Energy Regulatory Commission (FERC), its Chairman, or any individual Commissioner

# Agenda

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- Commission Members
- Organizational Changes
- Compliance
- Accounting

# Chairman Wellinghoff

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- Jon Wellinghoff was named Chairman by President Barack Obama on March 19, 2009. A member of the Commission since 2006, the U.S. Senate reconfirmed him to a full, five-year FERC term in December 2007.
- Chairman Wellinghoff is an energy law specialist with more than 30 years experience in the field. Before joining FERC, he was in private practice and focused exclusively on client matters related to renewable energy, energy efficiency and distributed generation.
- Served two terms as the State of Nevada's first Consumer Advocate for Customers of Public Utilities. While serving in that role, Chairman Wellinghoff represented Nevada's utility consumers before the Public Utilities Commission of Nevada, the FERC, and in appeals before the Nevada Supreme Court. While Consumer Advocate, he authored the first comprehensive state utility integrated planning statute.
- Education: Antioch School of Law, Washington, D.C., JD, 1975; Howard University, Washington, D.C., M.A.T., Mathematics, 1972; and University of Nevada, Reno, Nevada, BS, Mathematics, 1971.



# Commissioner Moeller

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- Commissioner Philip D. Moeller was nominated by President Bush, and sworn into office on July 24, 2006, by Chief Justice of the United States John Roberts, for a term expiring June 30, 2010.
- From 1997 through 2000, Mr. Moeller served as an energy policy advisor to U.S. Senator Slade Gorton (R-Washington) where he worked on electricity policy, electric system reliability, hydropower, energy efficiency, nuclear waste, energy and water appropriations and other energy legislation.
- Prior to joining Senator Gorton's staff, he served as the Staff Coordinator for the Washington State Senate Committee on Energy, Utilities and Telecommunications, where he was responsible for a wide range of policy areas that included energy, telecommunications, conservation, water, and nuclear waste.
- Mr. Moeller received a B.A. in Political Science from Stanford University.



# Commissioner Spitzer

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- Marc Spitzer was nominated by President Bush to the Federal Energy Regulatory Commission and confirmed by the U.S. Senate for a term expiring June 30, 2011.
- Mr. Spitzer was elected in 2000 to the Arizona Corporation Commission (ACC) and in 2002 was elected ACC Chairman by his colleagues.
- As ACC Chairman, he focused on policies encouraging expansion of natural gas infrastructure, specifically distribution and storage; creating a demand side management policy; enhancing the ACC's renewables standard; and advancing consumer privacy concerns in telecommunications. As ACC Chairman, he established a legacy of balancing competing interests, while ensuring Arizonans receive safe, economical and reliable utility services.
- After graduating from Dickinson College in Carlisle, Pennsylvania, he attended the University of Michigan School of Law.



# Commissioner Norris

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- John R. Norris was nominated by President Barack Obama and confirmed by the U.S. Senate for a term expiring in June 2012.
- Commissioner Norris most recently served as Chief of Staff to Secretary Tom Vilsack of the U.S. Department of Agriculture. Prior to joining the USDA, he served as Chairman of the Iowa Utilities Board (IUB) from 2005 to 2009. During his tenure as IUB Chairman, Commissioner Norris served on the National Association of Regulatory Utility Commissioners (NARUC) Electricity Committee and was Co-Chair of the 2009 National Electricity Delivery Forum.
- During his IUB tenure, Commissioner Norris also served as a Board Member, Secretary and President of the Organization of Midwest Independent System Operator (MISO) States as well as Chairman of the MISO Demand Response Working Group. He also was a member of the FERC/NARUC Demand Response Collaborative.
- Commissioner Norris graduated with distinction from the College of Law at the University of Iowa in 1995 and earned his undergraduate degree in 1981 from Simpson College in Indianola, Iowa.



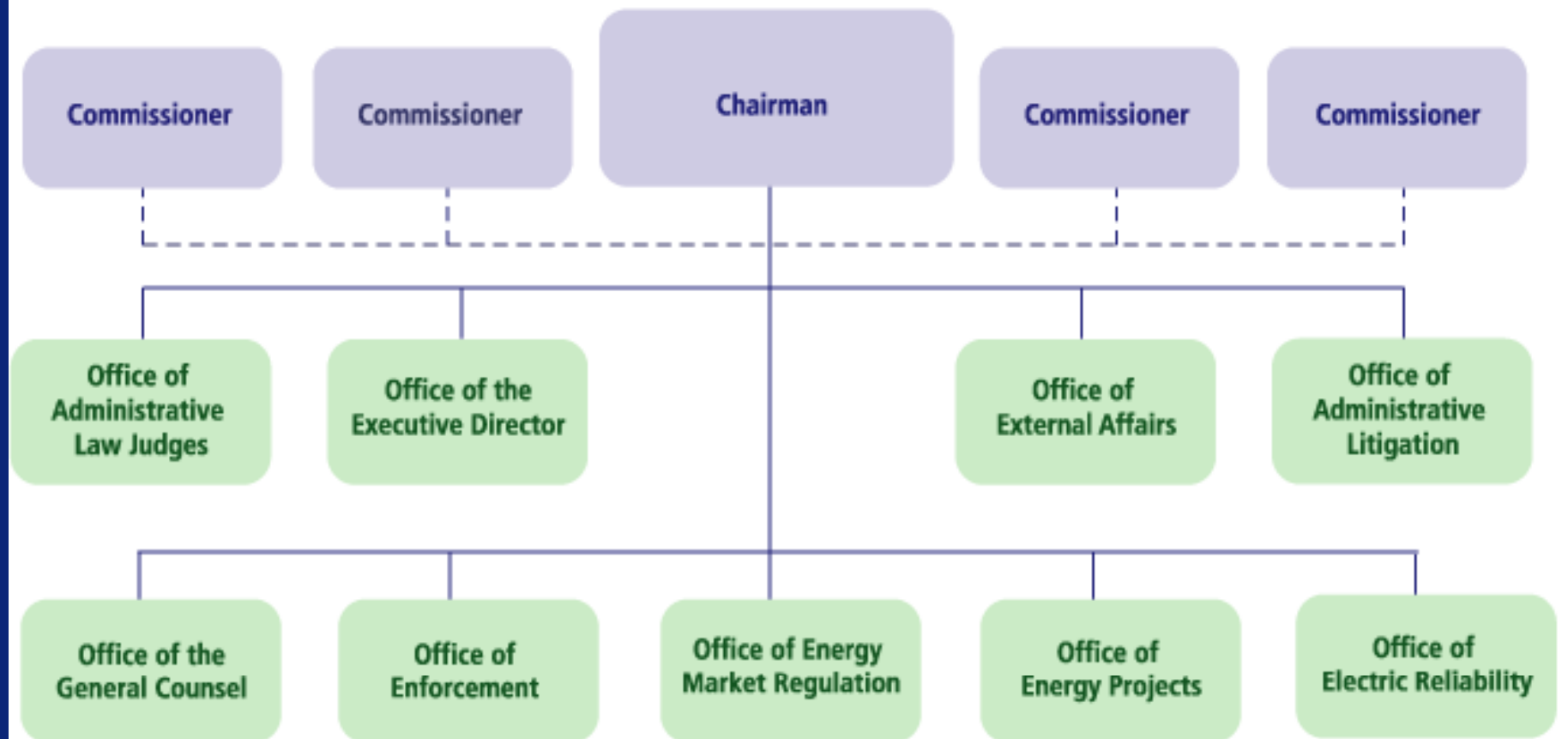
# Agenda

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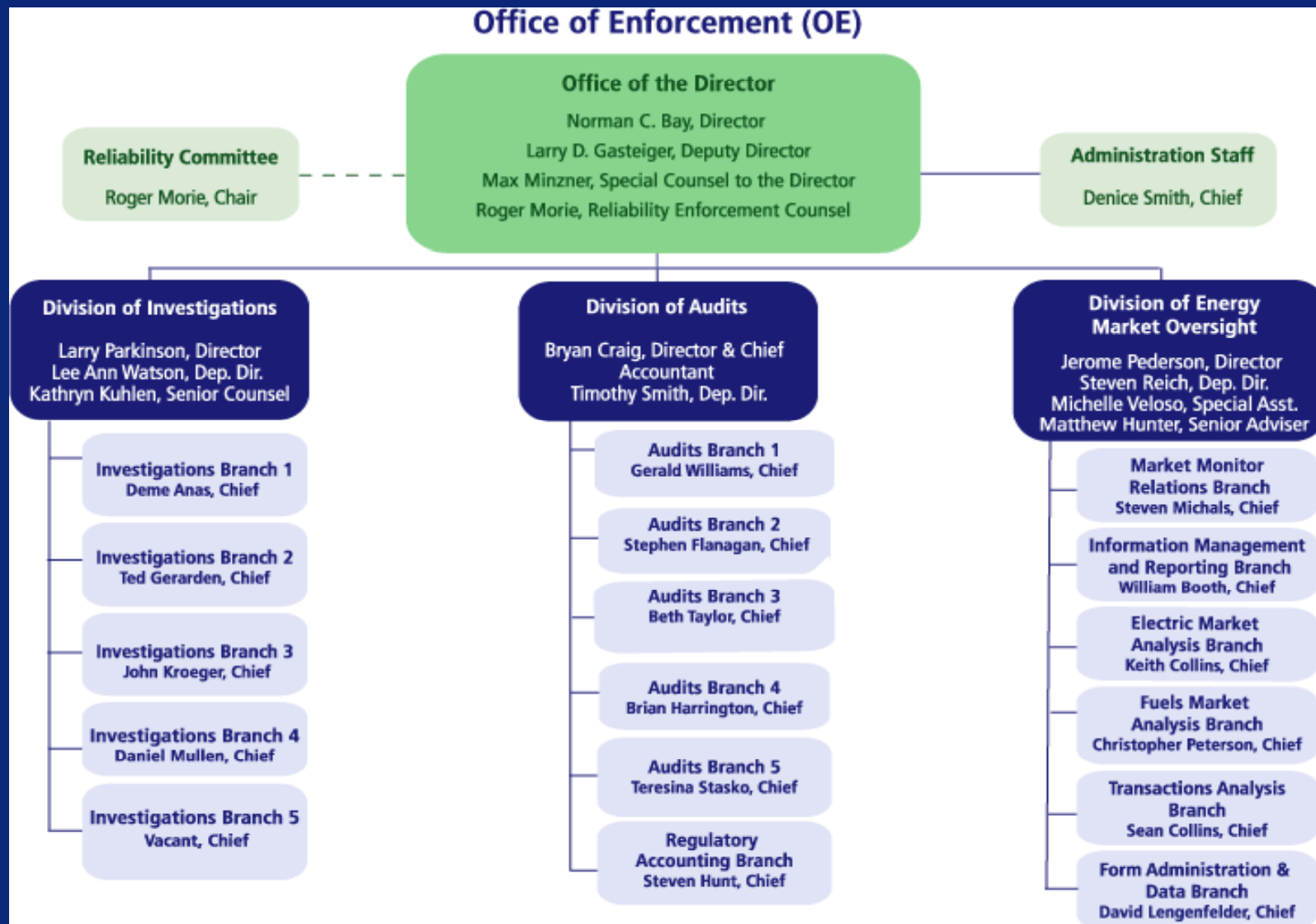
- Commission Members
- **Organizational Changes**
- Compliance
- Accounting

# Organizational Changes

## Federal Energy Regulatory Commission



# Organizational Changes



# Agenda

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- Commission Members
- Organizational Changes
- **Compliance**
- Accounting

# Compliance

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## **FERC Strategic Plan (2009-2014)**

- Issued October 15, 2009
  - Mission
    - To assist consumers in obtaining reliable, efficient and sustainable energy services at a reasonable cost through appropriate regulatory and market means

# Compliance

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## **FERC Strategic Plan (2009-2014) (cont.)**

- Primary Goals
  - Ensure that rates, terms and conditions are just, reasonable and not unduly discriminatory or preferential
  - Promote the development of safe, reliable and efficient energy infrastructure that serves the public interest

# Compliance

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## **FERC Strategic Plan (2009-2014) (cont.)**

- Oversight and Enforcement essential to J&R rates, terms, and conditions of service
  - Educate entities about market rules and regulations
  - Promote internal compliance programs
  - Employ robust audit and investigation programs
  - Where appropriate, exercise penalty authority as a deterrent to violations

# Compliance

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## **Compliance through Audits and Investigations**

- Audits – Proactive
- Energy Market Oversight – Proactive
- Investigations – Reactive (Typically allegation driven)
  - Coordination among unique skill sets across Divisions within the Office
  - Coordination with other Offices
  - 2008 and 2009 Reports on Enforcement (Docket Nos. AD07-13-001 and AD07-13-002)

# Compliance

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- The basic objective is compliance
- **The 2005 FERC Policy Statement on Enforcement provided the basic framework for developing a compliance culture:** We encourage regulated entities to have comprehensive compliance programs, to develop a culture of compliance within their organizations, and to self-report and cooperate with the Commission in the event a violation occurs

# Compliance

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- *FERC Policy Statement on Enforcement*, 113 FERC ¶61,068 (2005)
- *Informal Staff Advice on Regulatory Requirements*, 113 FERC ¶ 61,174 (2005), modified 117 FERC ¶ 61,069 (2006), No–Action Letter Process
- *Revised Policy Statement on Enforcement*, 123 ¶ 61,156 (2008)
- *Obtaining Guidance on Regulatory Requirements*, 123 FERC ¶ 61,157 (2008) (Interpretative Order Modifying No-Action Letter Process and Reviewing Other Mechanisms for Obtaining Guidance)

# Compliance

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- *Compliance with Statutes, Regulations, and Orders*, 125 FERC ¶ 61,058 (2008) (Policy Statement on Compliance)
- *Policy Statement on Disclosure of Exculpatory Materials*, 129 FERC ¶ 61,248 (2009)
- *Order Authorizing Secretary to Issue Staff's Preliminary Notice of Violations*, 129 FERC ¶ 61,247 (2009)
- *Policy Statement on Penalty Guidelines*, 130 FERC ¶ 61,220 (2010). Suspended pending comments due June 14, 2010

# Compliance

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## **Compliance Guidance Toolkit**

- Commission Declaratory Order
- Staff No-Action Letter
- General Counsel Opinion Letter
- Accounting Interpretations
- Compliance Help Desk
- Enforcement Hotline
- Informal meetings and discussions with staff

# Compliance

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## **2009 Annual Report on Enforcement**

- December 17, 2009 (Docket No. AD07-13-002)
- View of where the Office has allocated its compliance resources
  - Division of Investigations (FY '09)
    - Increasing number of self-reports: 122
    - Opened 10, largely market manipulation, investigations
    - Collected over \$38 million in civil penalties; over \$38 million in disgorgement of unjust profits
    - Closed-no violation, Closed-violation but no sanctions, Closed-Settlement

# Compliance

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## **2009 Annual Report on Enforcement (cont.)**

- Division of Audits (FY '09)
  - Public utility and natural gas pipeline audits
    - 28 nonfinancial
    - 5 financial audits
    - 112 recommendations for corrective action
    - \$2.8 million accounting and billing adjustments
  - 12 reliability observation audits and 3 agreed-upon procedures engagements

# Compliance

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## **2009 Annual Report on Enforcement (cont.)**

- Financial Audits FY'09
  - Allegheny Energy, Inc. (FA08-3-000)
  - Wisconsin Electric Power Co. (FA08-15-000)
  - Consumers Energy Co. (FA09-1-000)
  - Public Service Company of Oklahoma (FA09-2-000)
  - ISO New England Inc. (FA09-6-000)

# Compliance

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## **2009 Annual Report on Enforcement (cont.)**

- Accounting (FY '09)
  - Requests for approval of the CA: 185
  - Certificate proceedings: 50
  - Merger and acquisition proceedings: 110
  - Rate proceedings: 30
  - Informal requests/help desk: 120

# Agenda

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- Commission Members
- Organizational Changes
- Compliance
- **Accounting**

# Accounting

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## IFRS

- Chief Accountant submitted a comment letter to the SEC, April 2009
- Chief Accountant submitted a comment letter to the IASB, November 2009
  - Supports IASB's proposal
    - Gives accounting and financial reporting recognition of regulatory assets and liabilities
    - Allows an entity to include in the cost of self-constructed property, plant and equipment, all amounts included by the regulator

# Accounting

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## **IFRS – November 2009 Comment Letter (*cont.*)**

- Disagrees with the IASB's use of fair value to measure regulatory assets and liabilities
  - Thinning of equity for regulatory assets
  - Financial reporting out of synch with rate treatment
  - Needless financial statement volatility
  - Unnecessarily complex estimated probability-weighted average method

# Accounting

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## Allowance for Funds Used During Construction (AFUDC)

- Commission revised its AFUDC accrual policy in:
  - *Florida Gas Transmission*, 130 FERC ¶ 61,193 (2010)
  - *Southern Natural Gas Company*, 130 FERC ¶ 61,194 (2010)

# Accounting

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## **AFUDC (cont.)**

- Basis
  - Many pipelines use pre-filing and incur significant costs prior to certificate
  - Pipelines may be at risk of not being able to capture all the cost of financing their construction projects

# Accounting

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## AFUDC (*cont.*)

- Revised conditions
  - Pipelines may begin accruing AFUDC on construction projects when:
    - 1) Capital expenditures for the project have been incurred.
    - 2) Activities necessary to get the project ready for its intended use are in progress
  - “Activities” is to be construed broadly

# Accounting

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## **AFUDC (cont.)**

- “Activities”
  - Includes activities prior to physical construction such as the development of plans or the process of obtaining permits
  - Does not include preliminary survey and investigation activities (those activities occurring prior to the revised policy conditions being met)
- Continues the existing standard for determining when AFUDC accruals must be suspended and ceased

# Accounting

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## AFUDC (*cont.*)

- No more bright line
- Prefiling is a strong indicator of the initiation of construction project-related expenditures; however
  - prefiling in and of itself should not be construed as the date AFUDC accruals can commence without also applying the revised policy conditions

# Accounting

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## **AFUDC (cont.)**

- Pipelines must be prepared to demonstrate the revised policy conditions have been met
- Pipelines seeking a certificate must include a representation that the AFUDC accruals included in the cost of facilities are calculated pursuant to the Commissions rules and regulations and consistent with the revised policy conditions

# Accounting

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## **AFUDC (cont.)**

- Commission noted that representations made with respect to AFUDC accruals are subject to audit
- Commission directed the Chief Accountant to revise AR-5

# Accounting

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## **Noteworthy Accounting Matters**

- Revised Filing Requirements for Centralized Service Companies
- Notice of Proposed Rulemaking
  - Docket No. RM09-21-000
  - Issued September 17, 2009
- Proposes to revise the Commission's regulations to require every centralized service company that provides non-power services to any public utility, natural gas company, or both, to file Form No. 60 annually and abide by the Uniform System of Accounts, unless exempted or granted a waiver
- Final Rule issued December 17, 2009
  - Adopted proposal

# Accounting

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## Noteworthy Accounting Matters

- Wabash Valley Power Association, Inc. (Wabash);  
Docket No AC09-23 – Issued 5/19/2009
  - Request unrealized gains and losses related to derivative and hedging contracts be recorded in Accounts 182.3 or 254
  - Currently records such gains and losses in Accounts 421, Misc. Non-Operating Income, and 426.5, Other Deductions; formula rate accounts
  - When the derivative instruments are settled, the realized gain or loss will be matched and recognized in the same time period and recorded to the same expense account as the item for which risk is being mitigated

# Accounting

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## **Noteworthy Accounting Matters**

- Wabash (*cont.*)
  - Minimize fluctuations in annual member billings for temporary changes in market prices
  - Match the cost of the hedge to the time period being hedged
  - Match the cost of supplying power to the units being purchased and consumed
  - Avoid fluctuations in equity that could affect debt covenants.

# Accounting

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## **Noteworthy Accounting Matters**

- Wabash (*cont.*)
  - Chief Accountant approved to the extent that it is probable that these amounts will be included in the development of Wabash's future rates it charges to its member-owners

# Where to Find More Information

The screenshot shows the FERC website in a Microsoft Internet Explorer browser window. The address bar displays "http://www.ferc.gov/". The website header includes the FERC logo and navigation tabs such as "About FERC", "News", "Congress", "Documents & Filing", "Industries", "Legal Resources", "Market Oversight", "Enforcement", "For Citizens", "Careers", "Contact Us", and "Help". A search bar is located in the top right corner.

The "Legal Resources" menu is open, listing the following items:

- Federal Statutes
- Major Orders & Regulations
- Administrative Litigation
- Court Cases
- Complaints
- Settlements
- Staff Reports
- Accounting Matters
- Alternative Dispute Resolution (ADR)
- CEII & FOIA
- No Fear Act

The main content area is divided into several sections:

- WHAT'S NEW**: Lists recent news items, including "May 10, 2010 - FERC, California sign agreement to..." and "May 7, 2010 - FERC staff to hold a series of technical improved software Notice PDF".
- ANNOUNCEMENTS**: Lists upcoming events, including "May 3, 2010 - FERC staff will convene a technical con ISO/RTO Markets Notice PDF | Event Details" and "April 29, 2010 - FERC proposes to lift price caps for t".
- NEED ASSISTANCE?**: Provides contact information for various assistance services, such as "Need information and can't find it?", "Need technical assistance with our electronic systems?", "Need assistance with printing or certifying a document?", and "Need guidance with compliance regarding statutes, rules, regulations and tariffs we administer?".
- CALENDAR OF EVENTS**: Displays a calendar for May 2010, with dates 2 through 8 highlighted in blue.
- COMMISSION MEETINGS**: Lists upcoming meetings, including "May 20, 2010" with sub-items "Event Details" and "Sunshine Notice (Agenda) PDF".
- TOP PRIORITIES**: Lists key initiatives, including "Energy Policy Act of 2005", "Open Access Transmission Tariff (OATT) Reform", and "Electric Competition".
- OPEN GOV**: Promotes transparency and public participation.
- CAREER JOB SEARCH**: Provides information on employment opportunities.

The footer of the page includes the URL "http://www.ferc.gov/legal/acct-matts.asp" and the system tray shows the date and time as "2:06 PM".

# Where to Find More Information

The screenshot shows a Microsoft Internet Explorer browser window displaying the FERC Accounting Matters page. The address bar shows the URL <http://www.ferc.gov/legal/acct-matts.asp>. The page features a navigation menu with categories like About FERC, News, Congress, Documents & Filing, Industries, Legal Resources, Market Oversight, Enforcement, For Citizens, Careers, Contact Us, and Help. A left sidebar contains a list of links including Federal Statutes, Major Orders & Regulations, Administrative Litigation, Court Cases, Complaints, Settlements, Staff Reports, Accounting Matters, Browse by Topic, Uniform System of Accounts, Accounting Rulemakings, Accounting Guidance, Accounting Releases, Interest Rates, Alternative Dispute Resolution, CEII & FOIA, and No Fear Act. The main content area is titled "Legal Resources >> Accounting Matters" and includes a description of the Commission's role, a "Browse by Topic" section, and detailed information on the Uniform System of Accounts, Accounting Rulemakings, Accounting Guidance, Accounting Releases, and Refund Interest Rates. A right sidebar provides contact information for Bryan K. Craig and Steven D. Hunt, along with an eFile section encouraging electronic filings.

FERC: Accounting Matters - Microsoft Internet Explorer provided by FERC  
http://www.ferc.gov/legal/acct-matts.asp

File Edit View Favorites Tools Help

FERC: Accounting Matters

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Accounting Guidance  
Accounting Releases  
Interest Rates  
Alternative Dispute Resolution  
CEII & FOIA  
No Fear Act

**Legal Resources >> Accounting Matters**

**Accounting Matters**

The Federal Energy Regulatory Commission is responsible for the accounting and financial reporting of its jurisdictional companies. This is accomplished through the development and maintenance of the Commission's Uniform System of Accounts (USoFA) and the issuances of various accounting rulemakings, guidances, and releases.

**Browse by Topic**  
Users can browse various accounting rulemakings, guidances, and releases by topics in alphabetical order.

**Uniform System of Accounts**  
Electric Public Utilities & Licensees, Natural Gas, and Oil Pipeline companies within FERC jurisdiction are required to maintain their books and records in accordance with the Commission's Uniform System of Accounts (USoFA).

**Accounting Rulemakings**  
Accounting rulemakings provide official rules and regulations on accounting and financial reporting issues and can be looked up by docket number.

**Accounting Guidance**  
Accounting guidances provide interpretations of a general nature of existing FERC accounting and financial reporting rules and regulations and can be looked up by docket number.

**Accounting Releases**  
Accounting releases provide interpretations of a more specific and technical nature of existing FERC accounting and financial reporting rules and regulations and can be looked up by docket number.

**Refund Interest Rates**  
The Commission, on a quarterly basis, publishes interest rates for oil, natural gas, and electricity for determination of refund purposes.

**Contact Information**

**Bryan K. Craig**, Director and Chief Accountant  
Division of Audits  
Telephone: (202) 502-8741  
Email: [bryan.craig@ferc.gov](mailto:bryan.craig@ferc.gov)

**Steven D. Hunt**  
Telephone: 202-502-6084  
Email: [steven.hunt@ferc.gov](mailto:steven.hunt@ferc.gov)

**eFile**  
The Commission strongly encourages jurisdictional entities to make accounting filings and requests electronically.

To learn more, visit our:  
> [eFiling section](#)  
> [Quick User Guide PDF](#)

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# Filings

The screenshot shows the FERC website interface. The browser title is "FERC: Federal Regulation and Oversight of Energy - Electricity, Natural Gas, LNG Terminals, Hyd - Microsoft Internet Explorer p". The address bar shows "http://www.ferc.gov/". The page features a navigation menu with the following items: About FERC, News, Congress, Documents & Filing, Industries, Legal Resources, Market Oversight, Enforcement, For Citizens, Careers, Contact Us, and Help. The "Documents & Filing" menu is expanded, listing: Decisions & Notices, Notice Formats, FERC Online, eComment, eRegister, eFiling, eSubscription, eService, eLibrary, Company Registration, Forms, Filing Fees, eTariff, Corporate Officials, Electric Quarterly Reports (EQR), and FERC's Dispute Resolution Service (DRS). The DRS section provides details on mediation and dispute resolution services. Other visible content includes a "NEED ASSISTANCE?" section with contact information, a "STRATEGIC PLAN" section for FY 2009-2014, and a "CALENDAR OF EVENTS" for May 2010.



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# Cost of Capital Issues: An Investor-Owned Electric Utility Perspective

Eric Ackerman  
Director,  
Alternative Regulation  
Edison Electric Institute  
([eackerman@eei.org](mailto:eackerman@eei.org))



# The Mortgage Crisis

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- “It’s awful – Why did nobody see it coming?”
  - The queen of England, November 6, 2008
- “...it’s very clear that the Federal Open market Committee under Bernanke did not see the mortgage crisis coming.”
  - Vernon Smith , December 17, 2009

# The Next Crisis?

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- Access to capital by electric IOUs under the influence of inflation and declining credit ratings?
- Why did no one see it coming?



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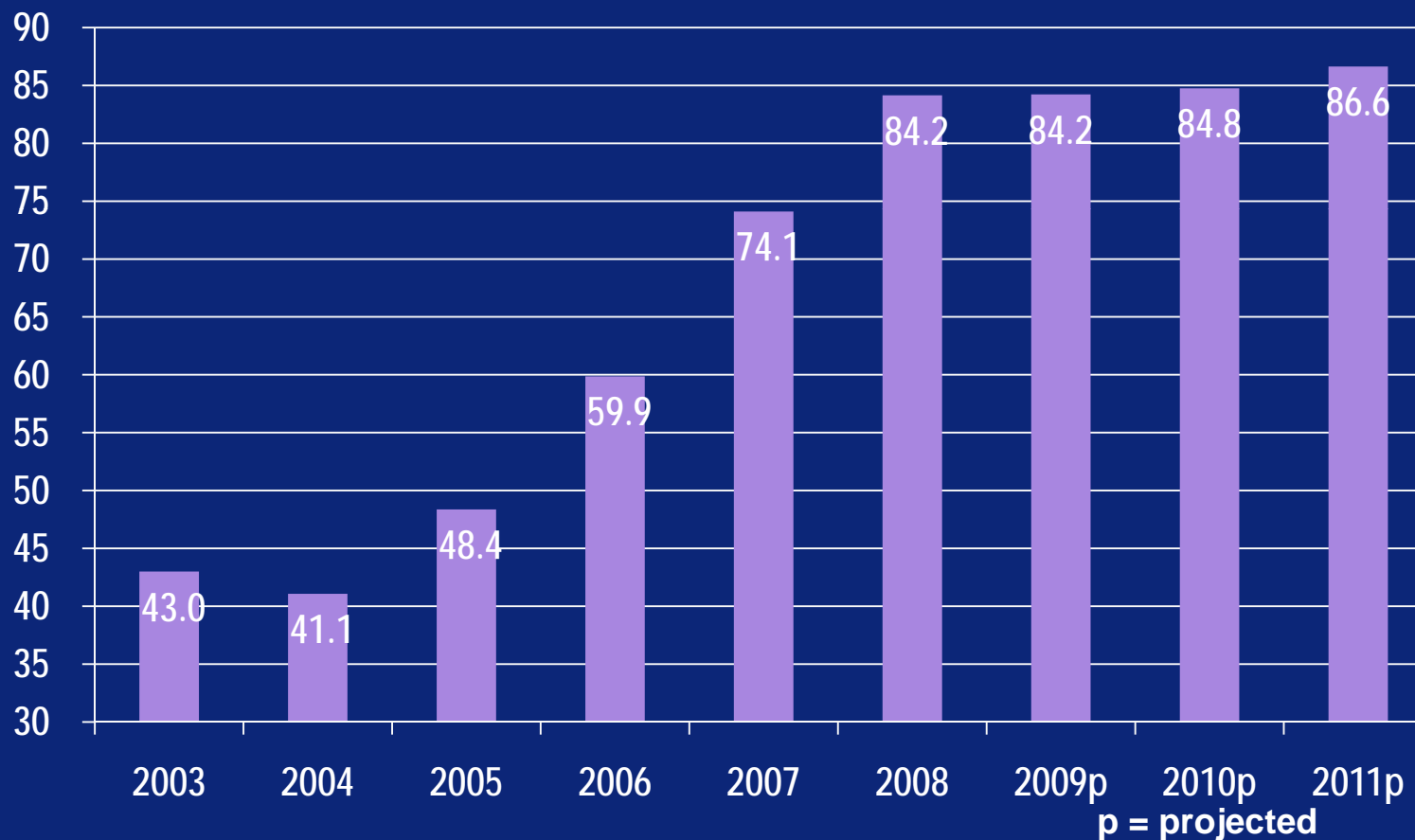
# Seeds of the Crisis



# Industry Capital Expenditures

(\$ Billions)

## U.S. Shareholder-Owned Electric Utilities



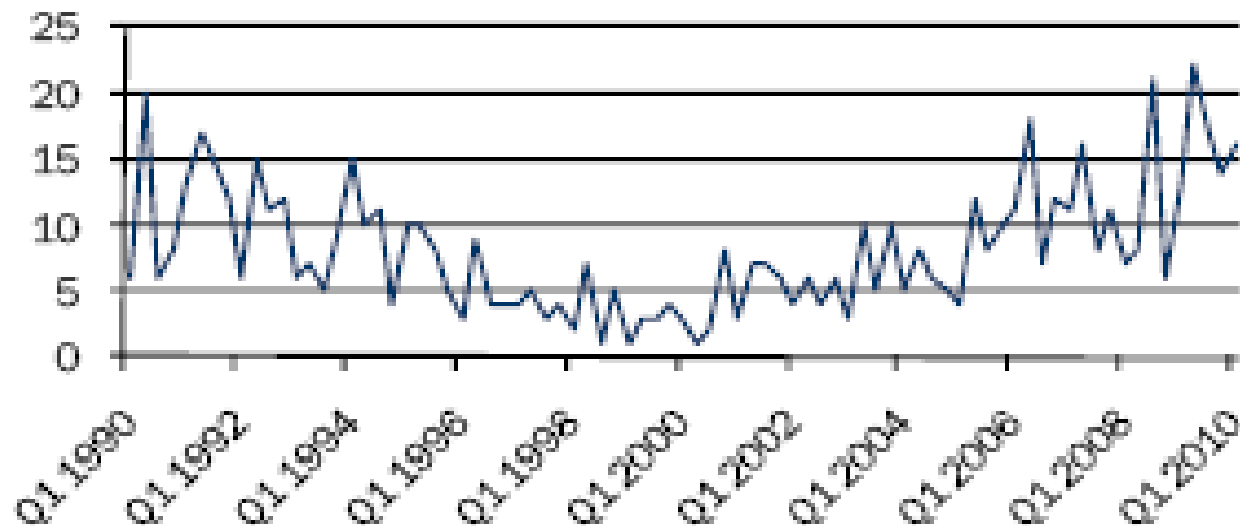
Source: SNL Financial, company reports and EEI Finance Dept.



# Rate Cases

## I. Number of Rate Cases Filed (Quarterly)

*U.S. Shareholder-Owned Electric Utilities*



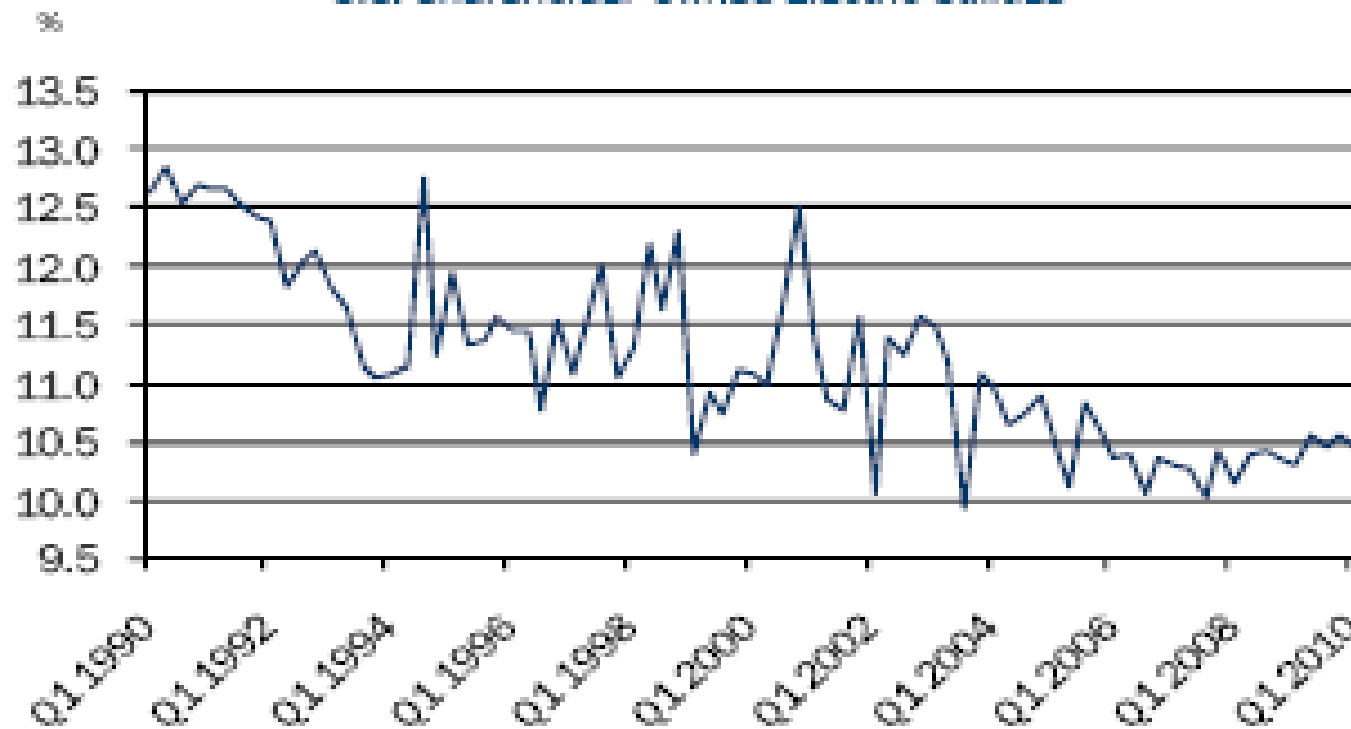
Source: SNL Financial / Regulatory Research Assoc. and EEI Rate Department



# Allowed ROE

## II. Average Awarded ROE (Quarterly)

*U.S. Shareholder-Owned Electric Utilities*

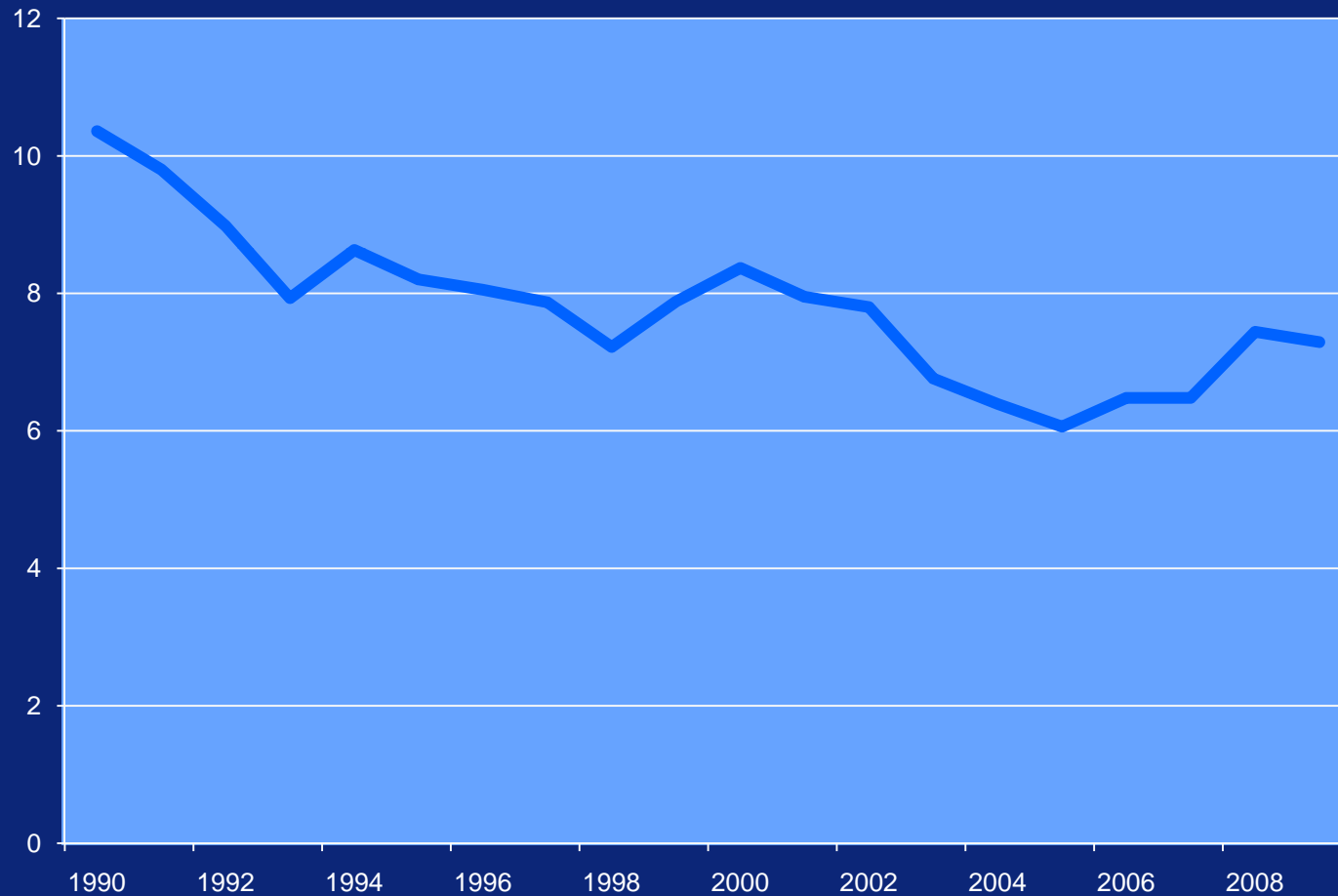


Source: SNL Financial / Regulatory Research Assoc. and EEI Rate Department



# Moody's Yields on Seasoned Baa Corporate Bonds

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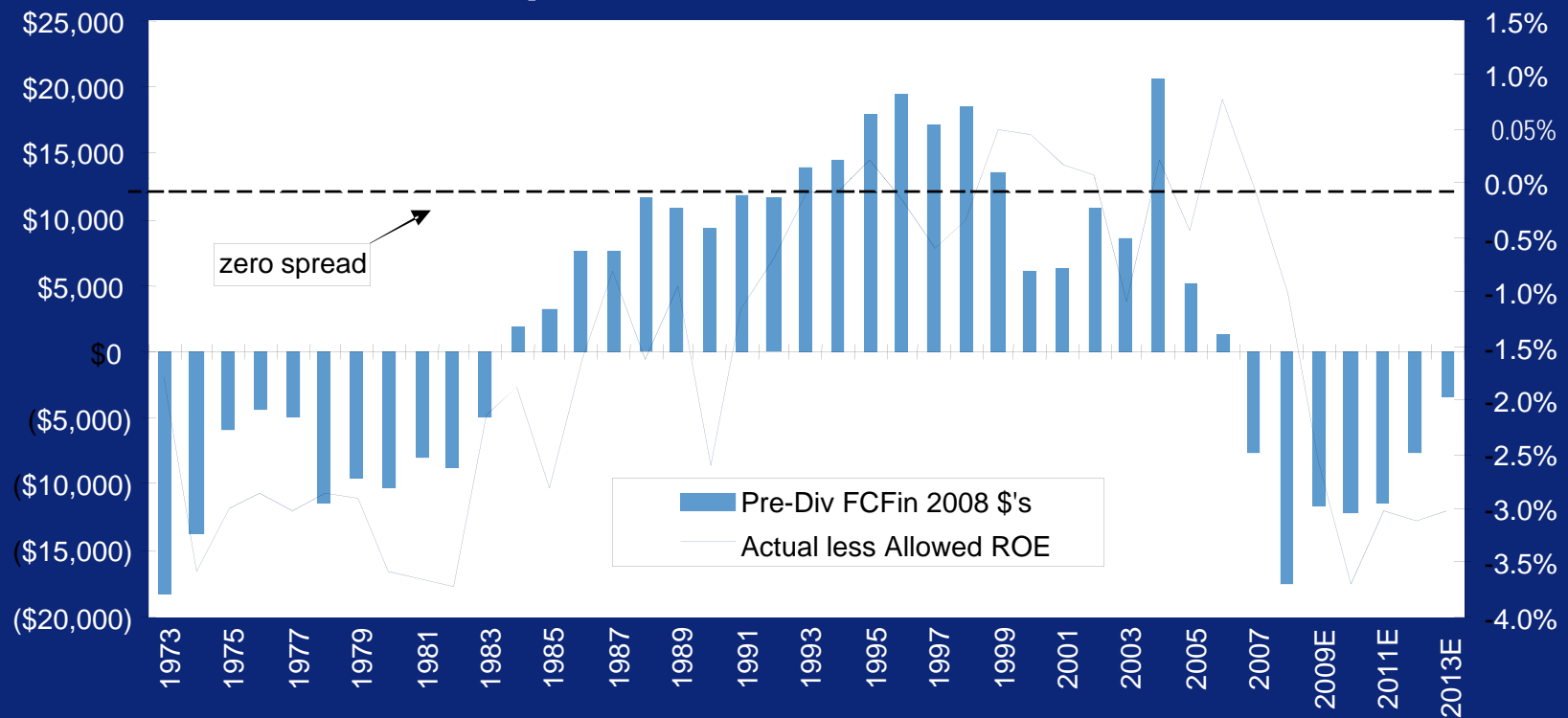


Source: Federal Reserve



# Regulatory Lag Depresses Earnings

## ROE Spread vs. Pre-Dividend FCF

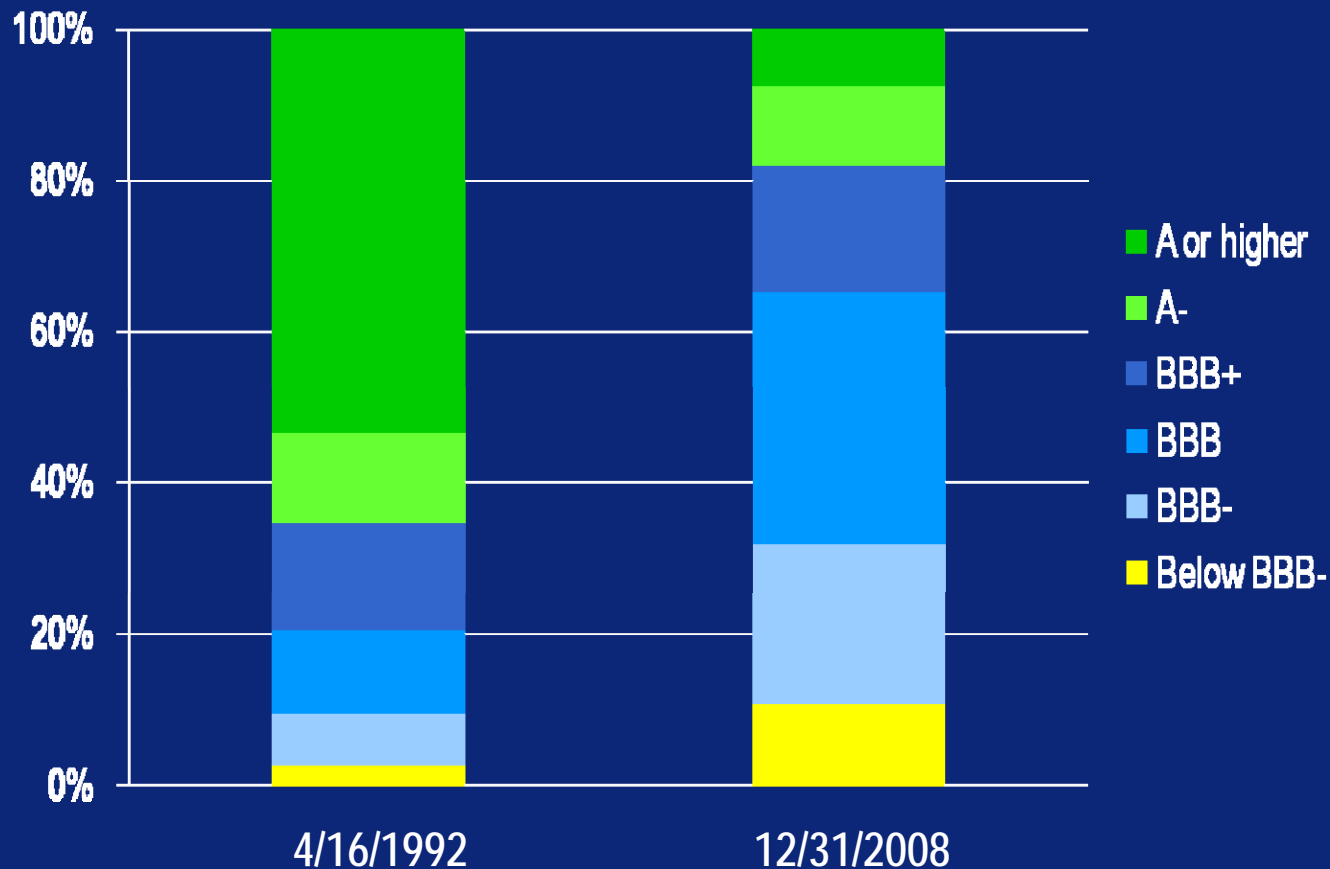


Note: Figures reflect Barclays Capital utility coverage scaled up by a factor of 1.08x to reflect companies not in the Barclays Capital coverage universe. (\$ in millions)  
 Source: FactSet and Barclays Capital estimates.



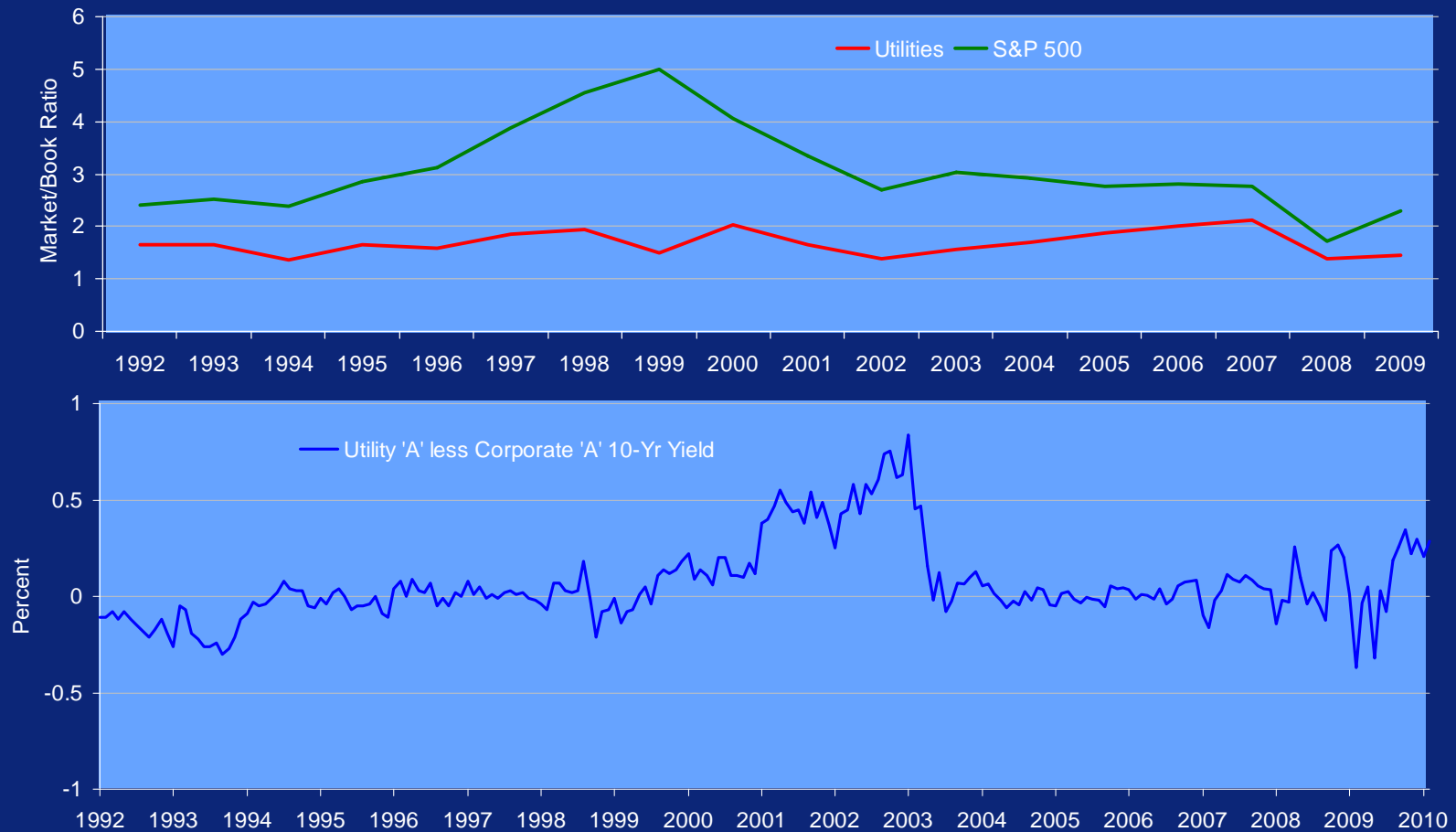
# Long-term Decline in Credit Quality: 1992 vs. 2008

## S&P Credit Ratings Distribution, Electric Utilities



# But Even if Results Are Bad, Investors Haven't Gone Away - Yet

They won't, they simply re-price



Source: Bloomberg



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# Precipitating Event?



# The Outlook

## What Other Forecasters are Predicting

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	2010	2011	2012	2013
Real GDP	3.0%	2.9%	3.4%	3.1%
Unemployment Rate	9.8%	9.2%	8.3%	7.3%
3-Month Treasury Bill	0.4%	1.7%	3.1%	3.6%
10-Year Treasury Bond	3.9%	4.5%	4.8%	5.0%
Inflation (CPI)	1.7%	2.1%	2.3%	N/A

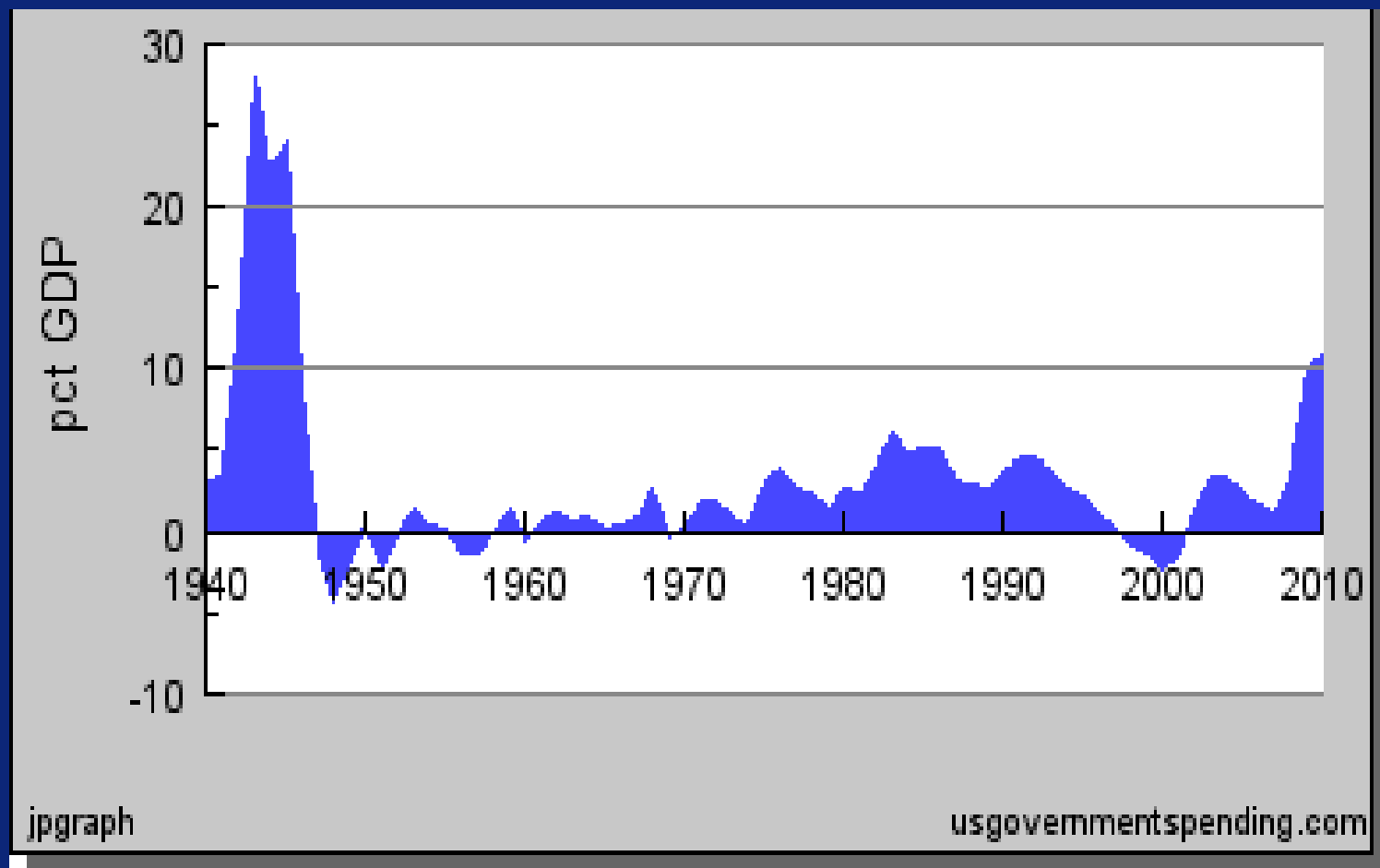
Source: Survey of 42 professional forecasters conducted by Federal Reserve Bank of Philadelphia, published on February 12, 2010.



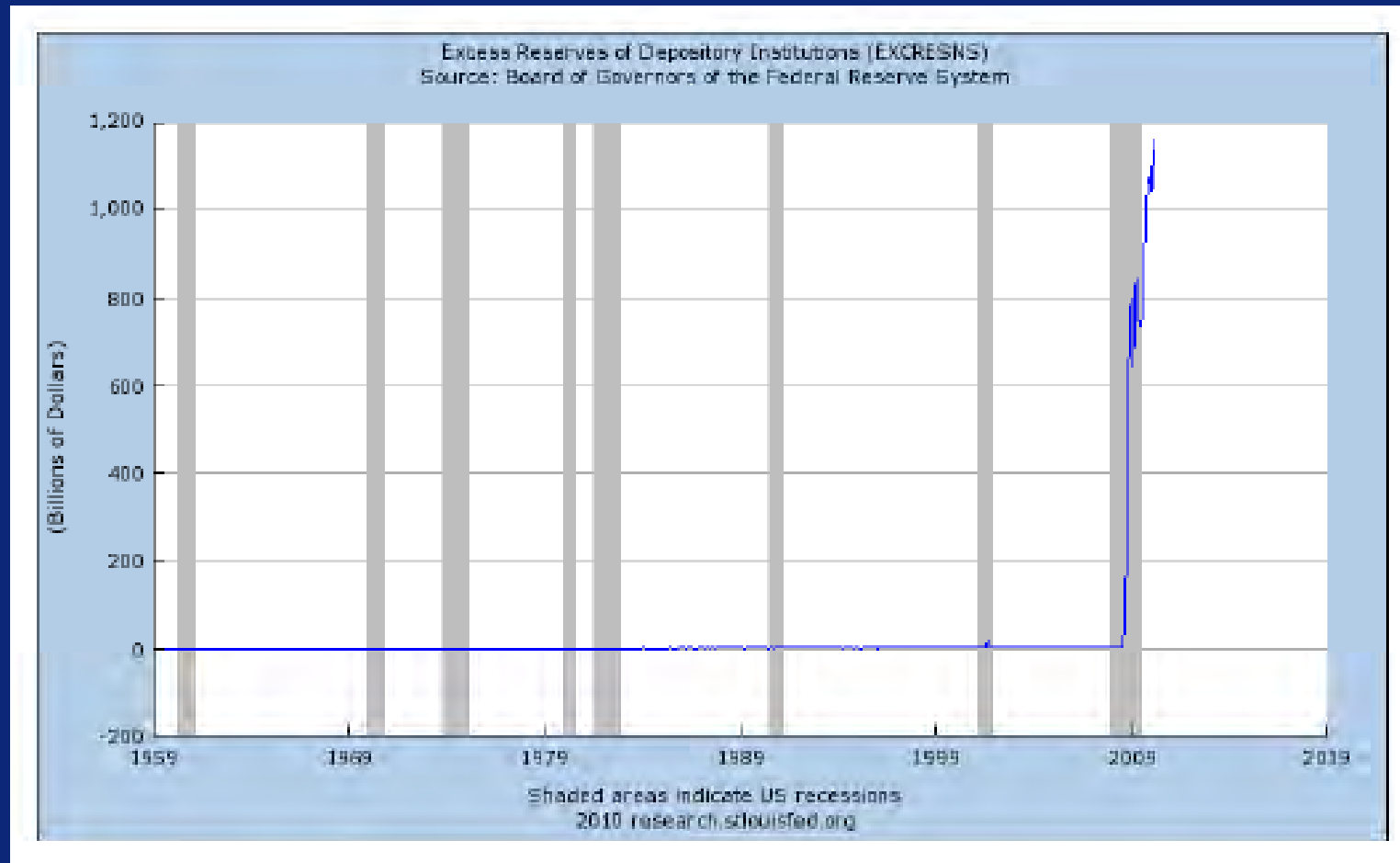
# US Federal Deficit as Percent of GDP

## Government Spending in US from FY 1940 to FY 2010

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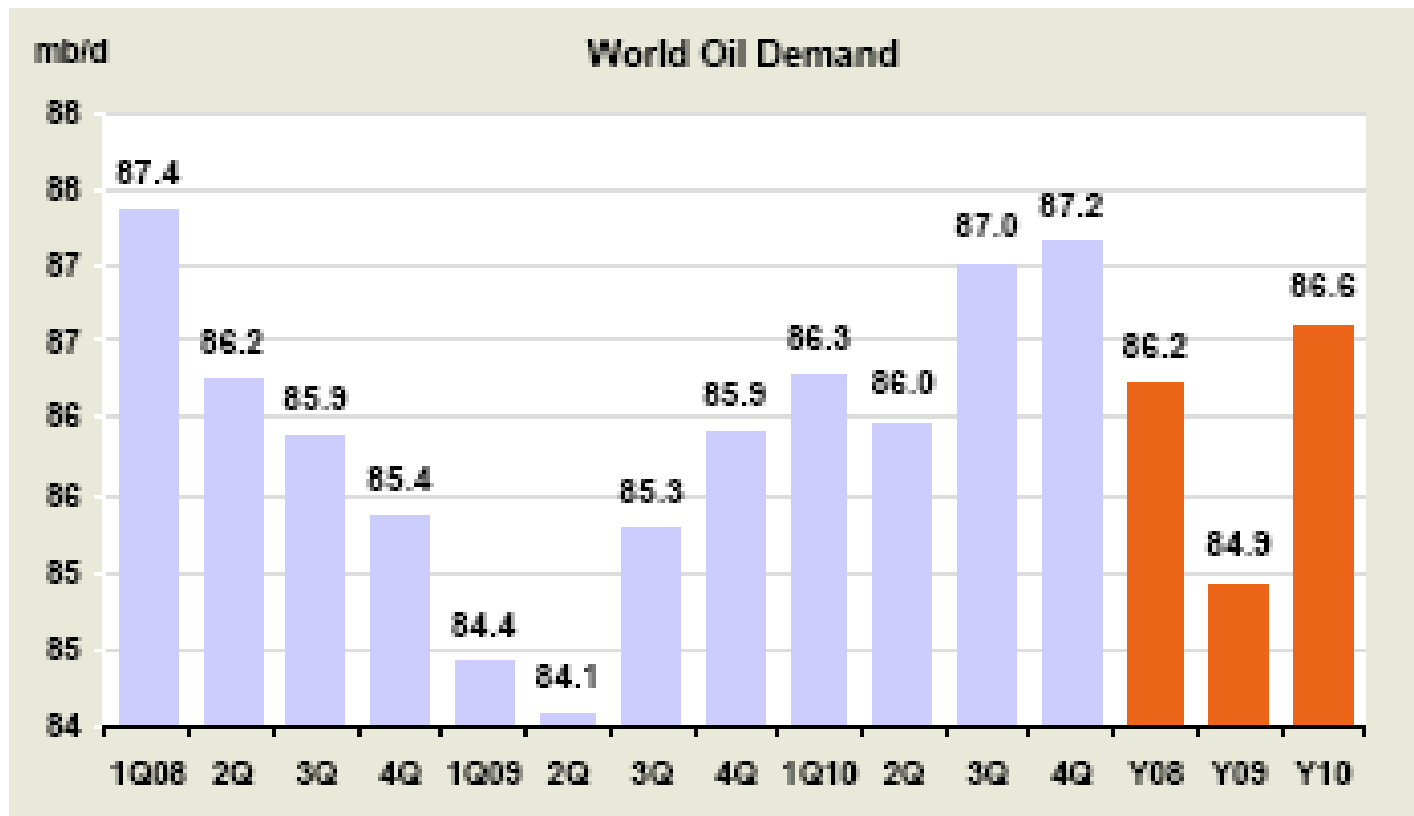
# Excess Reserves of Depository Institutions (EXCRESNS)



Source: Federal Reserve



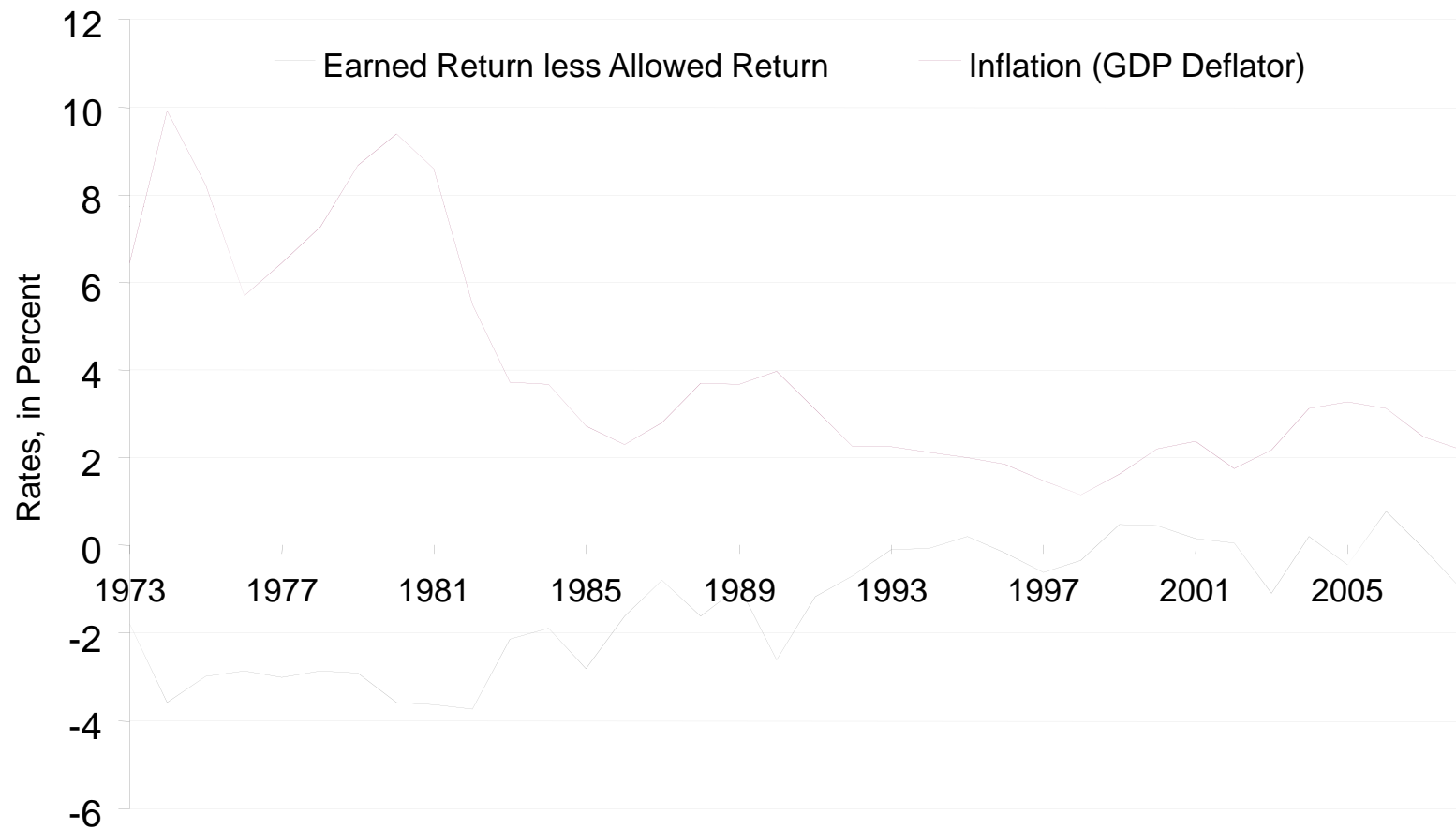
# World Oil Demand



Source: International Energy Agency



# Inflation Leads to Utility Earnings Shortfalls

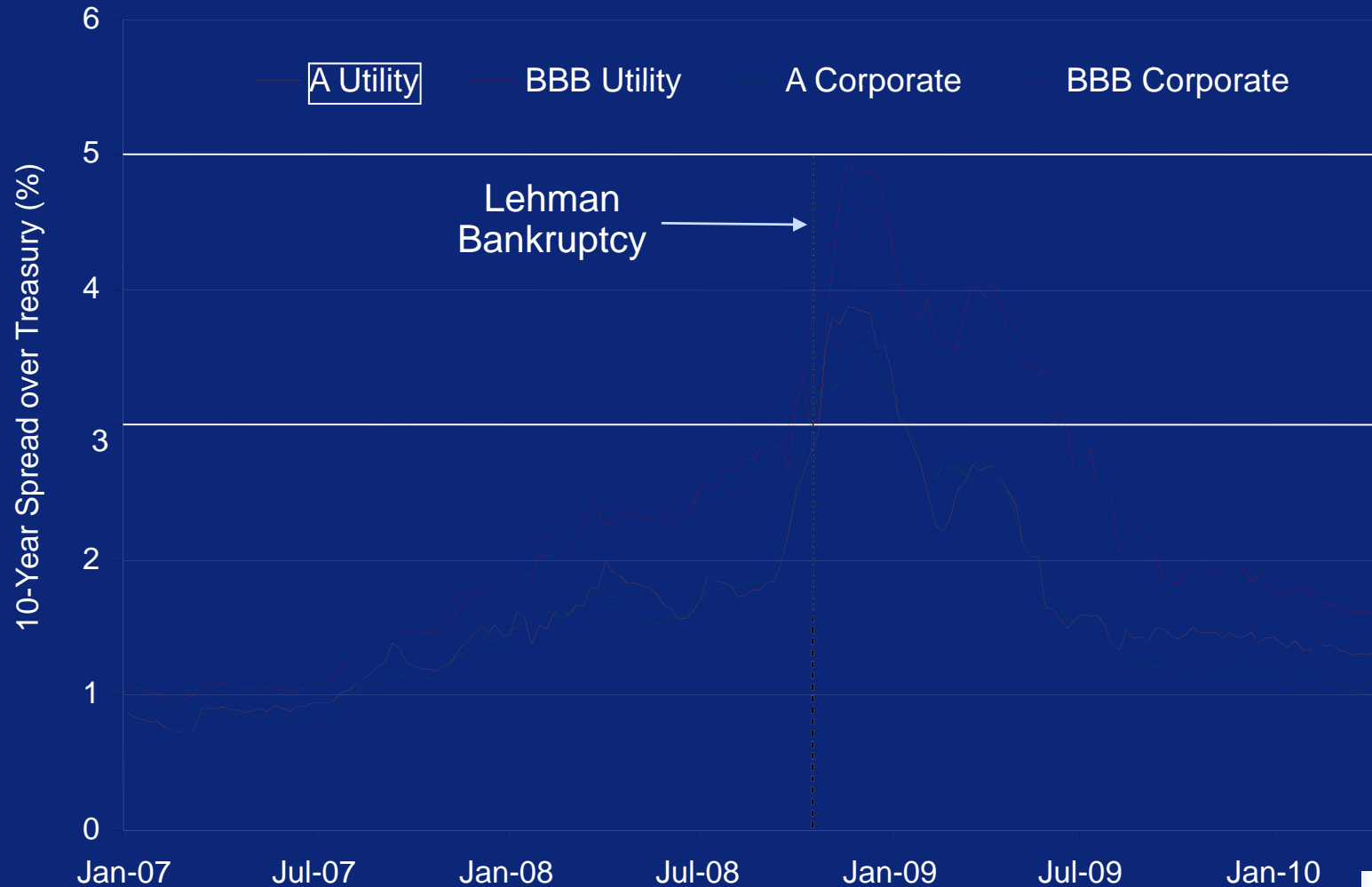


# Possible Scenario?

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- Inflation surges, increasing the cost of both debt and equity
- Spreads between A and BBB utilities widen
  - Moderately credit worthy utilities begin paying significantly more for debt capital
- Weak utilities find themselves shut out of capital markets
- Reliability and service quality suffer as infrastructure dis-investment sets in
- Observers begin to ask, “why didn’t anyone see it coming?”

# Utility Bond Performance



Source: Bloomberg



# Policy Response - Rebuild Credit Now

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- Insurance against an uncertain future
- Focus on realized returns
- Apply alternative regulatory policies & mechanisms to mitigate regulatory lag
- Help consumers understand what is driving rates up
- Develop energy efficiency and demand response to help consumers avoid new supply costs
- Develop incentive policies to spur utility productivity / economic efficiency



# Conclusions

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1. Declining credit ratings among electric IOUs should be a red flag for policy makers; they put continued access to private capital on reasonable terms at risk.
2. Credit contraction during the first half of 2009 suggests what might happen if and when inflation is re-ignited. Utilities with less than strong credit would be affected the most.
3. In order to rebuild credit ratings, policy makers need to mitigate regulatory lag.
4. There are a variety of tools that can be used to do this. Collectively they are known as alternative regulation.



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# Appendix



# What is Altreg?

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- First there was “incentive regulation”
- Then “performance-based regulation”
- Now alternative regulation – no strict definition
  - Not standard, or conventional cost of service regulation
  - New regulatory policies to deal with new issues
  - New regulatory policies to enable new business models

# Two Components of Regulatory Risk

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- Regulatory lag
  - Cost recovery is deferred
- (Im)prudence risk
  - Costs recovery is denied / disallowed

# To Mitigate Regulatory Lag

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- Future test year
- CWIP
- Trackers (balancing accounts/adjustment clauses)
- Formula rates

# To Mitigate Imprudence Risk

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- “Pre-approval” procedures
- Consensus resource planning
- Competitive procurement (market-based procedures)

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# Cost of Capital Issues – 2010

Pauline M. Ahern, CRRA  
Principal  
AUS Consultants



# AUS Consultants

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# AUS Consultants

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- Founded 1967
- Full –service financial and energy consulting firm specializing in all ratemaking disciplines
- Locations: Mt. Laurel, NJ, Camp Hill, PA, Greenfield, WI & Tijeras, NM
- Subsidiary of AUS Inc. – utility / regulatory / energy consulting, market research, & tangible / intangible asset valuation
- [www.ausinc.com](http://www.ausinc.com)

# Cost of Capital 101



# Cost of Capital & Revenue Requirement

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- Revenue Requirement –  $E + r (RB)$
- Where:
  - $E = O + D + T$ 
    - $O$  = Operating & Maintenance Expenses
    - $D$  = Depreciation Expenses
    - $T$  = All Taxes (incl. State & Federal Income Taxes)
  - $r$  = Overall Rate of Return (WACC)
  - $RB$  = Rate Base (i.e., assets providing utility service)

# Overall Rate of Return (WACC)

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- $r$  – WACC
- $= d * ( D / C ) + p * ( P / C ) + k * ( E / C )$

where:

$d$  = Cost of Debt Capital

$D$  = Book Value of Debt Capital

$p$  = Cost of Preferred Equity Capital

$P$  = Book Value of Preferred Equity Capital

$k$  = Cost of Common Equity Capital (not observable)

$E$  = Book Value of Common Equity Capital

$C$  = Book Value of Total Capital

# Judicial Standards of Fair Rate of Return

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- Hope / Bluefield
  - Comparability to returns earned by firms of similar risk
  - Assurance of confidence in financial integrity
  - Maintenance & support of credit quality
  - Attraction of capital on reasonable terms in competition with firms of similar risk
- Hope
  - “End Result”

*Bluefield Water Works and Improvement Co. v. West Virginia Public Service Commission*, 262 U.S. 679 (1923)

*Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944)

# Cost of Capital Issues: Capital Structure



# Cost of Capital Issues – Capital Structure

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- Double Leverage
- Inclusion of short-term debt
- Hypothetical capital structure
- Holding company / parent consolidated v. regulated operating subsidiary

# Cost of Capital Issues: Common Equity Cost Rate



# Cost of Capital Issues – Common Equity Cost Rate

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- Not observable in the capital markets
- No guarantee of dividends or any specified return
- Return on Common Equity (ROE) one of most contentious (if not the most) issues in public utility rate cases
- Allowed ROE provides opportunity, not guarantee, of achieving allowed ROE

# Cost of Capital Issues – Common Equity Cost Rate

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- Most common methods / models
  - Discounted Cash Flow (DCF) – Div. Yld. + “g”
  - Capital Asset Pricing Model (CAPM) – Risk Free Rate +  $\beta$  (Mkt. Eq. Risk Prem.)
  - Risk Premium Models (RPM) – Bond Yld. + (Eq. Risk Prem.)
  - Comparable Earnings Model (CEM) – ROEs of firms of comparable risk
- Based upon Efficient Market Hypothesis (EMH)

# Cost of Capital Issues: Pressures



# Common Equity Cost Rate - Pressures

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- Recovery from the “Great Recession”?
- Downward trend in authorized ROEs & credit quality
- Risk adjustments to ROE
- Increasing capital expenditure needs / declining trend in capital investment
- Pressure on Efficient Market Hypothesis (EMH)

# Recovery from the “Great Recession”?

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- Unemployment still very high
  - Claims dropping BUT
  - Rate still high: 9.9% / 16.0%)
  - Some jobs may be lost forever or at least a long time
    - Increasing productivity – less workers doing / producing more
    - Manufacturing, durable goods, construction, retail
- Interest rate levels still low
- Market still in turmoil
- Recent utility stock performance

# Recovery from the “Great Recession”?

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- Interest rate levels still low:

	<u>12/92</u>	<u>04/10</u>
30-day T-Bills	3.29%	0.16%
20-yr T-Bonds	6.77%	3.85%
30-yr T-Bonds	7.44%	4.69%
Prime Rate	6.00%	3.25%
“A” Public Utility	8.37%	5.81%
“Baa” Pub. Util.	8.82%	6.19%

Federal Reserve Statistical Release, H.15, historical data  
Mergent Bond Record

# Recovery from the “Great Recession”?

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- Market still in turmoil
  - VIX Index (volatility of S&P futures)
    - January 2007 – approximately 9 - 10
    - Late 2008 – high of approximately 80
    - May 2010 – approximately 40
  - Impact of European crisis

# Recovery from the “Great Recession”?

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- Recent utility stock performance
  - May 2008 – August 2009, DJU generally outperformed the DJI
  - September 2009 – May 2010, DJI outperforming the DJU
- Declining Market-to-Book Ratios

# Common Equity Cost Rate - Pressures

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- Downward trend in authorized ROEs:

	<u>1992</u>	<u>2010</u>
Electric Cos.	12.09% (48)	10.48% (39)
Gas Distribution Cos.	12.01% (29)	10.19% (29)

- General Upward Trend in Common Equity Ratios:

Electric Cos.	42.6%	46.5%
Combination E&G Cos.	44.5%	43.7%
Gas Distribution Cos.	49.8%	52.7%

Regulatory Research Assoc. (An SNL Co.) / AUS Utility Reports (An AUS Company)

# Common Equity Cost Rate - Pressures

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- Downward trend in authorized ROEs:

	<u>1992</u>	<u>2010</u>
Electric Cos.	12.09% (48)	10.48% (39)
Gas Distribution Cos.	12.01% (29)	10.19% (29)

- Downward trend in utility bond ratings:

Electric Cos.	A	Baa1
Combination E&G Cos.	A	Baa1
Gas Distribution Cos.	A	Baa1

Regulatory Research Assoc. (An SNL Co.) / AUS Utility Reports (An AUS Company)

# Common Equity Cost Rate - Pressures

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- Downward trend in authorized ROEs:

	<u>1992</u>	<u>2010</u>
Electric Cos.	12.09% (48)	10.48% (39)
Gas Distribution Cos.	12.01% (29)	10.19% (29)

- Downward trend in public utility bond yields:

“A”	8.69%	6.04%
“Baa”	8.86%	7.06%

- Implied equity risk premium

Electric Cos.	3.40% (“A”)	3.42% (“Baa1”)
Gas Distribution Cos.	3.32% (“A”)	3.13% (“Baa1”)

# Common Equity Cost Rate - Pressures

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- Risk adjustments to ROE
  - Increasing number of rate / revenue stabilization mechanisms:
    - Weather normalization adjustments
    - Revenue decoupling
    - Margin trackers
    - Conservation adjustment mechanisms
    - Memorandum accounts
  - Perception of risk reducing impact on ROE

# Common Equity Cost Rate - Pressures

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- Increasing capital expenditure needs
  - Replacement / maintenance of utility plant
    - Transmission / distribution systems
    - Generation capacity
  - To meet customer growth
    - New transmission / distribution systems
    - New generation capacity
  - To meet environmental quality standards
    - Ex. --- scrubbers on coal plants

# Common Equity Cost Rate - Pressures

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- Pressure on Efficient Market Hypothesis (EMH)
- EMH --- market prices reflect all relevant information instantaneously
- “Great Recession” --- prime empirical evidence that the EMH is just that: an HYPOTHESIS
- Recent research questions the validity of EMH
- Implications: traditional cost of common equity models (DCF, CAPM, RPM and CEM) don't truly reflect investor behavior
- THEN --- how can we estimate the ROE for ratemaking purposes?

# Cost of Capital Issues: Brave New World



# Brave New World

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- Add tools to the ROE estimation toolkit
- Economic / finance research is developing / testing new ROE models
- Arbitrage Pricing Model (APT) / Fama-French 3-Factor Model (FF3F)
- Behavioral Finance
- Option Market Implied Cost of Equity Model (OMICE)
- Predictive Risk Premium Model™ (PRPM™)

# Brave New World – APT / FF3F

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- Arbitrage Pricing Model / Fama-French Three Factor Model
  - Extensions of CAPM
  - Multi-Factor Models
  - Sensitivity, i.e.,  $\beta$ , to multiple measures of risk
- APT – not yet proposed in rate cases
- FF3F – proposed in California & Nevada

# Brave New World – Behavioral Finance

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- Blend of psychology & finance
- Based on assumption that people should not be expected to behave rationally w/ their investments
- Leads to an overly volatile stock market
- “Stock returns reflect the irrational, but predictable, behavior of humans.”<sup>1</sup>
- Proposed in Wisconsin

<sup>1</sup> Eugene F. Brigham & Phillip R. Daves, Intermediate Financial Management, Thomason/South-Western 2007, p. 106

# Brave New World - OMICE

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- Option Market Implied Cost of Equity Model
  - Explicit use of volatility as determinant of prices
  - Prospective in nature
  - Can capture sudden changes in volatility
  - Implied volatility in options market reflects market's perception of company's ability to provide minimum required capital gain
  - Then derives an equity risk premium above that minimum
- Proposed in New York

# Brave New World - PRPM™

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- Predictive Risk Premium Model™
  - Based upon 2003 Nobel Prize winning work of Robert Engle
  - Based upon a wealth of literature
  - Research empirically tests a recently developed general “consumption” based asset pricing model
  - Theoretical utility analysis in Ahern, Hanley, and Michelfelder (2010) under review at the Journal of Regulatory Economics

# Brave New World - PRPM™

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- Estimates risk / return relationship directly
- Produces a prediction of equity risk premium driven by the prediction of volatility (risk)
- Make investment decisions that maximize utility from the consumption that investors ultimately desire, not returns
- Few restrictive assumptions
- To the extent of our knowledge, never used to estimate cost of common equity capital

# Brave New World - PRPM™

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- Predicted equity risk premium depends upon predicted volatility
- Predicted volatility depends upon:
  - Previous volatility
  - Previous prediction error
  - In other words, volatility changes over time and is related from one period to the next
- Provides an unbiased, ex ante estimate of the equity risk premium
- More testing v. DCF, CAPM & for individual cos.



Questions?

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# Natural Gas Utility Issues - 2010

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Senior Managing Counsel  
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**Deloitte.**

# Regulated Utilities



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