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# The future of natural gas bid week

Presented to the Ohio Gas Association  
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## Topics to be covered

- FERC actions over time
- Changes to market fundamentals
- Emerging trends for Ohio and the nation
- Role of Argus
- Analysis shows changes in North America
- Decline in one-month trading activity

## How we got here



## Key FERC orders

- 1983 -- 319: Self-implementing transport
- 1984 -- 380: No minimum commodity bill
- 1985 -- 436: Open access
- 1991 -- 636: Unbundling
- 2005 -- AD04-11: Market based-rates for storage
- 2008 -- 712: Capacity release

## Recent major FERC order

### 11/13 -- 787: Gas-electric coordination

- Pipelines, grid operators share non-public information
- No passing on to third parties
- Grid operators must get FERC authorization to share interstate pipeline information with LDCs
- Driver: power grid reliability
- Generators have no interest in purchase of FT

## Results of Order 787

- New England, New York and PJM used Order 787 to improve gas dispatch in winter 2013-14
- But the two markets still don't work hand in glove
  - Duke Energy wants \$9.8mn back
- Gas already is the top fuel in New England, New York
  - PJM, MISO may eventually follow

## NAESB tackles gas-electric changes

- FERC wants two more intraday cycles PLUS a 4am CT start to gas day
- Gas and electric groups could not agree on gas day start
- But the industries are in agreement that one more intraday cycle will suffice
- Consensus deadline is late September

Recent history

## Bid week existed for specific reasons

- Transfer and use of well logs and flow data
- Determine purchase quantity, available transportation
- Reservations of transport (mail, phone, fax, EBB)
- Price discovery, trading
- Pipeline confirmation

# Evolution from bid week has been in play

- Traders respond to reliable storage data
  - Hedge funds
  - Commodity index funds
  - And the traditional parties
    - Producers
    - Marketers
    - LDCs
    - Generators
    - End-users
- Capacity release
- Around-the-clock electronic execution

## Some are dissatisfied with bid week tools

- Fixed price, physical basis, indexes have been used for almost 25 years
- Physical basis trades, used for index calculation, based on Nymex Henry Hub expiration day
- All have drawbacks if Nymex is volatile near expiry
- Common complaint: early basis (trigger) deals deviate from later fixed price trades which comprise the index

## Positive developments occurred since 1985

- Self scheduling, end to pipeline sales gas
- Low barriers to entry
- Cycles of margin compression



# Undesirable outcomes could not be avoided

- Credit risk
- Moral hazard
- Regulatory risk
- Atomized markets



# Gas proliferates after deregulation

- Marcellus domination
- New play: Bakken
- Gas patch persistence
  - Barnett
  - Haynesville
  - Eagle Ford
  - Fayetteville
  - Woodford
- Unreachable...for now
  - New York State
  - Monterey (Calif.)
  - B.C. interior (Canada)
  - Hubei province (China)
  - Hoback (Wyo.)
- Uncertain
  - Niobrara (Colo.)
  - Utica

## Fundamentals have changed

	1983	2013
Dry production	16 Tcf	24 Tcf
Consumption	16.8 Tcf	26 Tcf
Population	234 mn	316 mn

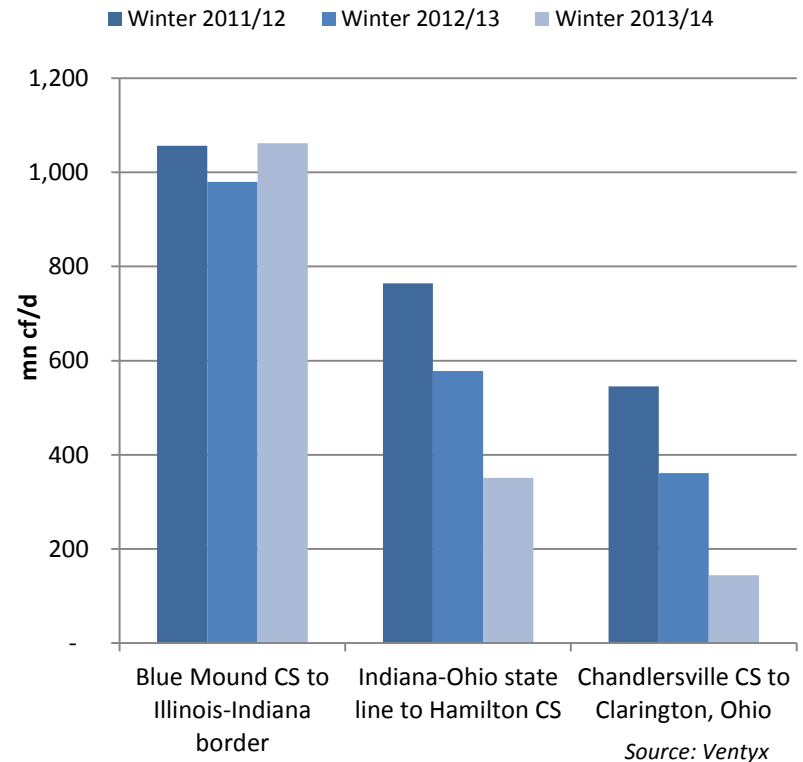
Impact in Ohio and the midcontinent

## Emerging trends: Marcellus

- Philadelphia-NYC reaps benefits
- Transco zone 5 does not
- Rising production continually weakens basis
- Utica methane, NGLs a great boon

# Rockies Express flows drop on Marcellus growth

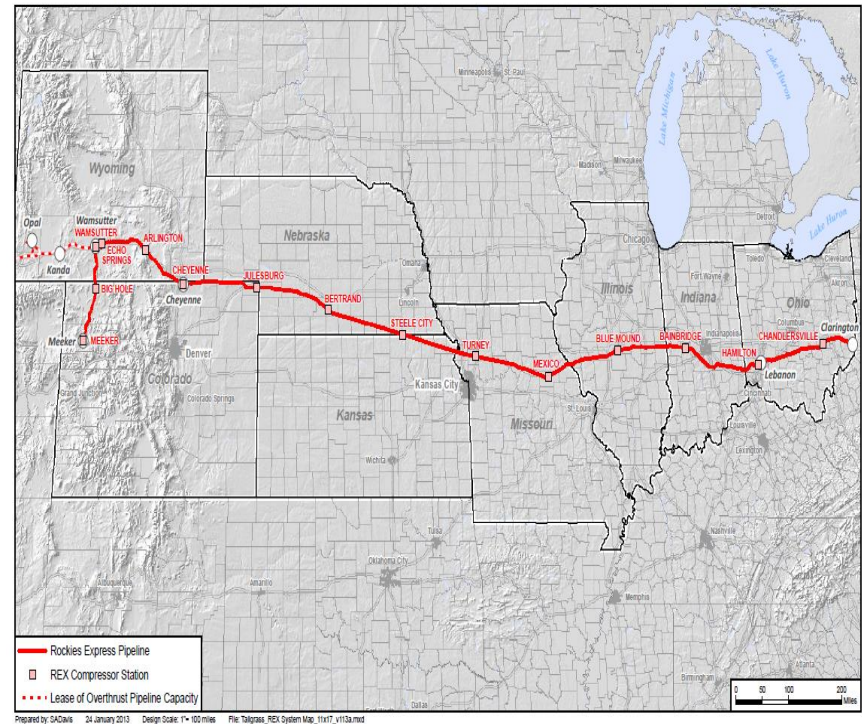
- Flows at far eastern end of Rockies Express down since 2011
- Marcellus displaces demand for Rockies supply
- Extreme cold in winter 2013-14 boosts flows in Illinois



# Rockies Express advances east-to-west project

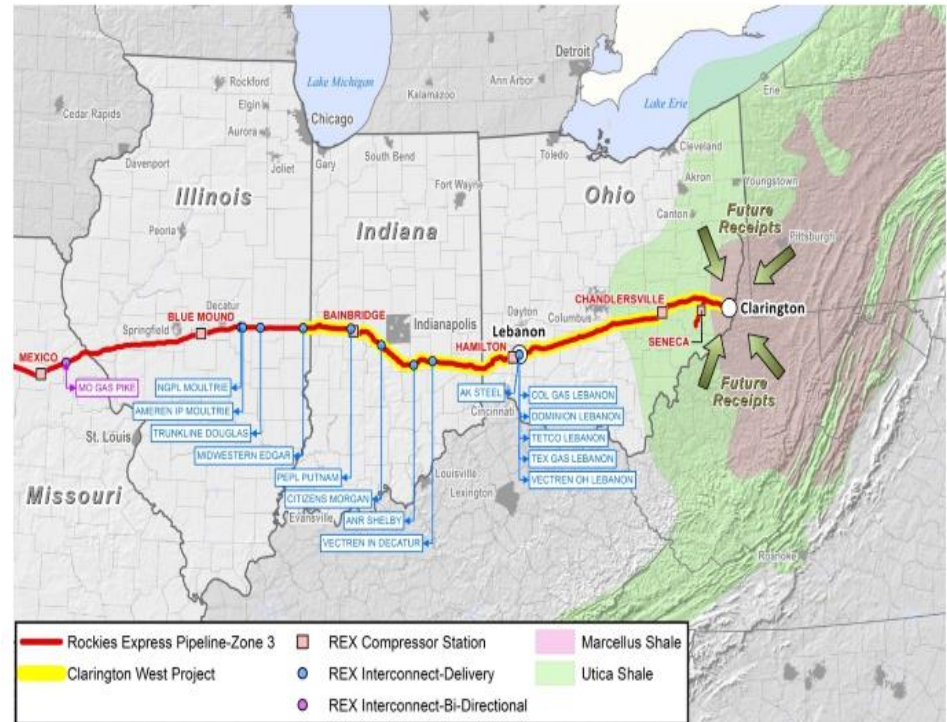
- 1.2 Bcf/d westbound capacity in zone 3
- Bidirectional between Moultrie County, Illinois and Clarington, Ohio
- FERC application filed 10 June 2014
- Seneca lateral flowing in June 2014

Rockies Express Pipeline



# Appalachia producers drive east-to-west project

Rockies Express east-to-west zone 3 project	
Shipper	Capacity (Bcf/d)
American Energy	0.53
EQT	0.29
Gulfport Energy	0.17
Rice Drilling	0.17
<b>Total</b>	<b>1.16</b>



Source: Rockies Express Pipeline

# Utica production ramps up to 0.9 Bcfe/d in 2014

- 1Q 2014 production from Ohio's Utica shale reaches 867mn cfe/d:
  - 748mn cfe/d - Natural gas and NGLs (86pc of output)
  - 21,678 b/d - Crude (14pc of output)
- 406mn cfe/d Chesapeake Energy, 177mn cfe/d Gulfport Energy, 106mn cfe/d Antero Resources
- Utica 1Q 2014 output up by 56pc from 4Q 2013
- 2012 output at 45mn cfe/d

## Emerging trends: Midcontinent

- Higher prices than Gulf, Northeast in winter
- Reduced production from US, Canada
- Storage benefits are more evident
- OK, KS output not net add to shale gale

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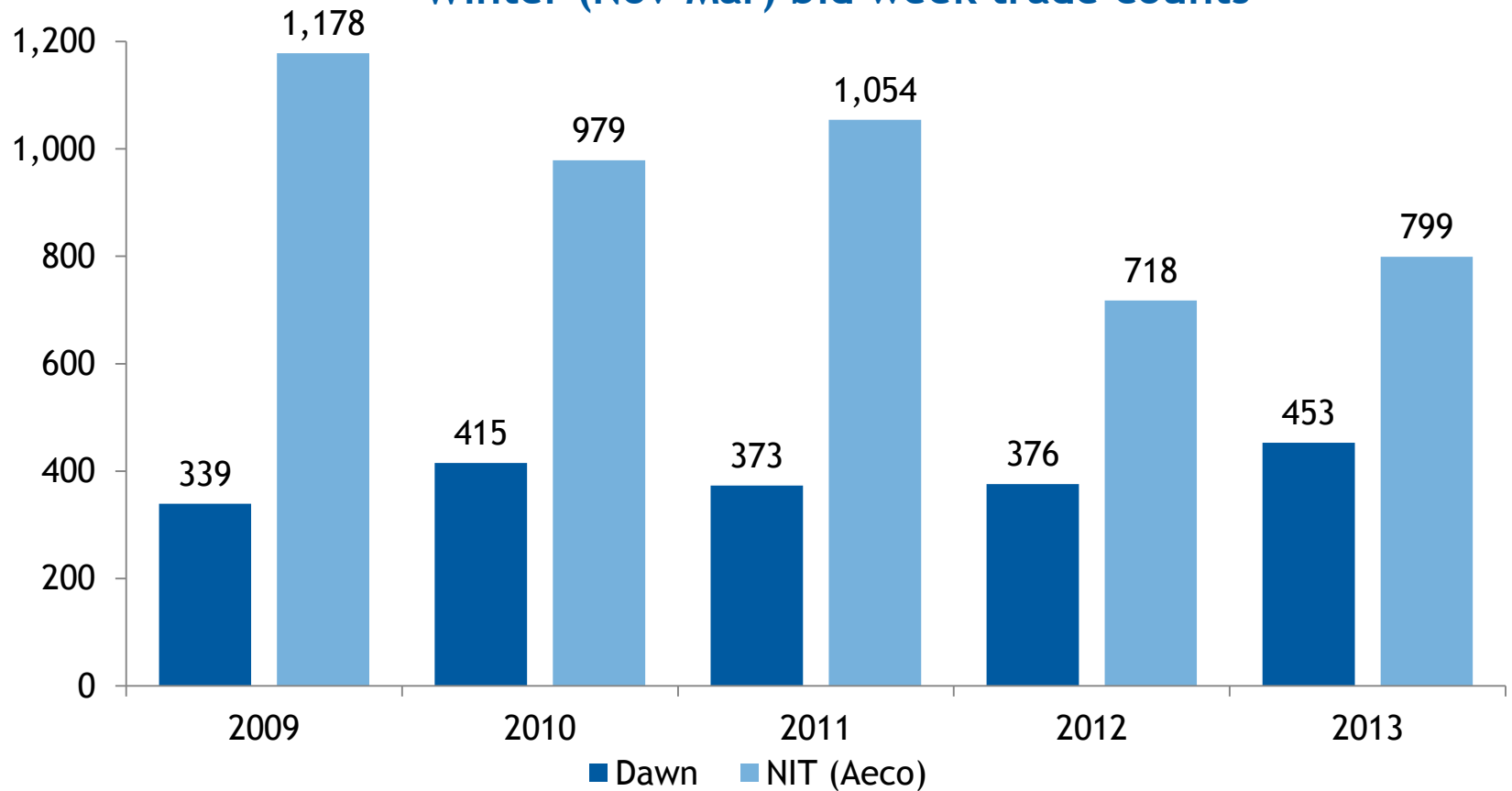
# FERC PL03-3 creates new indexation order

- Gone are
  - Faxes
  - Phone calls
  - “Survey” method
- Reduced importance
  - Volumes ending in 000
  - Daisy chaining
  - Pools/Zones/Hubs
- New Emphasis
  - Data quality
  - Transparency
  - Auditability
- Successful firms
  - Specific volumes
  - Meter numbers
  - Real customers

Bid week activity has declined

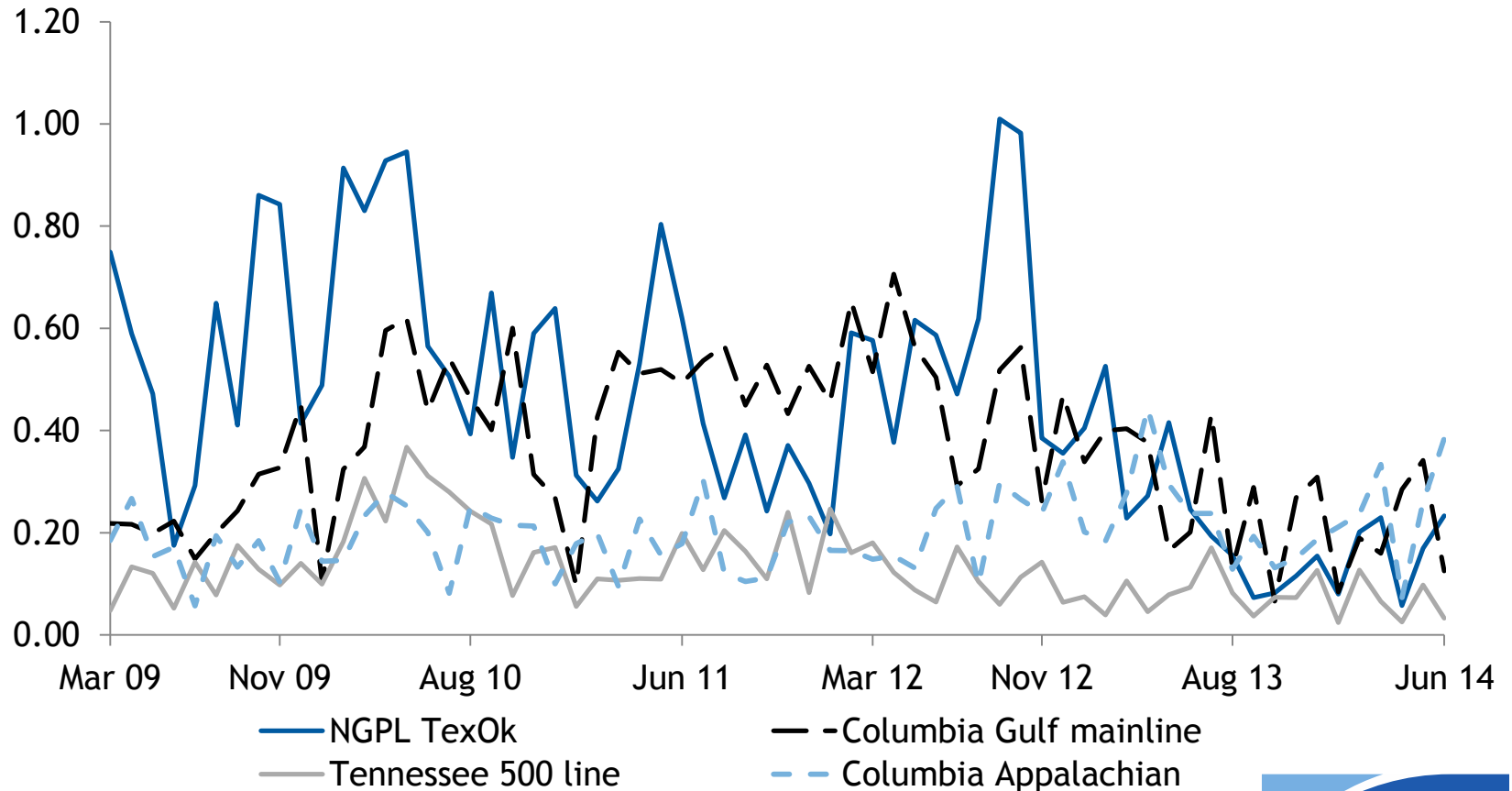
# Canadian trading has changed

## Winter (Nov-Mar) bid week trade counts



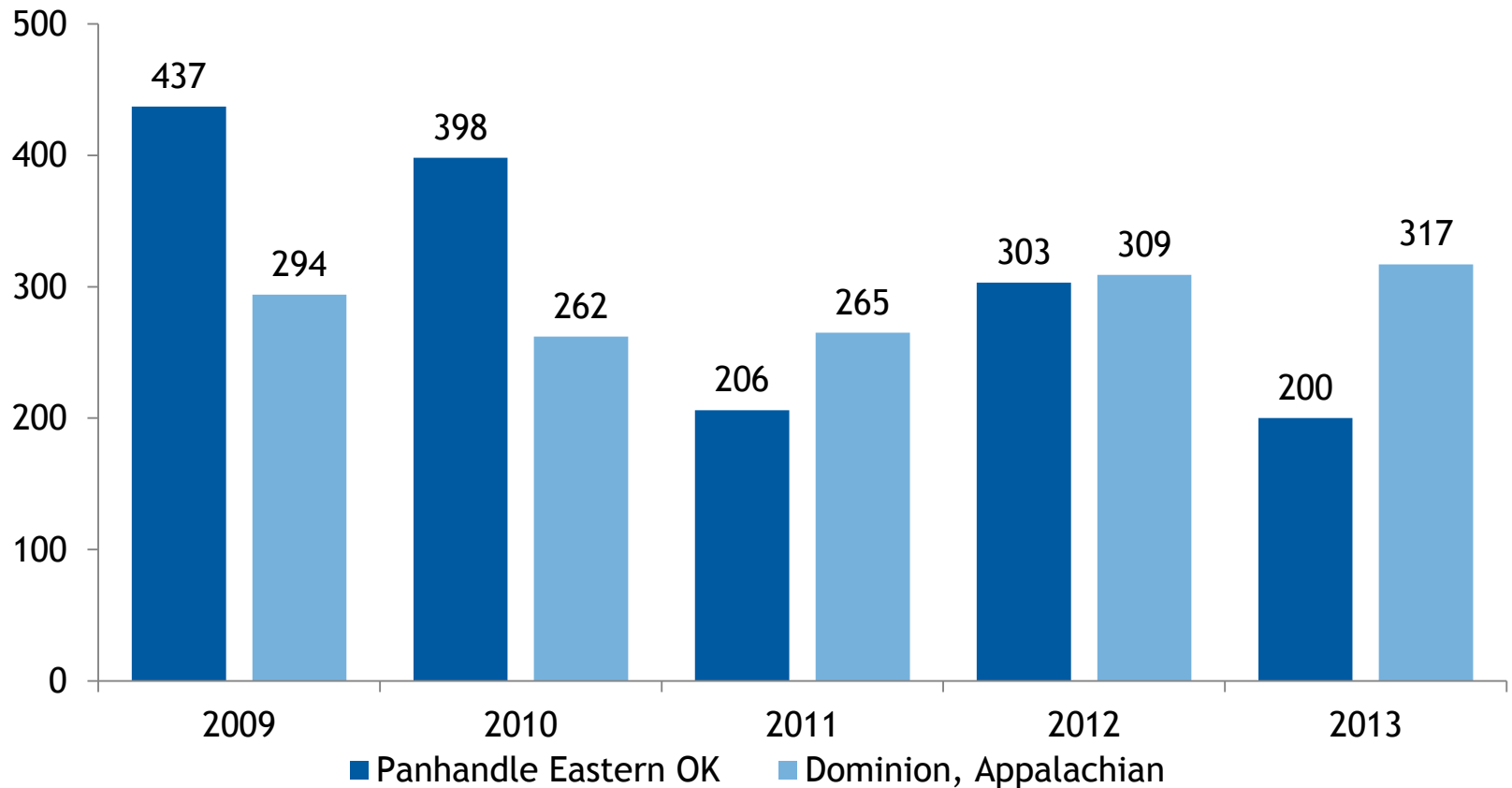
# Some hub trading volumes have declined

Bid week volumes, mn mmBtu/d



# Dominion, Panhandle winter deals are down

## Winter (Nov-Mar) bid week trade counts

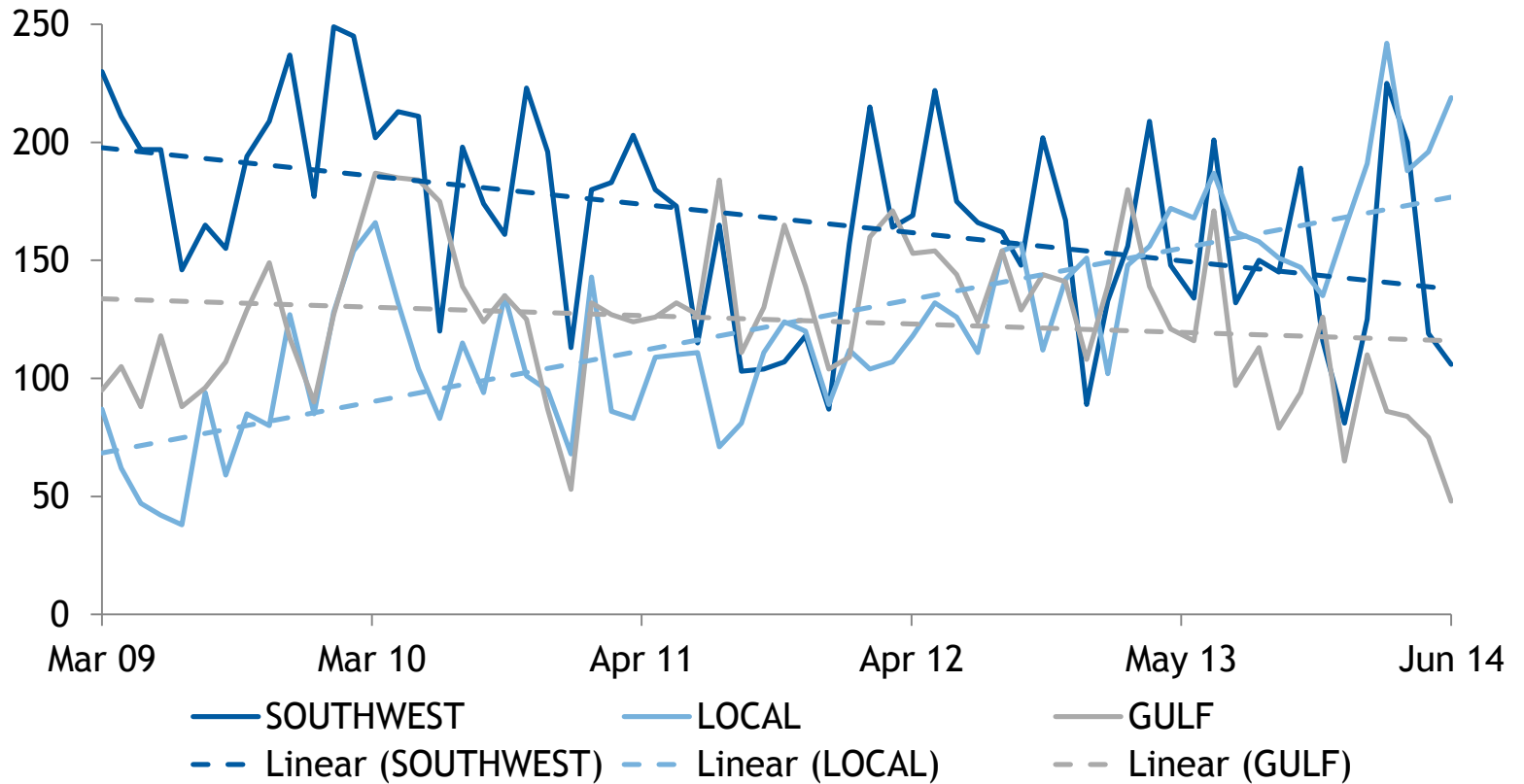


## Scope of analysis influenced by many factors

- Argus is one North American gas index publisher out of several
- Census methodologies are identical
- Data contributors come and go
- There are barriers to participation
- Economic changes: consumption, technology

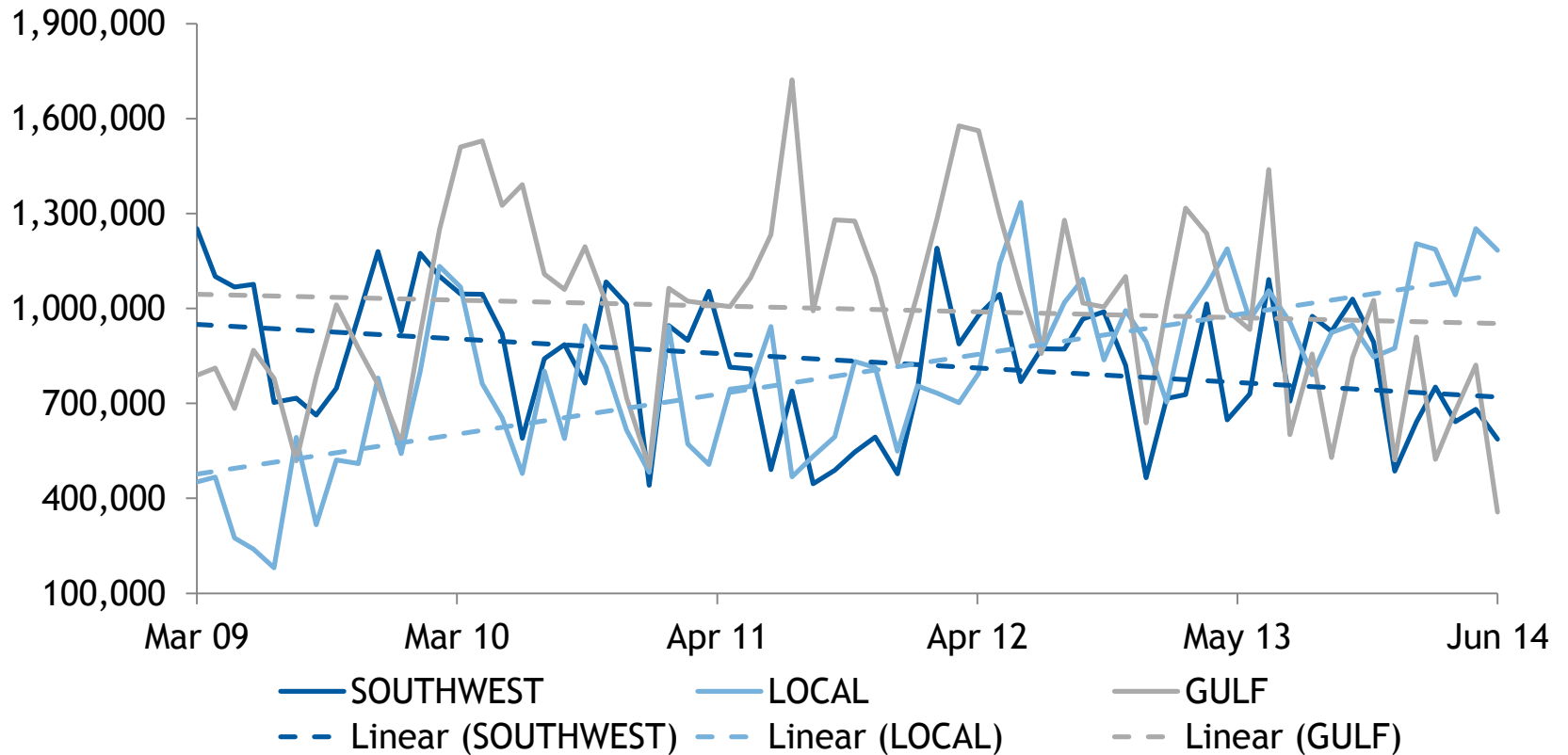
# Marcellus gas needs a home

## Trades



# Marcellus gas replaces traditional sources

Volume, mmBtu



# Bid week has become less important

- Most volumes, trade counts fall over four years
- Notable exceptions
  - Eagle Ford: NGL, Transco
  - Marcellus: mostly markets off of Tetco, Transco
  - Tennessee Gas Pipeline, all zones
  - Rockies: CIG, NW, Kern/Opal, Cheyenne hub, Malin
  - Deep South: Transco zone 4, SoNat
  - Mich Con

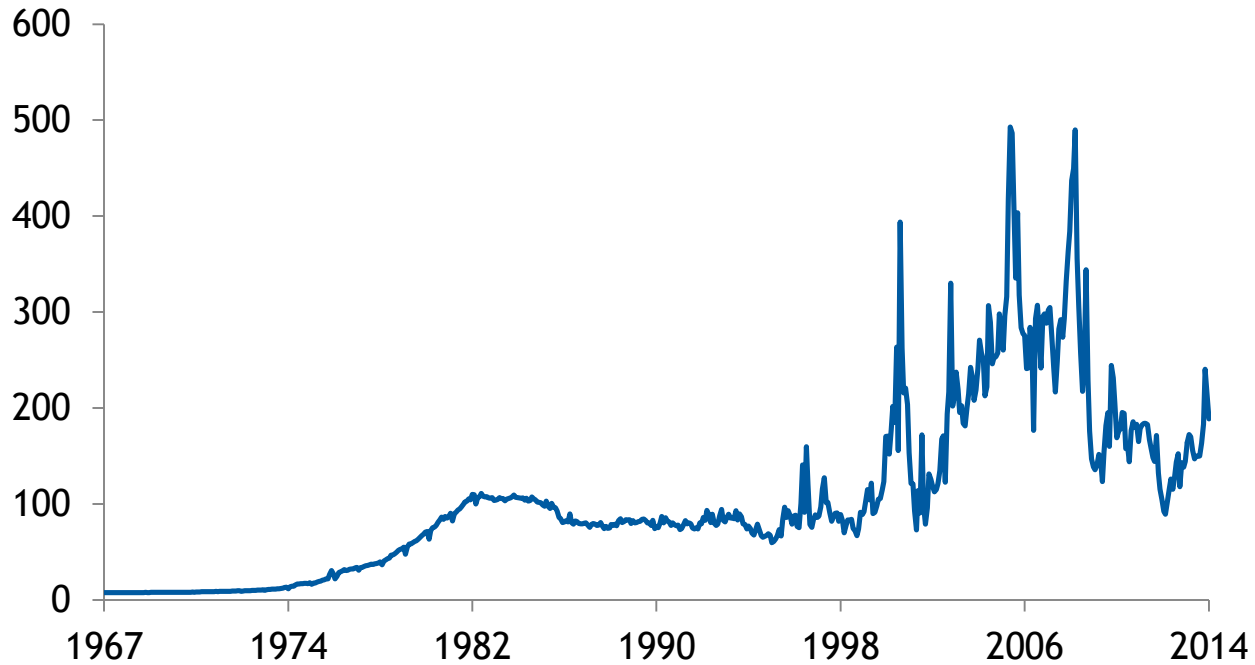
# Does relative value drive contracting practices?

- Henry hub monthly spot cash in \$/mmBtu
  - May 1990 (first month futures delivery): \$1.49
  - November 2013: \$3.49
  - June 2014: \$4.62



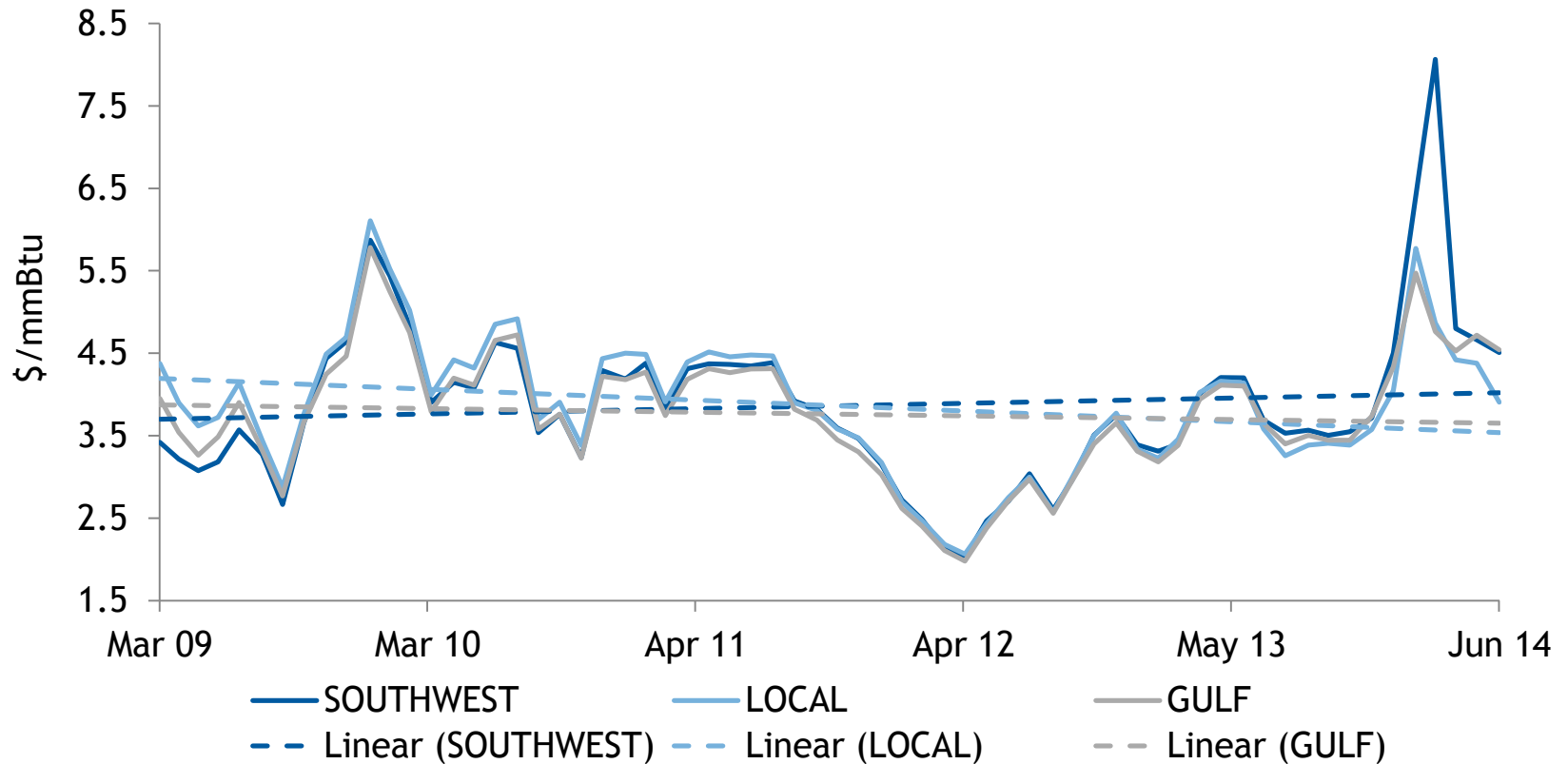
# Prices reflect market changes

## Natural Gas US PPI

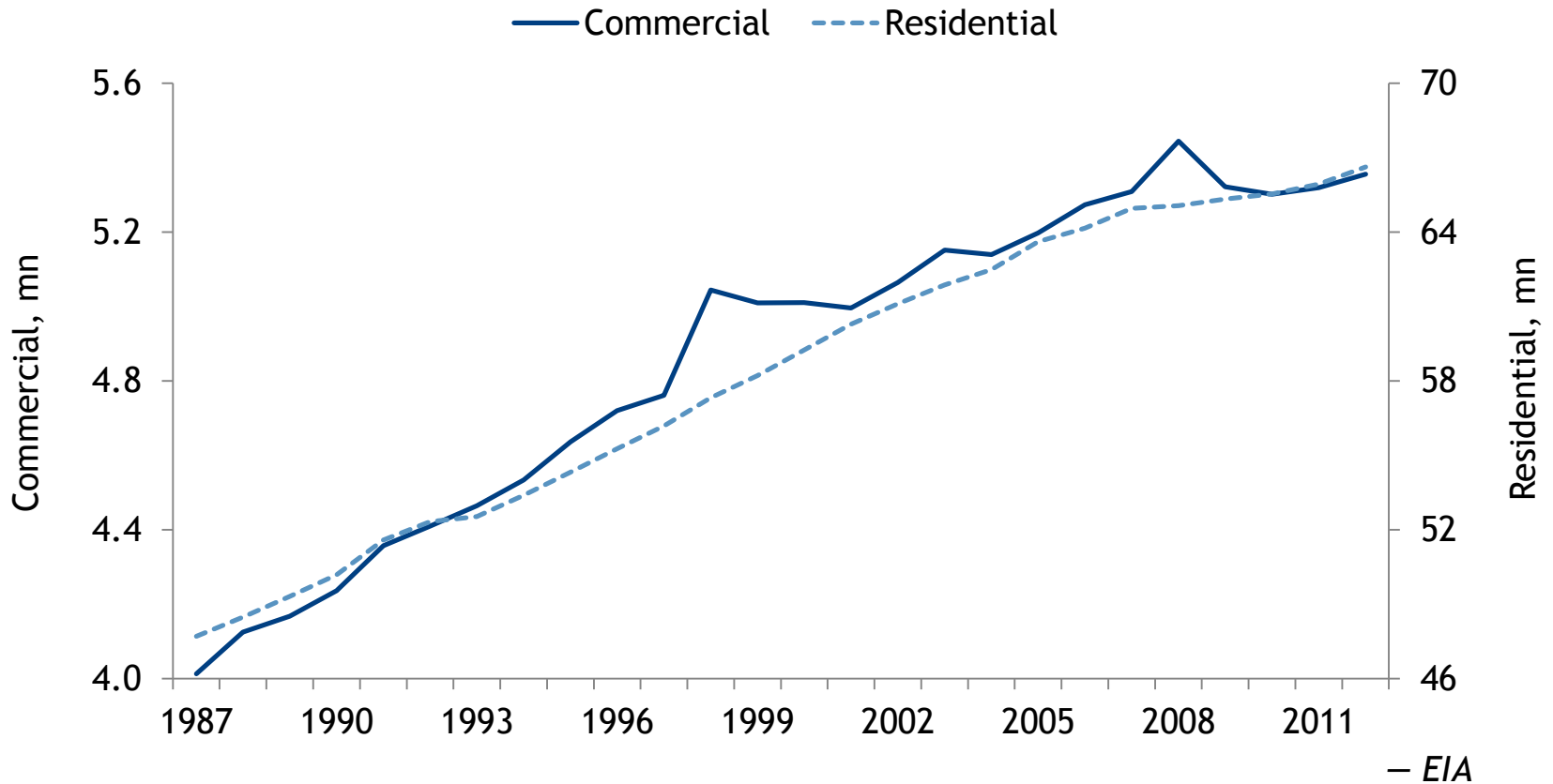


# Price does not account for bid week trend

## Prices

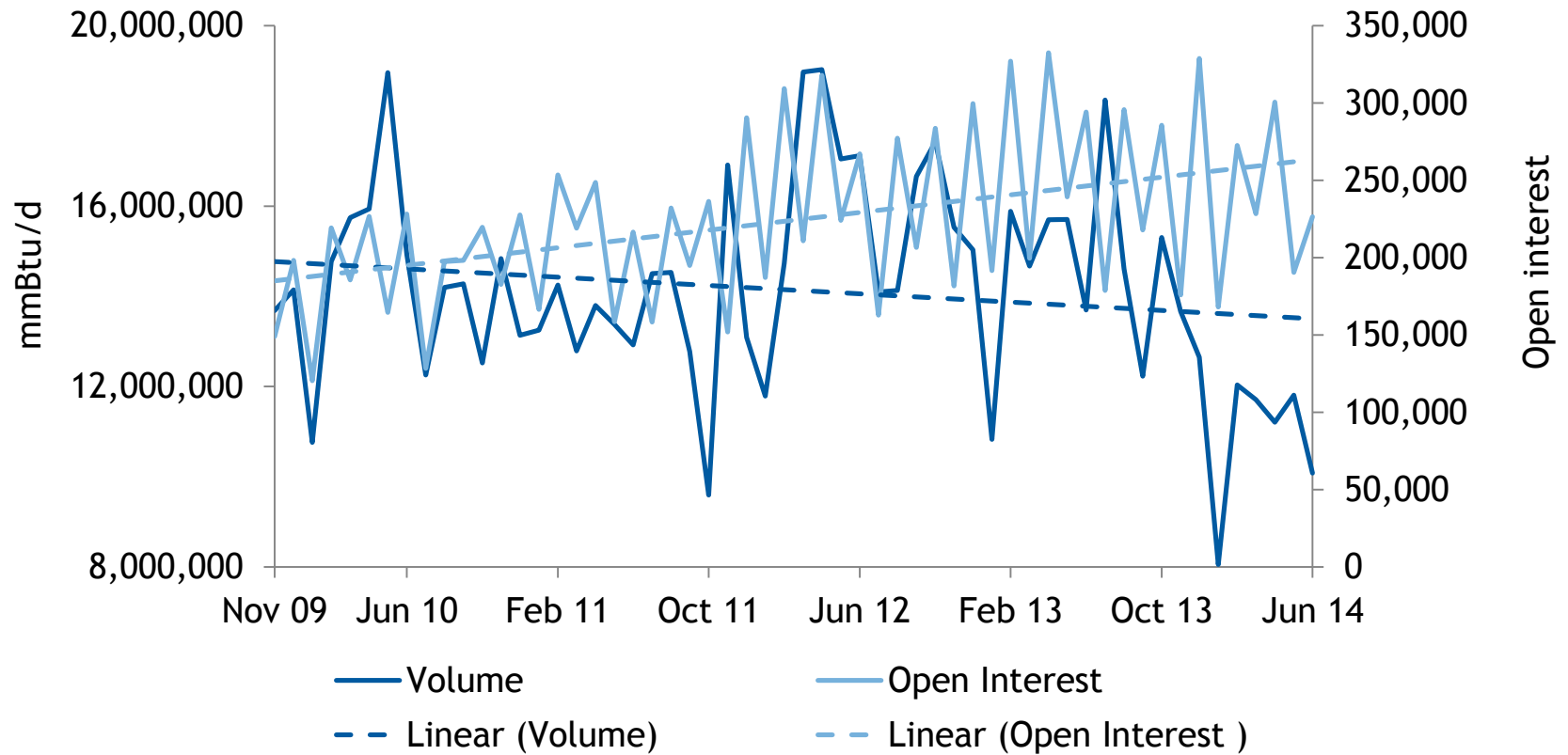


# Number of US natural gas customers rises



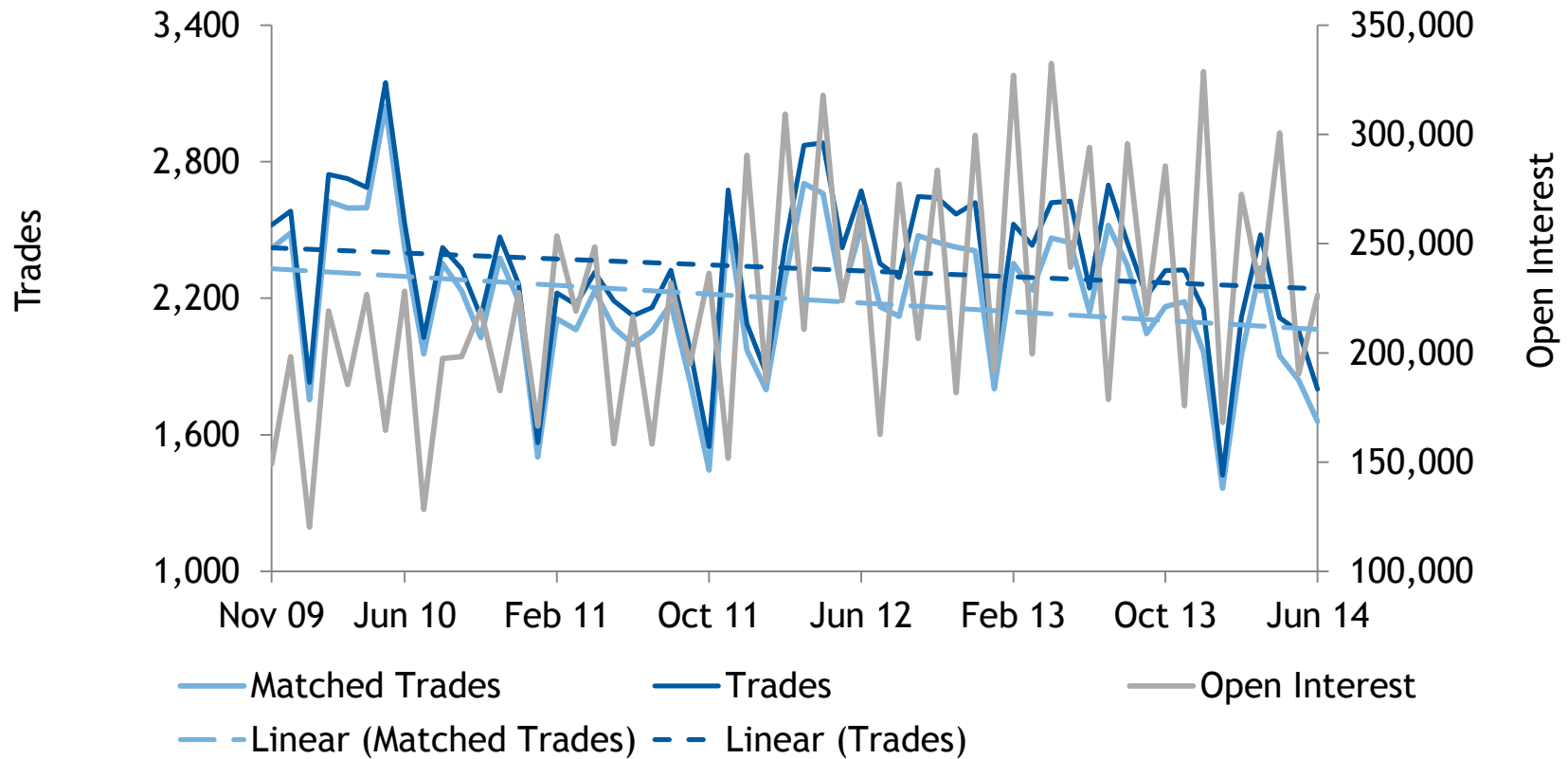
# Nymex, bid week volumes diverge

## Bid week volumes vs. Nymex prompt open interest



# Weak correlation of Nymex, bid week trades

## Bid week trades vs. Nymex prompt open interest



## Regression results: 56 monthly observations

- Matched trades-open interest as prompt
  - R square 0.018
  - Correlation function is insignificant
- Matched trades-bid week volume-open interest
  - R square 0.784
  - Can be seen as meaningful with change to function

## “Bid week” suffers as industry succeeds

- Ubiquitous supply
- Deregulated, plentiful storage and transport
- Some major participants say they do not use it
- Why not use other options?
  - Daily
  - Asset Management Arrangements
  - Term contracts favor buyers

# Difficult to foresee changes for bid week

- Regulators understand indexing
  - Hedging forces contested evaluation of
    - Purchase
    - Hedge
    - Index
- Stable market conditions
- Utility focus may be elsewhere
  - Decoupling
  - Other initiatives

# Key Takeaways

- Natural gas pricing mechanisms
  - Driven by regulation, legacy
  - No longer constrained
- Variety of supply, transport, contract choices
- Bid week loses significance, BUT
  - The mind of a regulator is hard to change
  - Some gas is still searching for a home in bid week

| Any questions?

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