

Analysis of Vermont Alternative Regulation

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Executive Summary – Traditional Regulation

Utilities are regulated because they are **natural monopolies** and provide services **imbued with the public interest**.

In competitive markets, prices are set at costs. **Regulators also seek to emulate some aspects of competitive markets** by setting rates equal to costs. In competitive markets, **efficient firms are profitable, inefficient firms go out of business**.

Traditional regulation is data-intensive and relies heavily on information **transparency and incentives**. Rate cases are the primary means by which regulators attain information about their regulated firms' costs.

Regulatory lag is the primary incentive mechanism associated with traditional regulation. Regulatory lag represents the time period between when a utility's rates are set and their next rate change request.

Rates are set on costs and are fixed in the time period between rate cases: if a utility can **increase efficiencies** between rate cases it can **increase its earnings and profitability** and vice versa, **just like competitive markets**.

Executive Summary – Challenges to Traditional Regulation

Alternative regulation arose to (1) address the informational asymmetries between regulators and regulated firms that can often lead to capital investment inefficiencies (i.e., “gold plating”) and (2) to **institutionalize “regulatory lag”** by making it an active (rather than passive) means of promoting efficient utility performance.

A commonly-recognized aspect of most types of regulation is that **regulators typically have less information than regulated companies** about the true cost and nature of providing service (i.e., “asymmetric information”). The over-capitalization experience of the nuclear power plant development period for electric utilities is a good example of this problem.

In addition, under traditional regulation, **a utility’s ability to maximize its efficiency opportunities within regulatory lag can be potentially constrained** if a regulator pulls the utility in for a rate case and effectively “expropriates” the excess earnings generated by efficiency investments.

Alternative regulation is a process that seeks, in part, to **minimize** these two traditional regulation **deficiencies**.

Executive Summary – Alternative Regulation

Alternative regulation is a modification of, not a substitute for, traditional regulation. This modification seeks to de-emphasize (but not eliminate) the role of rate cases in determining actual utility costs and rates. Alternative regulation typically defines a fixed time period (or program “term”) in which rate cases are avoided in preference of an **alternative method of adjusting utility rates**.

Alternative regulation uses a **formula-based approach** for changing rates during the program’s term. The rates utilized at the beginning of the program term, however, are still set by a traditional regulatory process. It is the process by which rates are allowed to change between rate cases that differs from the traditional approach.

Alternative regulation uses an earnings sharing mechanism (“ESM”) to define the manner in which **efficiency-created excess earnings** will be shared between shareholders and ratepayers (i.e., institutionalizes or codifies regulatory lag).

Thus, **alternative regulation** takes a little of the “**old**” (cost of service ratemaking and regulatory lag) to combine with a little of the “**new**” (formulaic increases in rates and fixed regulatory review periods) to increase the effectiveness of the utility regulatory process for both parties (utilities and ratepayers).

Executive Summary – Vermont Experience

Vermont's two alternative regulation plans (Vermont Gas Systems, Green Mountain Power) have common components that include a fixed term, a formula-based plan for adjusting rates, and an earnings sharing mechanism. There are, however, **two important problems with the current Vermont alternative regulation plans.**

First, the **sharing of risks and rewards** within both plans' various components is not balanced and is **skewed in favor of the utilities.** For instance, the rate adjustment formula for both plans give generous rate adjustments and utilize **very small consumer dividend offsets** (as represented by what is called the "productivity offset adjustment") that might condition the degree to which rates can increase in any given year.

Second, and more importantly, **both plans allow utilities to include large capital investments** to be entered into rates on a dollar-for-dollar basis with little regulatory accountability (as reflected in the lack of annual reporting requirements). The **GMP alternative regulation plan**, however, was recently **modified to address this deficiency.**

Summary of Recommendations

1. Require the Board to open a proceeding to **reconcile alternative regulation plans** between VGS and GMP with the goal of **creating program consistency that balances the risks** between utilities and ratepayers.
2. Limit the **use of capital expenditure cost recovery mechanisms** within the plans:
 - a) No capex mechanisms allowed until **project-specific and financial need** is proven.
 - b) If major capital program costs are allowed, utilities must be required to provide a **detailed set of minimum filing requirements for annual reconciliations** (similar to the recent GMP settlement agreement).
 - c) If major capital program costs are allowed, utilities must **include performance-based measures with penalties for non-performance**.
 - d) If capital program costs are allowed, they must be **subjected to ratepayer protection mechanisms** that include, but are not limited to, total annual investment caps, rate impact caps, minimum filing requirements, and performance benchmarks with penalties for non-compliance.
3. Consider additional modifications to make the Department more **consumer advocacy-oriented**.

Traditional Regulation

Why Are Utilities Regulated?

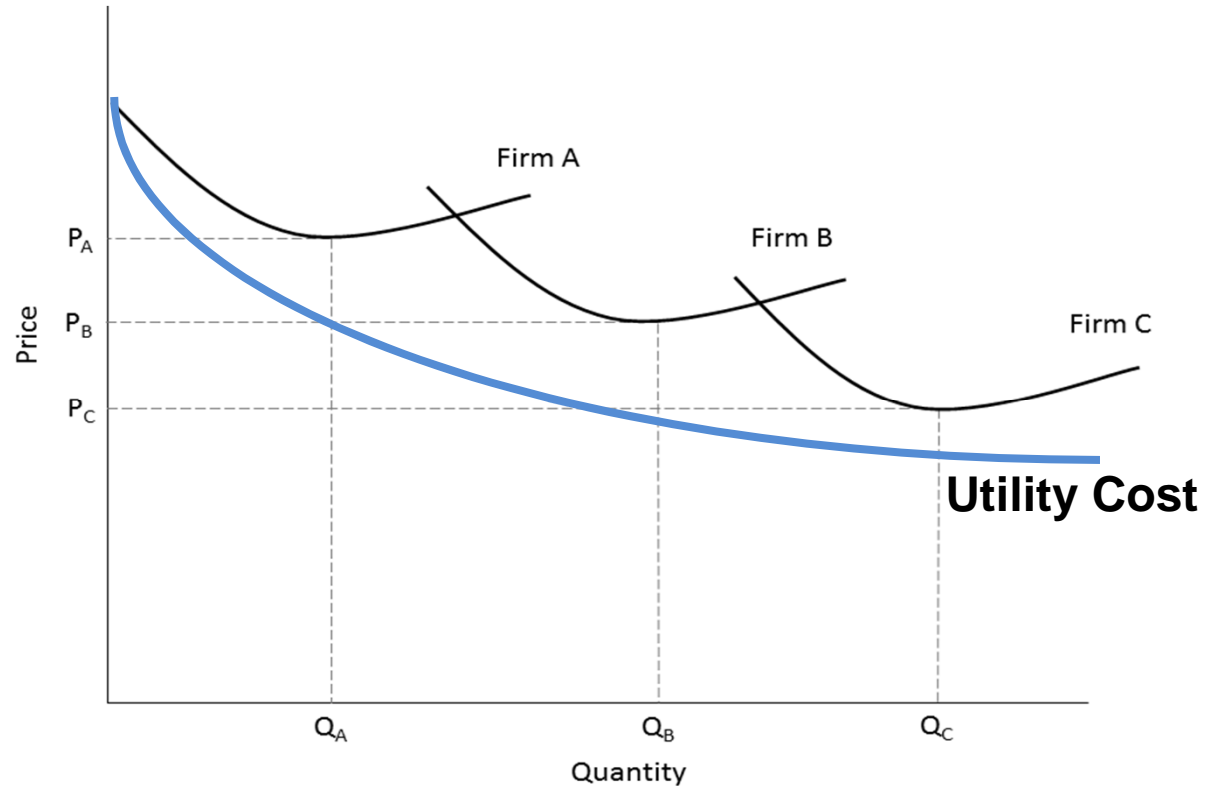
Utilities are regulated for two reasons:

1. Utilities are **imbued with the public interest:** utilities provide critical services (electricity, natural gas) that are essential for a modern economy; and
2. Utilities are “**natural monopolies.**” Utilities have (natural) cost characteristics that allow them to drive competitors out of the market and then price their services at rates higher than competitive markets.

These two conditions serve as the basis for utility regulation.

Utility Natural Monopoly Conditions

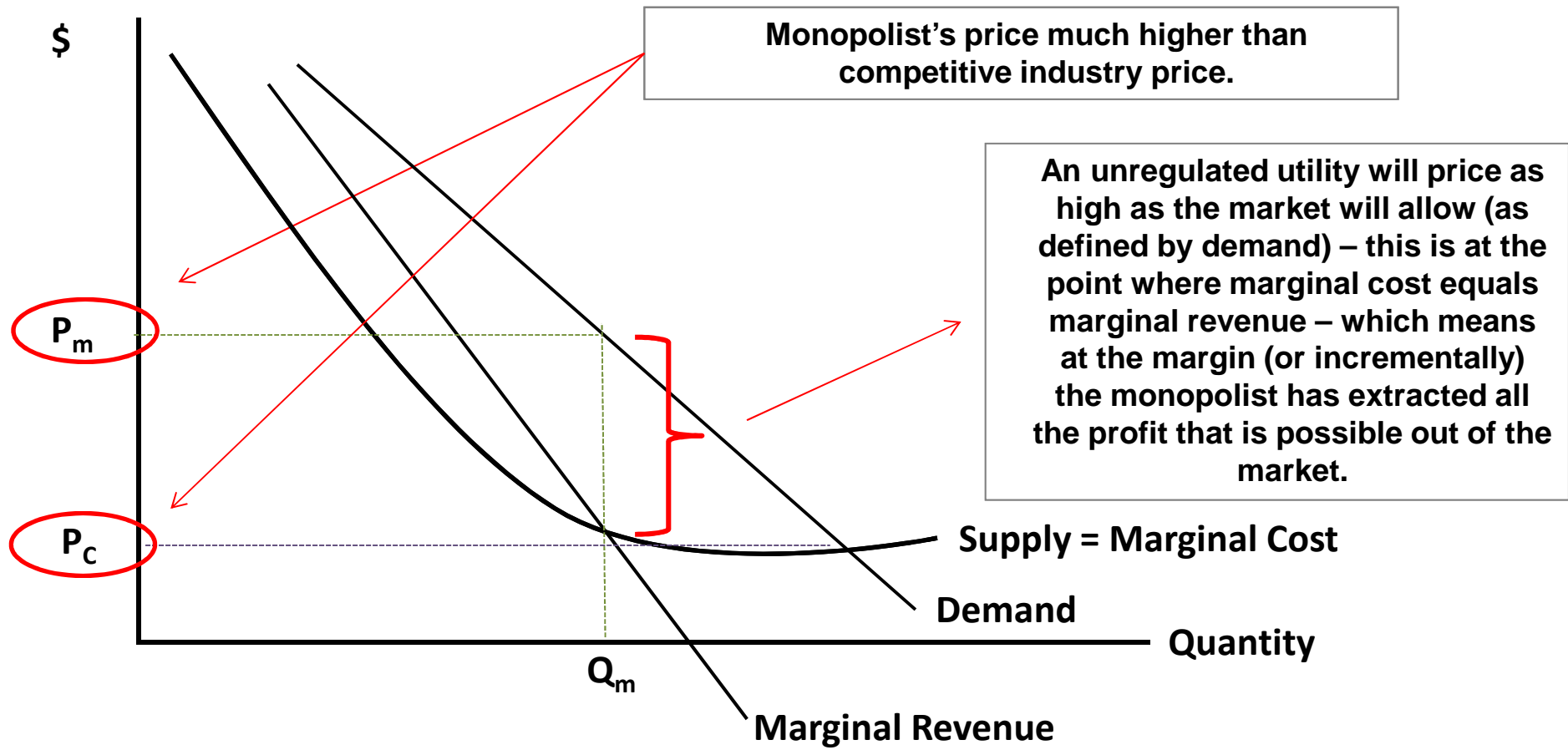
- Natural monopolies have large “economies of scale” which means that a utility’s average costs tend to decrease as output expands.
- This cost advantage allows utilities to squeeze out potential higher-cost competitors.
- This cost advantage also means that the most efficient outcome for society is to let one, low-cost firm serve the entire market.



The problem with only allowing one firm to serve the market is that the single firm becomes a monopolist that has the ability to charge unnecessarily high prices and limit how much it produces.

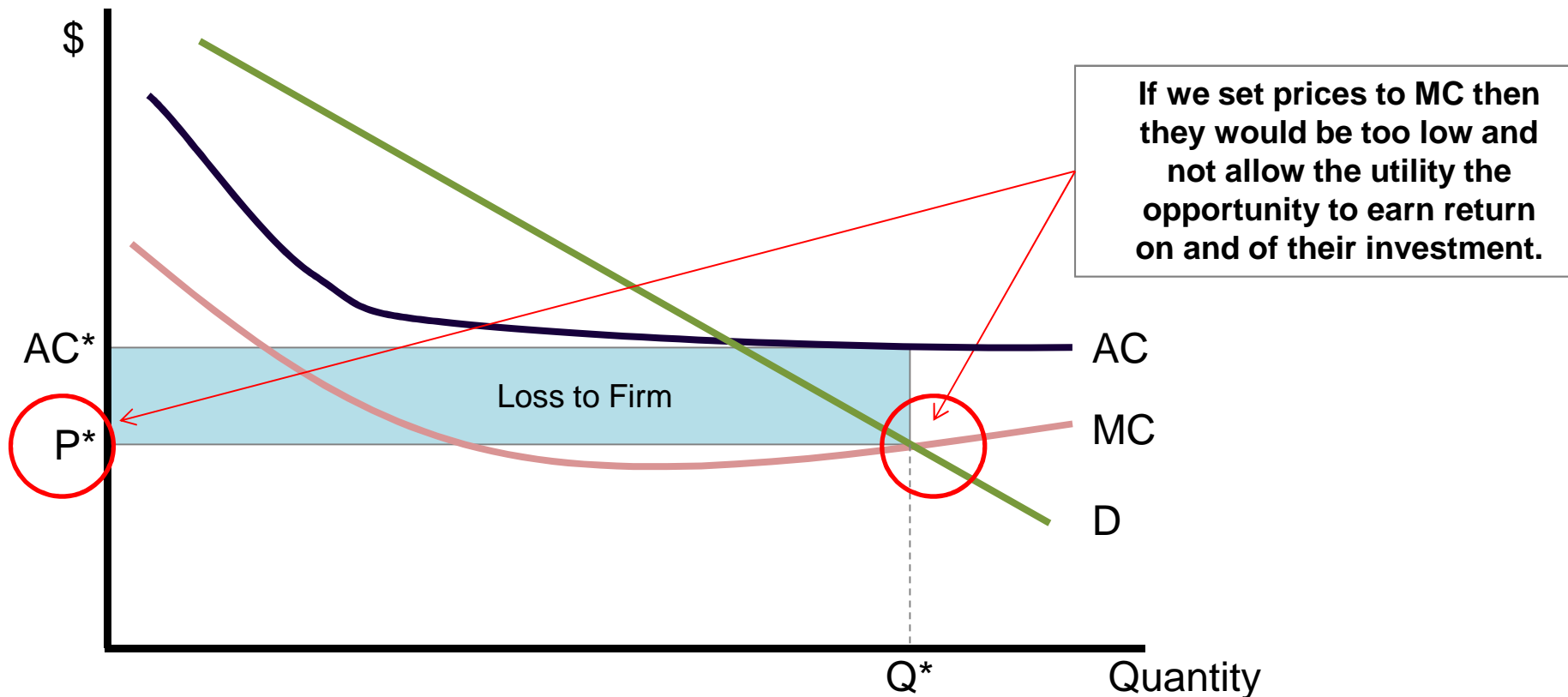
What Would Happen if We Didn't Regulate?

If we did not regulate utilities, they could price far higher than what would normally occur in a competitive market.



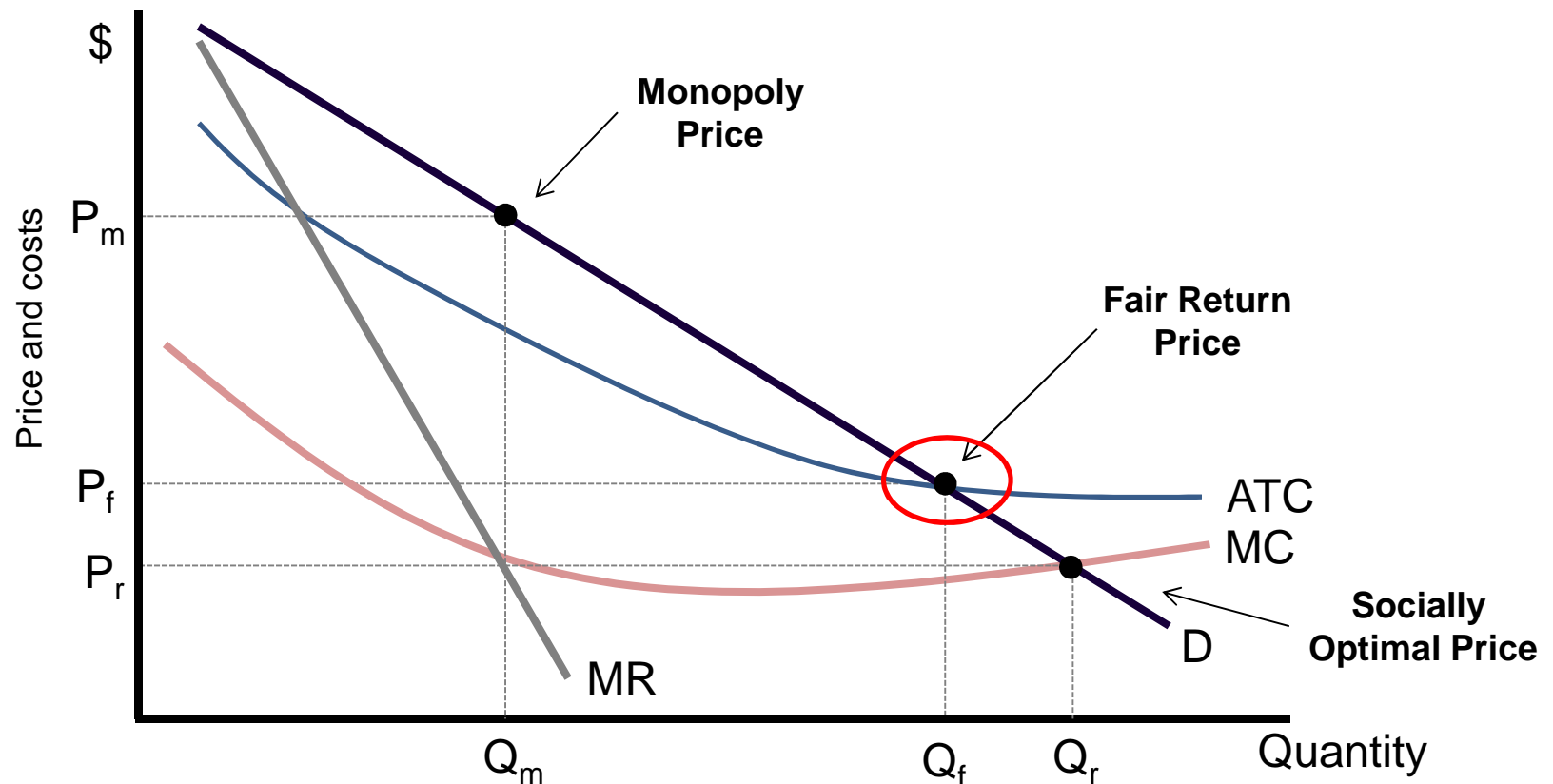
The Natural Monopoly Problem: Setting Prices at Optimal Levels

If competitive industries set prices at marginal costs, why don't we force utilities to simply price their services at marginal costs? Primarily, because they have a large amount of shorter run fixed costs that have to get recovered. If we priced at marginal costs, utilities would go bankrupt.



Comparison of Various Monopoly/Regulated Pricing Outcomes

Regulators, therefore, have to choose prices that reflect some middle ground that give utilities a “fair-return” for their investments. This results in prices lower than what would occur under an unregulated monopoly, but higher than those arising in competitive markets.



Why Regulation?

At the turn 20th century, **many industrialized nations did not adopt a system of utility regulation**, but instead “nationalized” their utility industries. The **state owned these industries** and operated them in the public interest. (i.e., British Gas, Gaz de France, National Grid, Scottish Power, Deutsche Telecom)

Utility regulation in the U.S. started out as a **unique means of maximizing utility industry development and efficiencies**, and reconciling the utility industry’s natural monopoly structure to the American system of **private capital ownership**.

However, U.S. utility regulation is **not just a process of governing rates and services**. The process is often said to be one that attempts to emulate competitive market forces, or serve as a **“proxy for competition,”** in order to maximize potential investment and operating efficiencies.

The Relationship Between Regulation and Competition

Traditional regulation limits the degree, nature, and **timing** of price changes **much like competitive markets**.

For instance, **competitive firms** cannot increase market prices, and if they increase their own prices unilaterally, without any industry-wide cost justification (like input cost inflation), they will likely **lose market share and profits**.

In addition, **competitive firms** that **invest in innovative technologies** that reduce costs and/or efficiently expand their abilities to increase the scope of their services, **can increase market share and profitability**.

Traditional regulation can facilitate similar competitive market outcomes through the **timing** of rate changes (rate cases) and what is known as “**regulatory lag**.”

Regulatory Lag and a Form of Market Discipline

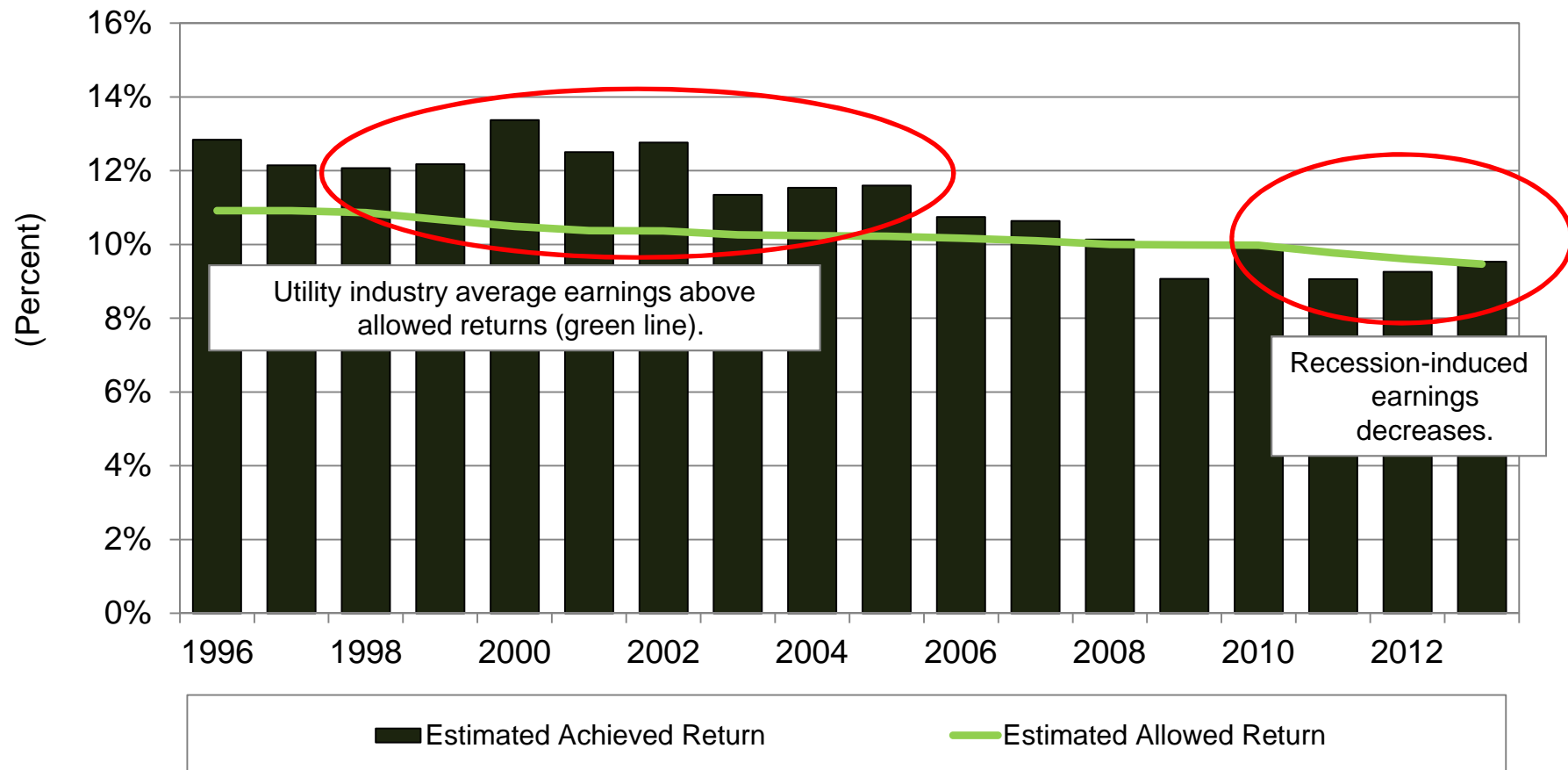
Regulatory lag is the period of time between when a utility's rates go into effect and its next rate case and is an important means by which **traditional regulation** is thought to **inject discipline upon utilities similar to that arising in competitive markets**.

Under traditional regulation, **rates are set on a utility's prudently-incurred costs**:

- If a **utility improves its operating/investment efficiencies** after a rate case, then **the increased profits** associated with these actions accrue to the utility much like they would in a **competitive market**.
- The **inverse occurs if a utility becomes less efficient** or is unable to contain its costs after a rate case: profits will fall much like they would in a competitive market.

Historic Utility Earnings Compared to Estimated Allowed ROE for Industry Overall

Historically, electric utilities (on an industry average), have seen periods where they have clearly benefited from regulatory lag. The 2009-2010 recession, however, challenged achieved utility earnings relative to those allowed by regulators.



Note: Estimated achieved return is calculated as Net Income divided by Proprietary Stock (less preferred stock).
 Source: Federal Energy Regulatory Commission; and Public Utilities Fortnightly.

Regulatory Lag and Risk

Thus, regulatory lag is only “bad” for inefficient utilities. Some utilities have found **regulatory lag beneficial** and have not filed a traditional rate case for time periods that span anywhere from 7 to 15 years.

Regulatory lag, however, can **increase utility earnings risk** since future market conditions, weather, and the opportunities for innovation are not known with 100 percent certainty: but this is also true for many other energy industries, particularly those **operating in competitive markets**.

Further, **utilities get a fair (i.e., market-based) rate of return** to compensate for operating in markets with these types of rates.

Thus, utilities are compensated in two ways for this risk: (1) they are given an allowed rate of return that **factors in these market risks** and conditions and (2) have the opportunity to achieve **some degree of additional earnings through regulatory lag** (assuming they manage that lag successfully).