

# Verification of the UGA Logging Cost Index

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# Background

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- ❑ In 2012, we interviewed southern loggers to develop a logging cost index.
- ❑ No recent data on the composition of the logging industry across the South – only occasional state surveys.
- ❑ Need to assess accuracy of the index and representativeness of our logger sample.

# Interview Results – 2012

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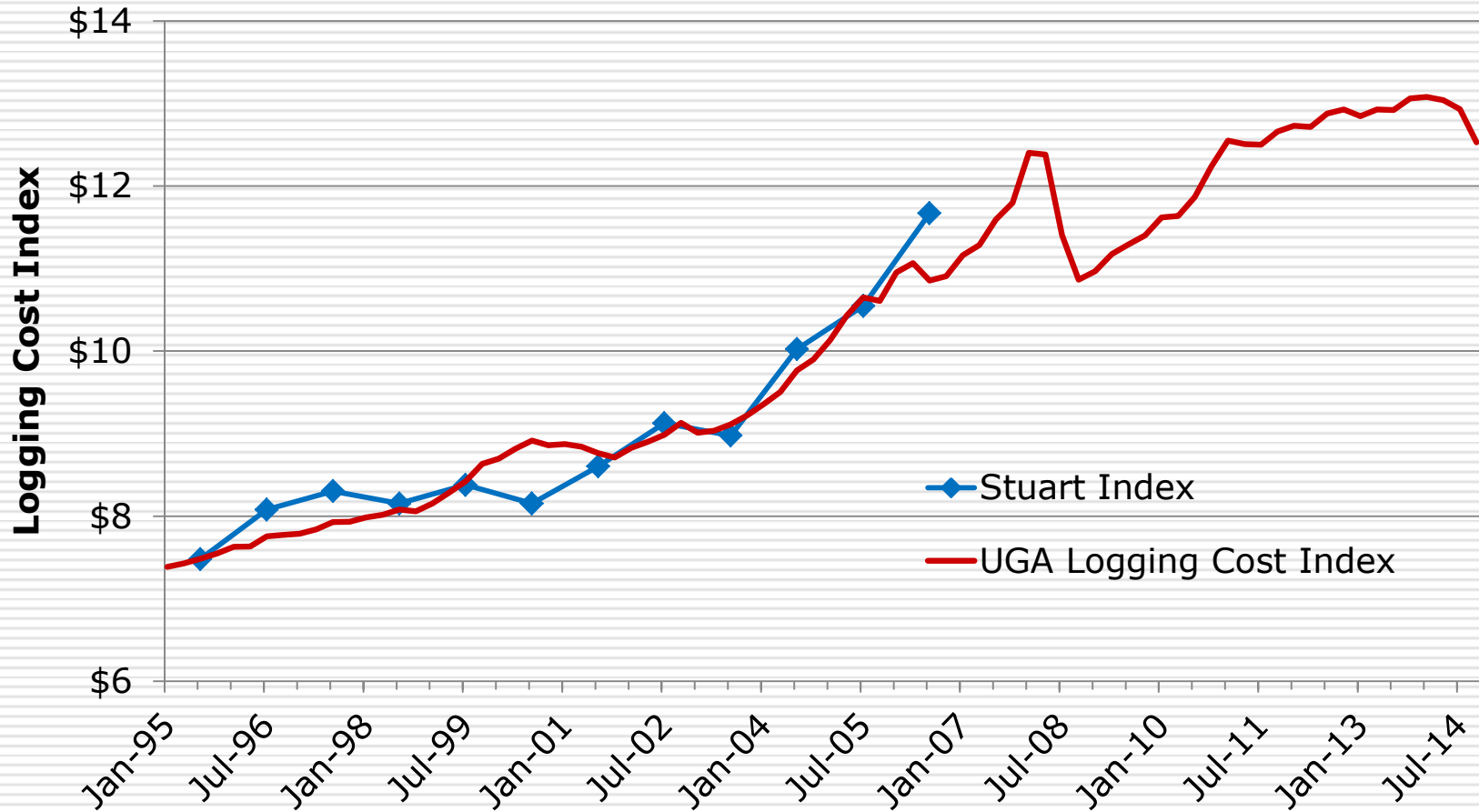
- ❑ 23 contractors (July – Sept.), 19 shared cost data
- ❑ Companies averaged 21 employees with 12 in the woods
- ❑ All contractors used feller-buncher/skidder/knuckleboom systems
- ❑ 45% of hauling was contracted

# UGA Logging Cost Index – 2013 start

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- ❑ Developed an index of cut & load cost/ton
- ❑ No hauling cost included
- ❑ Initial value was 4Q 2011
- ❑ Reported quarterly in Timber Mart-South since 1Q 2013
- ❑ Replaces the index reported by Stuart & Grace annually

# UGA Logging Cost Index



# Research Objectives

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- ❑ Determine the characteristics of loggers in each region of the country.
- ❑ Assess the accuracy of online survey methods for logging contractors.
- ❑ Validate the UGA Logging Cost Index with contractor cost data.

# Online Survey Information

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- ❑ Rapid survey (less than 20 questions)
- ❑ Basic business details
  - Employees, production, crews, harvest systems, etc.
  - Years in business, owner age
- ❑ This provides a basis for comparison between regions
- ❑ Also solicit participants willing to be interviewed and share cost data to support & validate the cost index

# Results – Disappointing

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- We had 42 responses nationwide, 23 completed, 13 volunteered for interviews.
  
- No responses from West region.



# Regional Breakdown

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Region	Responses
Lake States	3
Northeast	5
South	20
West	1

- Poor response in all regions
- Loggers in 12 states
- No more than six from one state (VA)

# Online Survey Conclusions

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- The logging industry is not ready for a purely web-based survey
  - Asking magazine readers to type web address was unsuccessful
  - Direct email of weblink also brought little response
- Inadequate response to determine the representativeness of the logging cost index sample

# Index Validation

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- ❑ Initial interviews provided data for only one year (2011)
- ❑ The UGA Logging Cost Index was matched to historical trends from the Stuart index to determine its accuracy
- ❑ UGA Logging Cost Index has covered the last three years
- ❑ Can compare the calculated index values against actual cost records of contractors from 2012 and 2013

# Methods

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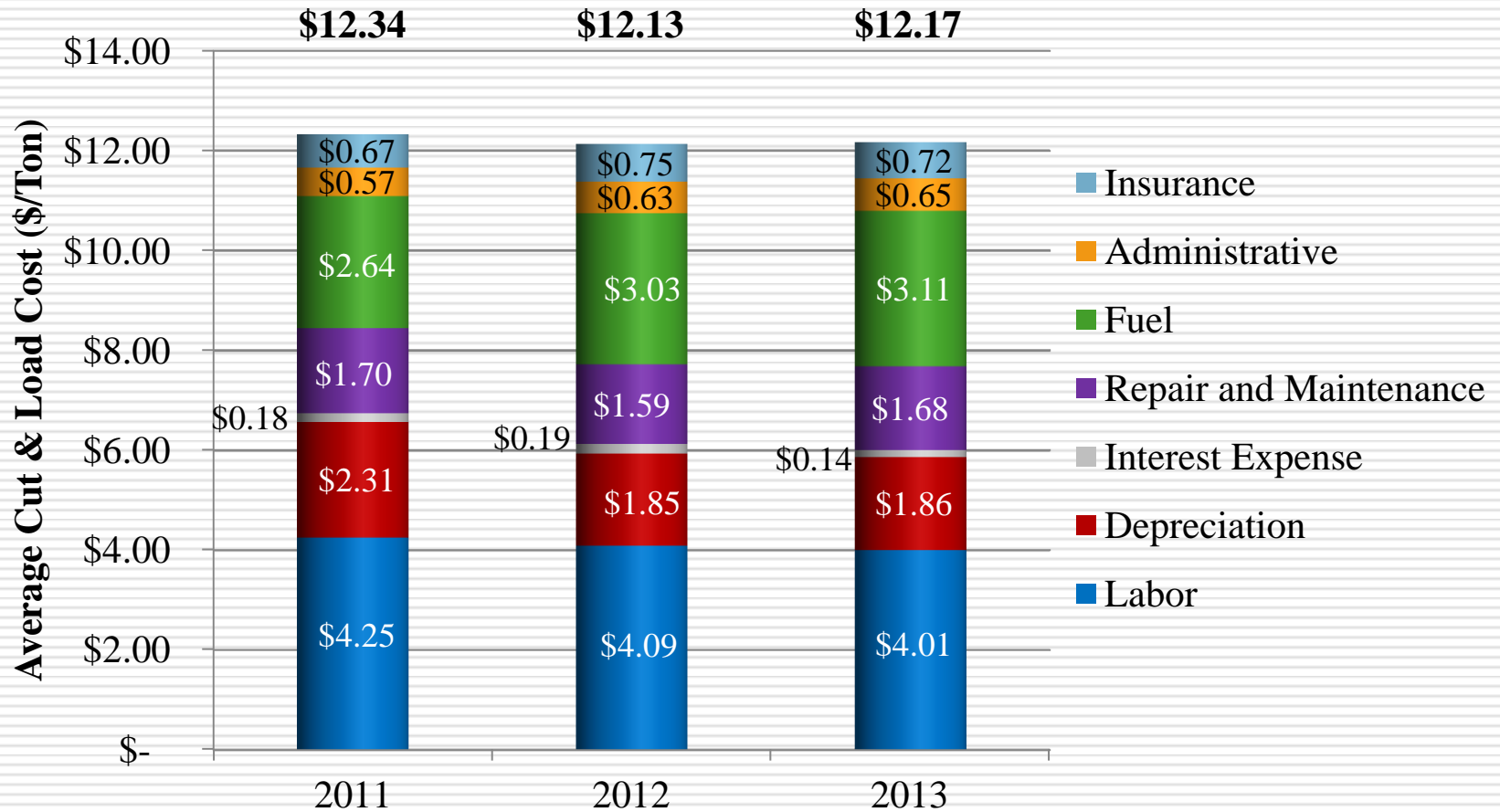
- ❑ Gathered business information and cost data through on-site interviews with logging contractors
- ❑ Correction was needed to account for annual production variation
- ❑ The UGA Logging Cost Index is not adjusted for production, considering only changes in input costs

# Participant Sample

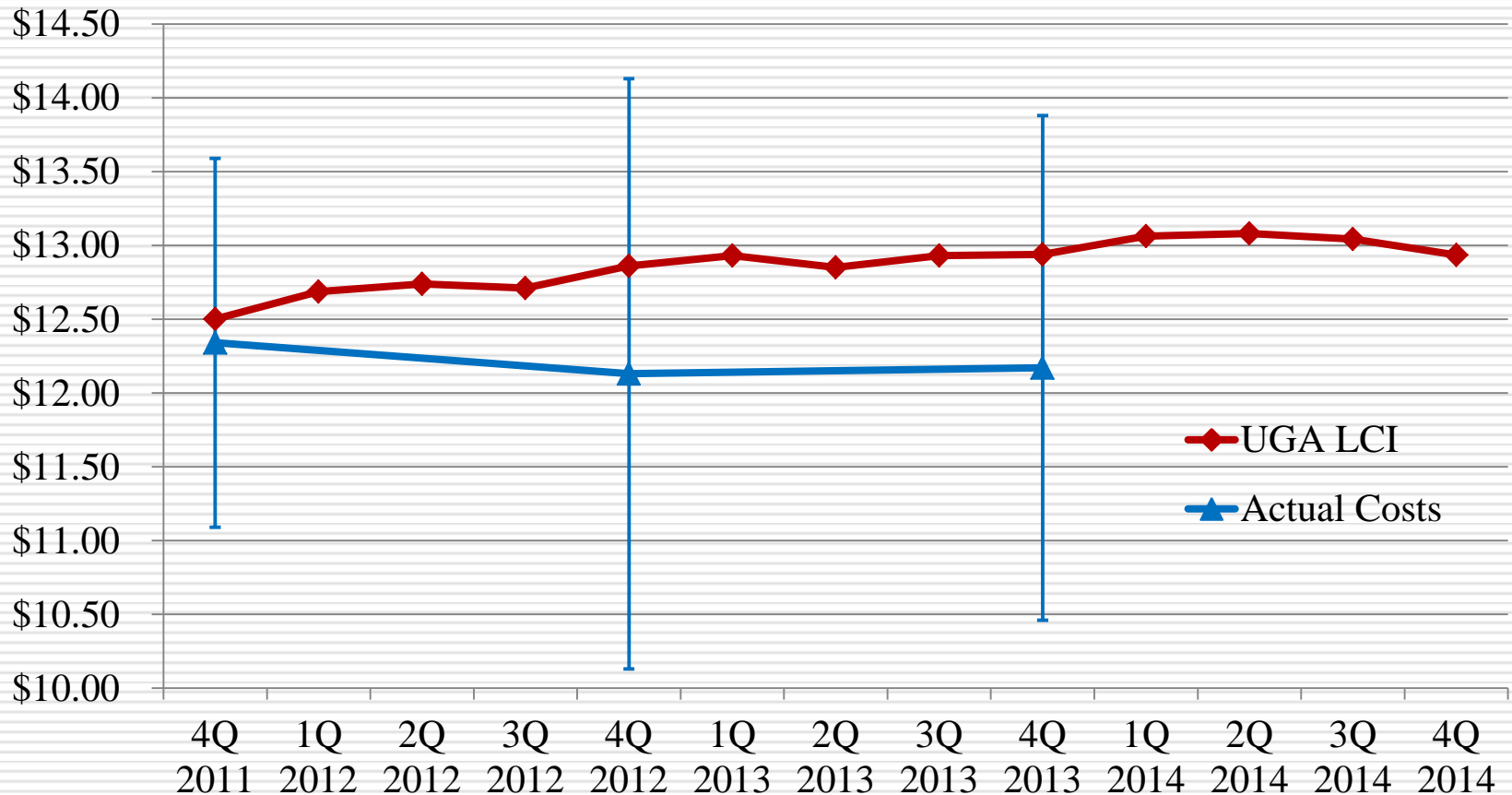
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- We interviewed 23 of 47 contractors contacted for participation
  - Only 10 of the participants had participated in the initial study, 13 declined
  - 17 participants shared cost data for 2013 and 14 shared for 2012 as well
- The 17 contractors sharing cost data harvested 3,000,000 tons in 2013
- Median production was 3,600 tons per week
- Companies averaged 2.6 crews and 18 employees with 10 in the woods

# Cost Components

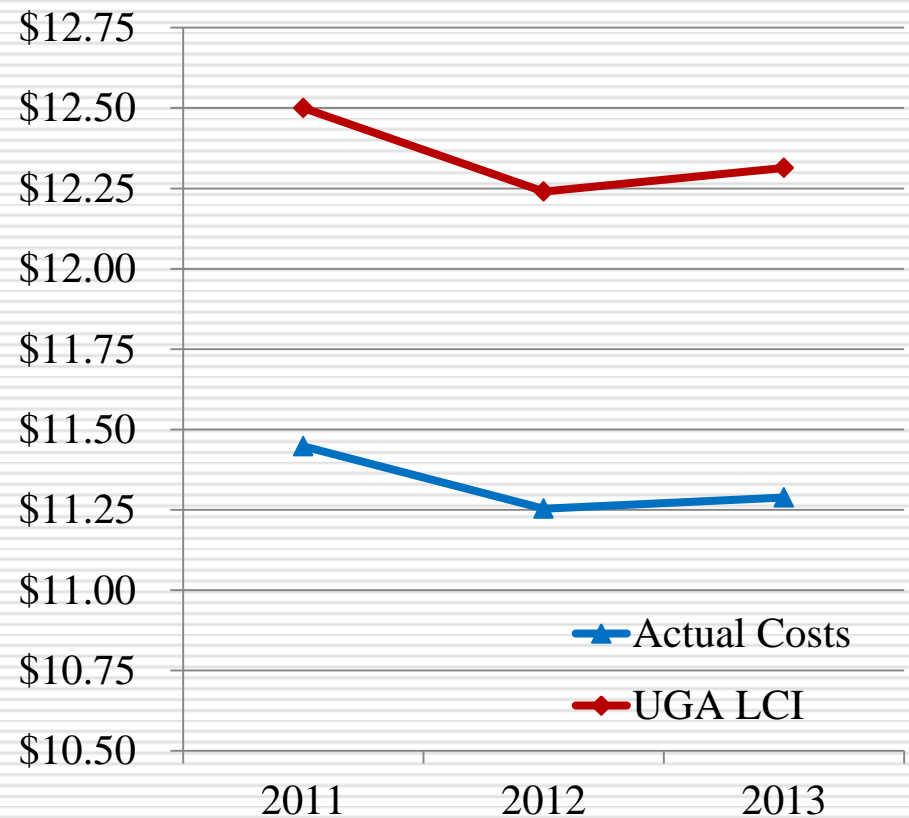


# Reported Costs and UGA LCI



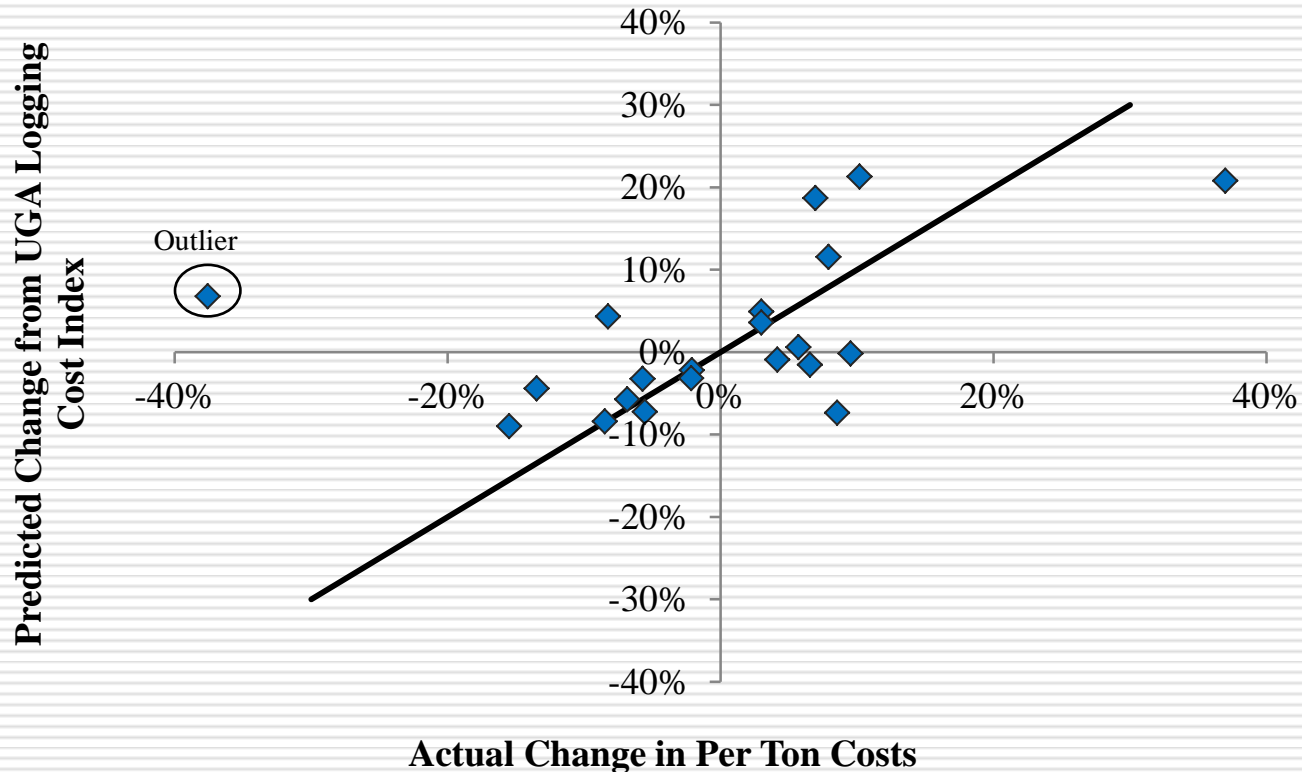
# Correcting for Varying Production

- Contractors providing data all three years (N=6)
- Corrected for production and compared on annual basis
- Nearly identical change in cost



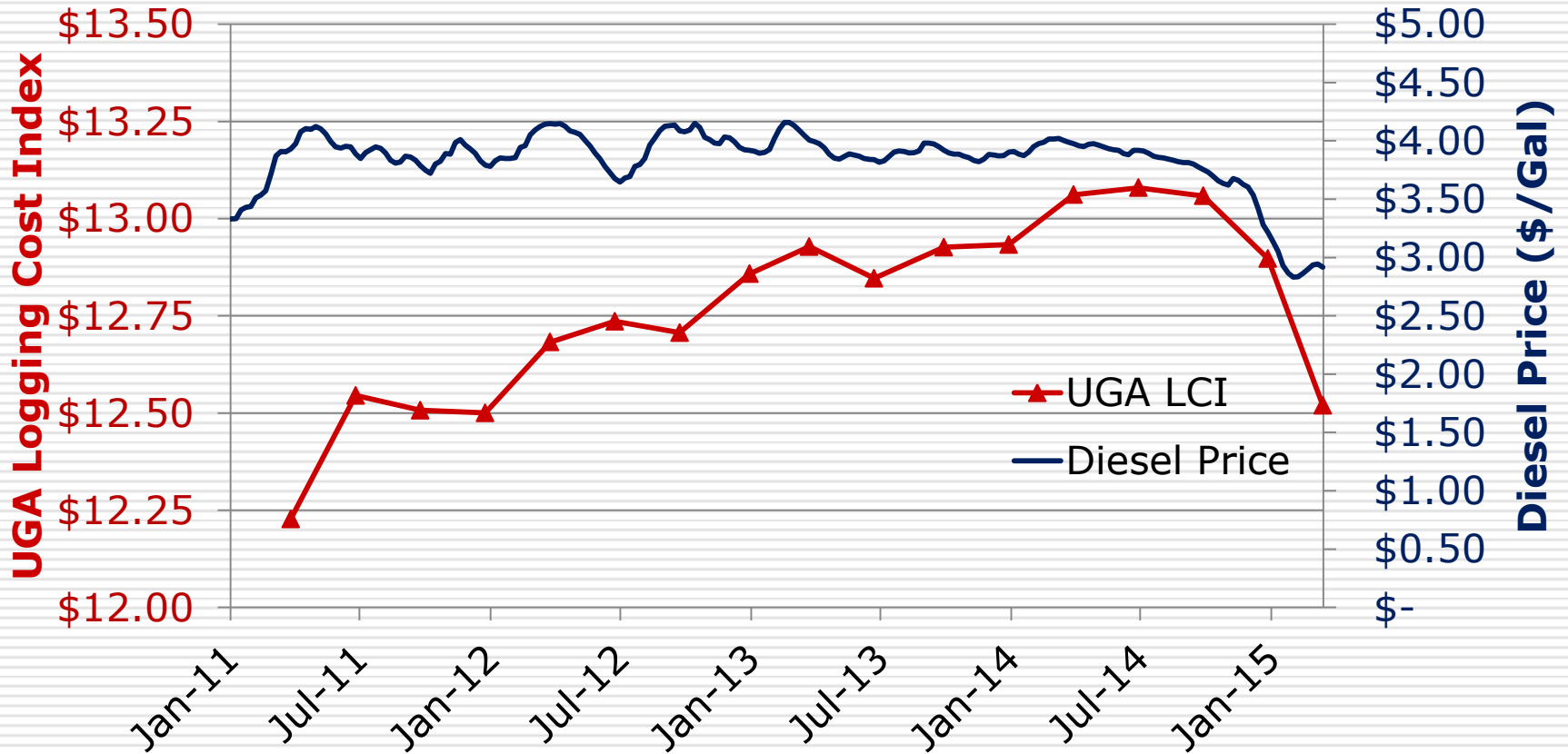


# Accuracy of Cost Estimation

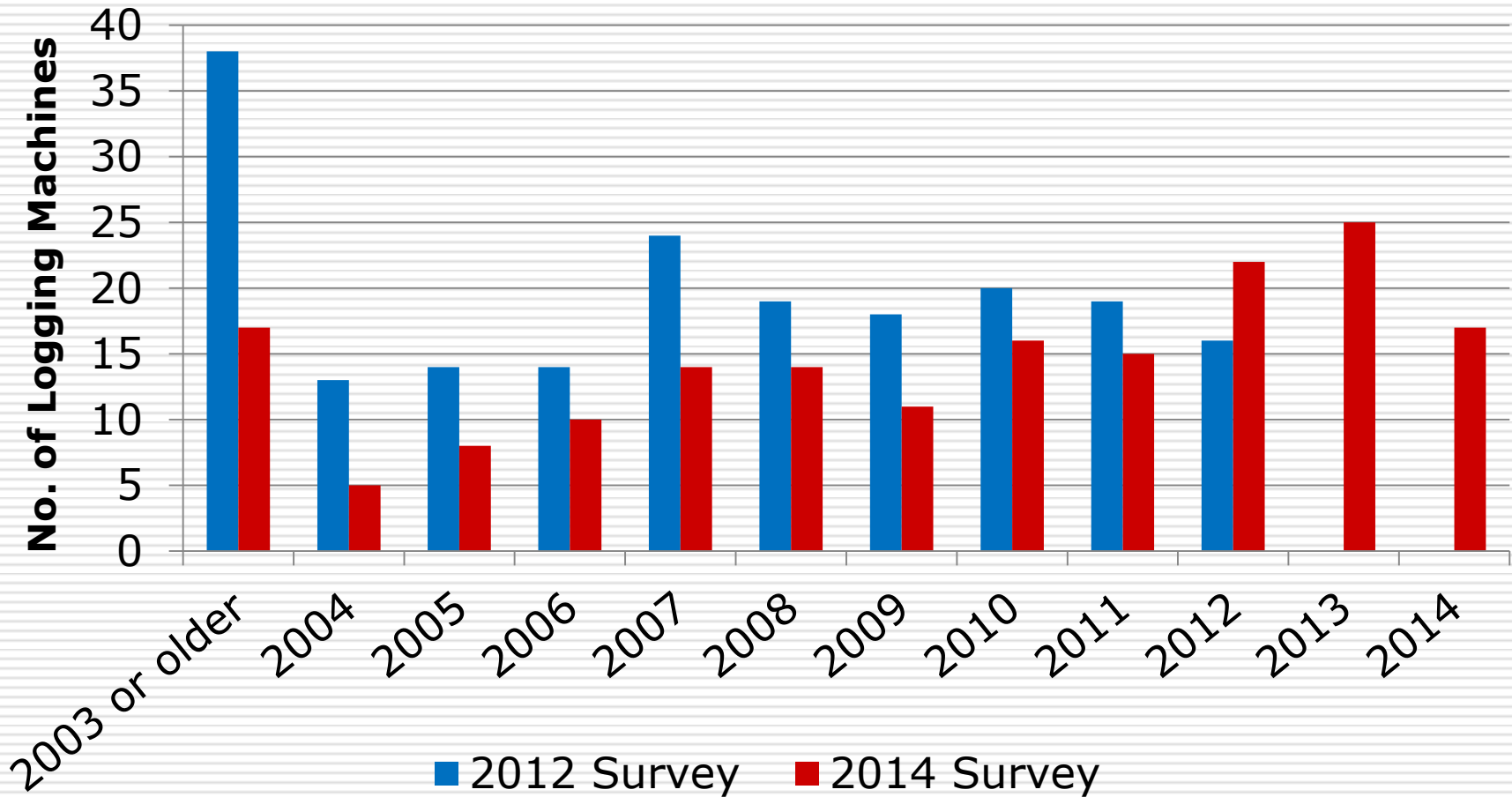


□ Average deviation is 0.1% ( $\pm 3.9\%$ )

# Logging Costs and Diesel



# Increasing Investment



# Logging Cost Summary

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- ❑ The UGA Logging Cost Index appears to be reasonably accurate measure of input cost changes
- ❑ Production variability is still a major driver of cost changes for individual businesses
- ❑ Additional long-term verification is needed to assess the production-neutral assumption and track individual component costs against the public indicator data

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RESEARCH ARTICLE

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forest products utilization & processing

## An Index for Logging Cost Changes across the US South

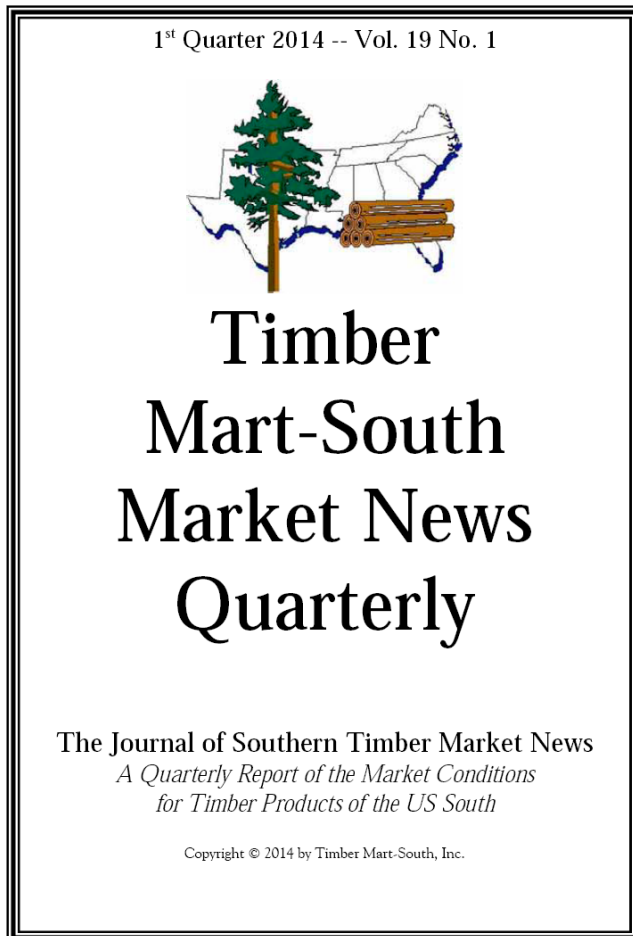
Shawn A. Baker, Bin Mei, Tom G. Harris, and W. Dale Greene

A timely, accurate indicator of changes in logging costs would establish a baseline against which logging contractors could compare their own costs and would offer buyers and sellers of timber a reference for shifts in cut and haul rates. Using data from face-to-face interviews, we developed percent breakdowns of the key factors driving logging costs and proposed a logging cost index for the US South. Publicly available data on costs of diesel fuel, equipment, maintenance, labor, interest, and other factors were used to drive the changes in the cost index over time. Labor (32.8%), fuel (22.8%), and depreciation (19.3%) represented the greatest proportion of costs among respondents. The calculated cost index was found to match historical trends in logging costs. The gap between prices paid for logging services (logging rates) and logging costs shrank between 2006 and 2013, indicating a reduction in the potential profit in the logging industry.

**Keywords:** cost indexing, forest operations, timber harvesting

component of many harvest system analyses. Cost estimates are typically a combination of a detailed costing of the machinery and personnel involved in the harvesting system (many times based on machine rate calculations) in addition to productivity calculations collected during a time and motion study or estimated using computer simulations. Estimates of this form are useful for assessing likely costs on a given harvest site or comparing candidate harvesting systems but are of little value in generalizing cost

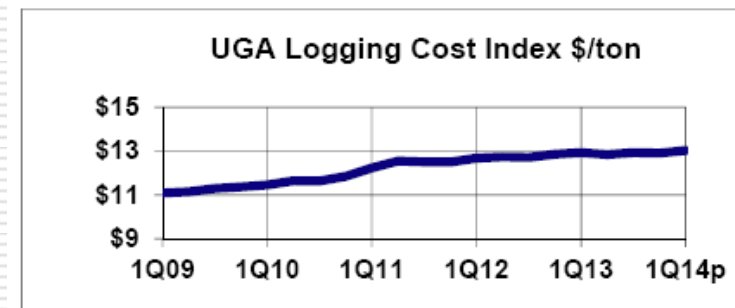
# Quarterly Reporting in Timber Mart South



## Supply Chain Indicators

The UGA Logging Cost Index increased this quarter after remaining nearly flat for the past eight quarters and edged above \$13 per ton for the first time on record. The value for the 1<sup>st</sup> Quarter 2014 is preliminary and will be updated next quarter when final labor costs are known. The index, developed with funding from the Wood Supply Research Institute and introduced in the 4<sup>th</sup> Quarter 2012 *TMS Market News*, provides an indicator of cut and load cost incurred by harvesting contractors in the South.

UGA Logging Cost Index Quarterly - \$/ton				
1Q14p	4Q13r	% +/-	1Q13	% +/-
13.03	12.91	0.9%	12.93	0.8%



# Technical Transfer

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- ❑ Southcentral FRA meeting, March
- ❑ MeadWestvaco Logger Training, June 5
- ❑ Council on Forest Engineering, June 25
- ❑ Louisiana Forestry Assn, August
- ❑ Appalachian FRA, Sept. 18
- ❑ Southeastern SAF, Oct. 21
  
- ❑ Journal article ready for submission to *Journal of Forestry*

# Questions

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*Thank you for your  
continued support!*

