"Teeing Off" the Discussion on Gas Hedging

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Topics

- Background on gas hedging
- Major policy issues

Historical Overview of Hedging

- Gas utilities have actively hedged with financial instruments since the beginning of this century
- Pressures from state regulators explain much of utilities' willingness to hedge
- Several regulators have articulated that moderate price risk should be an objective of gas procurement and gas supply planning
- A major motivator for utilities to hedge is protection against volatile gas prices for which regulators might hold them accountable (i.e., disallow costs)

Reasons for Revisiting Hedging

- Events since 2008 have raised questions about the future of hedging by gas utilities
  - Do projections of more stable gas prices reduce the benefits from hedging?
  - Does the risk of dramatic increases in wholesale gas costs, except for short periods (e.g., “black swans”), appears lower than what it was prior to 2008?
- We should probably not place too much confidence in what we think we know today; several factors can affect future natural gas prices
- Besides, hedging shouldn’t be about predicting the magnitude and direction of future gas prices; instead, it should depend on the information provided by risk analysis

Reasons for Revisiting Hedging – *continued*

- The high losses of some utilities from hedging with financial derivatives 羊 in the range of hundreds of millions of dollars 羊 is another possible reason for regulators to revisit hedging, and many have
  - ✓ Regulators should expect utilities to realize small losses from hedging in some if not most years.
  - ✓ The pertinent questions are:
    - *When do large losses or prolonged losses reflect events outside the control of a utility? and*
    - *When do they reflect unreasonable or flawed utility actions that make some of these losses avoidable?*

Policy Issues

- Hedging objectives
- Hedging benefits and their relationship to hedging costs and risks
- Least-cost hedging
- Level and timing of hedging
- Physical versus financial hedging
- Alternatives to hedging that achieve the same objectives
- Effects of shale gas development on future hedging
- Utility incentive to hedge and hedge optimally

Policy Issues – *continued*

- Hedging and PGAs
- Proper role of a proactive regulator
- Capabilities of utilities to hedge effectively
- Mechanical vs. discretionary approach
- Upside and downside risk tolerances
- Standards for evaluating utility management and determining cost recovery

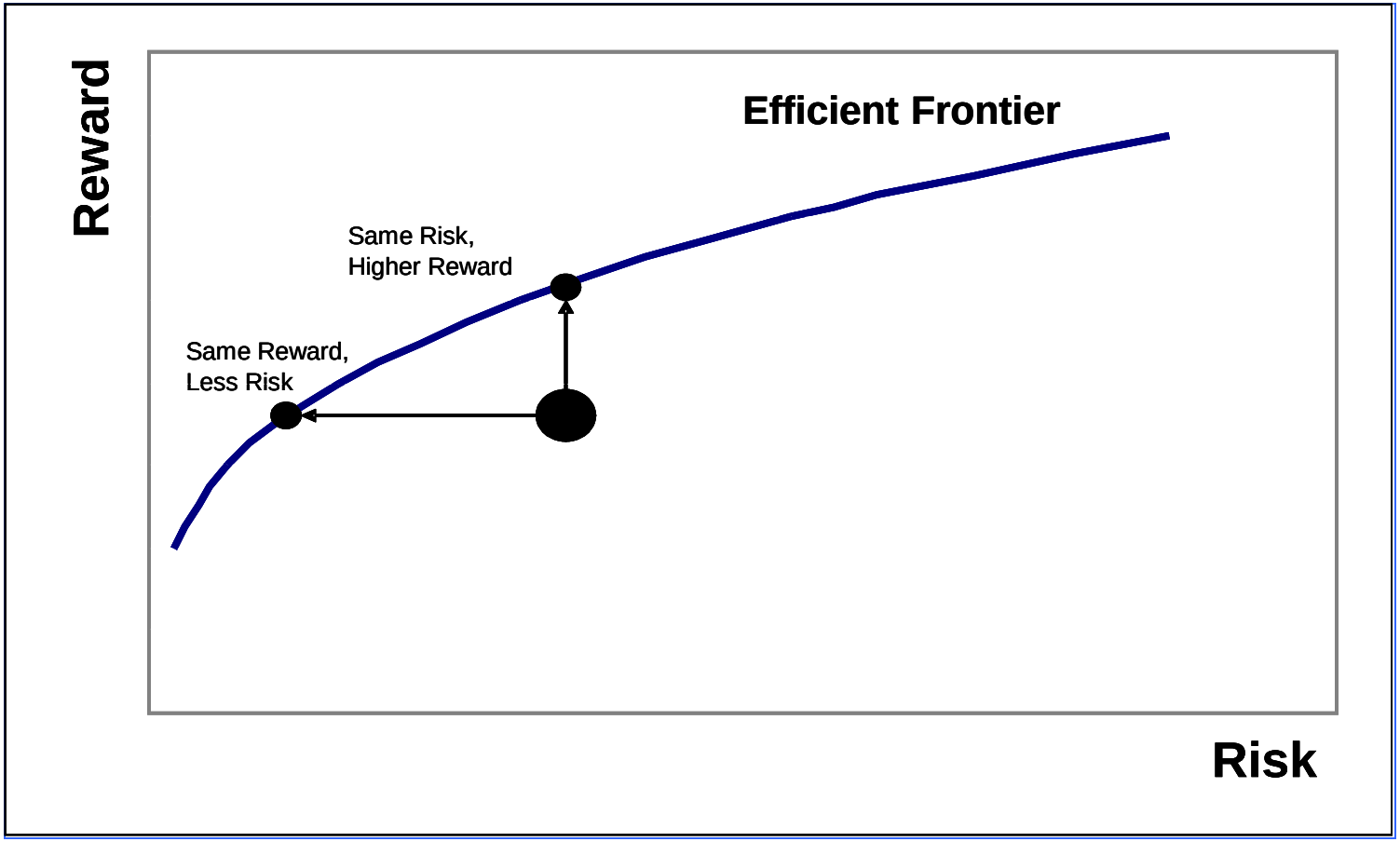
Hedging Objectives

- The appropriate hedging plan starts with specifying the objective
- One agreement is that hedging tries to protect against potential adverse price fluctuations in a market
- The fundamental question is: how much are utility customers willing to pay to have less price fluctuations or, perhaps more precisely, to avoid paying extremely high prices during the winter heating season?
- To say that hedging should mitigate against price volatility neglects to recognize that price declines benefit utility customers
- Any objective should account for both the upside and downside risks of hedging

Hedging Objectives 羊 *continued*

- One tenable objective is to place a cap on the price of natural gas paid during the winter heating season
  - ✓ For example, utility customers might prefer "catastrophic insurance," which is protection from the chances of extreme price spikes
  - ✓ Such protection would reveal a preference for a price-cap approach that minimizes the downside risk (via, e.g., options)
  - ✓ Hedging then protects against upward price spikes while limiting costs in a falling-price environment
  - ✓ Even with risk-averse customers, regulators should not simply conclude that those customers would want to pay to eliminate all price volatility
  - ✓ After all, the economic well-being of the average household is not greatly influenced by its monthly gas bill

Least-Cost Hedging



Level and Timing of Hedging

- Will more stable prices from the abundance of shale gas lessen the future benefits from utility hedging?
- To the extent utilities haven't adjusted their hedging levels over the past five years, current levels of hedging might be excessive
- Some level of hedging is defensible as the possibility 羊 although less than as of five years ago 羊 of periodic dramatic increases in wholesale gas prices can occur because, for example, of weather and regional pipeline bottlenecks
- A so-called Black Swan can also cause prices to go far above current projections; a Black Swan is a highly improbable event that is unpredictable and can have a consequential effect
- One possible problem is the utility purchasing different hedges over a short period and for a short time horizon: such a strategy can impose large losses if the market price suddenly falls leaving the utility with over-priced hedges
- On the other hand, a long time horizon makes future prices inherently more uncertain and unpredictable

Hedging and PGAs

- What "hedging" protection does a PGA offer utility customers?
- In Washington, gas utilities set PGA prices prospectively for the next year
- Potential for large deferrals and "jump" in the following year prices
- Customers not seeing market prices
- Utilities would have an incentive to hedge just to stabilize their cash flow during the period of fixed prices
- Otherwise, if hedging has no risk/reward component for utilities, they have no accountability and face no consequences from outcomes
- How are utility customers benefiting from hedging under the current PGAs?

Proper Role of a Proactive Regulator

- *Taking a pro-active posture*
  - Laying out guidelines or "rules of the road" (e.g., policy statement on the essential components of a hedging plan)
  - Evaluating the reasonableness of a utility's hedging strategy before it is executed
  - Evaluating the prudence of a plan's execution for determining cost recovery
  - No second-guessing and micromanagement
    - Commissions should not (and really should not want to) tell utilities how to hedge
    - Second-guessing is contrary to the traditional prudence standard and, in addition, creates distorted incentives for utility hedging
    - But, according to the prudence standard, a commission should maintain authority to evaluate the reasonableness of (1) a hedging strategy ex ante, and (2) the execution of the strategy

- *Rationale for an upfront review*
  - How much to hedge and how to hedge mainly affect customer (rather than utility shareholder) welfare, thus justifying commission and non-utility involvement
  - Hedging is highly susceptible to second-guessing or opportunism by regulators
  - It should help to narrow the scope and incidence of after-the-fact prudence reviews
  - It avoids placing a utility in a dilemma – no hedging versus hedging with no commission guidance
  - It reduces the chances of a bad hedging strategy from a public-interest perspective

Eight Regulatory Actions Related to Hedging

Regulatory Action	Rationale
Establish regulatory principles for hedging	▪ Articulates commission goals and general criteria for hedging
Set hedging guidelines	▪ Identifies acceptable utility actions compatible with principles
Review filed hedging plans	▪ Allows a commission to understand and evaluate proposed utility actions relative to its principles and guidelines
Approve, acknowledge, reject or modify proposed utility hedging plans	▪ Ensures that the approved plan is consistent with principles and guidelines
Review hedging results	▪ Allows a commission to understand and evaluate actual utility actions
Ask questions about hedging performance	▪ Identifies factors affecting actual hedging results
Evaluate prudence of utility management	▪ Determines utility recovery of hedging costs
Make other decisions based on review of utility hedging activities	▪ Helps improve future regulatory actions

Mechanical vs. Discretionary Approach

- The possibility of significant "regret" from a rigid hedging strategy
- An inflexible (mechanical) plan can limit the ability of a utility to mitigate its hedging losses when events turn unfavorably against the utility
- An inflexible plan makes the utility's hedging less adaptable to changed conditions
- While many hedging experts would advocate for active utility engagement, regulators might feel more comfortable if utilities are less active and more mechanical in their hedging activities
- Regulators might believe that utilities lack the knowledge and expertise to engage in an active hedging strategy
- Some regulators may also believe, although incorrectly, that a utility moving its hedge positions is akin to speculation

Upside and Downside Risk Tolerances

- Any strategy should try to balance the upside and downside risks of hedging to achieve a customer-preferred price range
- The optimal hedging plan depends on utility customers' tolerance for upside and downside risks
- A utility giving up the ability to take advantage of falling and unexpected price declines constitutes a risk of hedging to utility customers
- For example, a utility selling put options or purchasing futures contracts loses the opportunity to benefit when market prices fall below that level
- Many hedging strategies seem to give deficient attention to the downside risk, which may explain why many utilities have experienced large hedging losses since 2008

Standards for Evaluating Utility Hedging

- Hedging resulting in higher prices (*ex post*) to consumers can still be regarded as successful and prudent
- An indicator of success is whether outcomes meet the objectives established in the hedging strategy at a reasonable cost
- As one analyst has commented: "risk is prospective and 'regret' is retrospective"
- How much to hedge and how to hedge are more complicated and subjective than traditional gas-procurement decision-making; thus, hedging is highly susceptible to second-guessing
- Yet, a utility frequently sustaining large hedging losses certainly raises a "red flag" that a regulator should investigate

Standards for Evaluating Utility Hedging 羊 *continued*

- Large losses could result from:
  - ✓ Inflexible hedging strategies (e.g., non-adaptive to changing conditions)
  - ✓ Wrong hedging objective
  - ✓ Little utility accountability
  - ✓ Poor execution or
  - ✓ Failure to account for extreme or unexpected events (e.g., lower than recent historical wholesale gas prices)
- A basic question for regulators is: *Do the benefits from hedging offset the costs?* In some instances, customers have paid dearly for utility hedging in return for non-quantifiable benefits or benefits that ostensibly fell far short of the costs