Fuel Costs and the Effect on Consumer Prices

Michael Gunderson
Assistant Professor
Food and Resource Economics
International Citrus & Beverage Conference
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Agenda

• Price transmission in the food supply chain
  – Magnitude
  – Speed
  – Nature
  – Direction
• Beverage industry characteristics
• Food dollar
• Energy prices and policy
### Rising Prices

The ingredients for everything from cereal to electrical wiring are climbing, triggering efforts to pass along those costs to consumers.

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<tr>
<td>Wheat (a bushel)</td>
<td>$4.48</td>
<td>$6.02</td>
<td>$6.99</td>
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<td>Corn (a bushel)</td>
<td>3.25</td>
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<td>Milk (per 100 pounds)</td>
<td>13.00</td>
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<td>Copper (per pound)</td>
<td>2.81</td>
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<td>Crude oil (per barrel)</td>
<td>68.11</td>
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Sources: U.S. Department of Agriculture; WSJ Market Data Group
PRICE TRANSMISSION
Price Transmission

- How big is the response? (*magnitude*)
- How quickly does the response occur? (*speed*)
- Is the response the same for positive and negative shocks? (*nature*)
- Is the response the same whether it is transmitted from producer to consumer or consumer to producer? (*direction*)
Factors Impeding Transmission

• “Sticky” prices (\textit{nature and direction})
• Perishability (\textit{speed})
• Inventory management (\textit{speed and direction})
• Government intervention (\textit{nature})
• Non-competitive behavior (\textit{magnitude})
IBISWorld Juice Production Industry

• This industry manufactures:
  – fruit juice
  – functional drinks
  – ready-to-drink coffee and tea
  – flavored water

• Excludes carbonated soda producers, water bottlers and ice makers
Juice Production Industry

Products and services segmentation (2011)

- 35.5% Other beverages
- 24.8% Fruit juices
- 12.7% Ready-to-drink teas
- 12.4% Sports drinks
- 7.4% Energy drinks
- 4% Ready-to-drink coffees
- 3.2% Flavored waters

Total $27.0bn

SOURCE: IBISWORLD.COM
Juice Production Industry

- **IBISWorld** projects:
  - Annual revenue growth rate of 10.4% from 2006-2011
  - Growth rate of 8.9% in 2011 alone
  - Through 2016, revenue growth of an average annual rate of 0.5% per year to $27.7 billion
  - Initial growth of 1.1% in 2012
  - Top four players are expected to generate 68.4% of revenue in 2011
Major Markets

Major market segmentation (2011)

- Convenience stores: 45.2%
- Grocery stores and supermarkets: 32.5%
- Other markets: 10.6%
- Vending machines: 10.3%
- Exports: 1.4%

Total $27.0bn

SOURCE: WWW.IBISWORLD.COM
Volatility vs Growth

Five year annualized revenue growth (%)

Hazardous
Rollercoaster

Stagnant
Blue Chip

Revenue volatility* (%)

Source: www.ibisworld.com

* Axis is in logarithmic scale
Industry Concentration

What about Wal-Mart? IBISWorld classifies them as ‘Supercenter’
Price Transmission in Juice

- “Sticky” prices (*price increases since last year*)
- Perishability (*NFC vs. FCOJ*)
- Inventory management (*NFC vs. FCOJ*)
- Government intervention (*low intervention*)
- Non-competitive behavior (*relatively fragmented industries*)
FOOD DOLLAR
Share of the “Food Dollar”

Source: USDA Economic Research Service
## Marketing Bill and Farm Share of the US nominal food dollar, 93-08

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Source: USDA Economic Research Service
IMF Commodity Price Index

- Food prices have risen by 45 percent since end-2006, mirroring earlier price run-ups in other commodities

- Many prices reached record highs in current US$ terms
  - Crude oil, tin, nickel, soybeans, corn, and wheat
  - Surge was led by some major food crops
  - Has spread to other foods including, most recently, rice

- In real terms, prices of many commodities, particularly foods, remain well below their highs in the 1970s and early 1980s
  - Exceptions: crude oil, lead, and nickel
Commodity prices over the last 12 months

Source: FAO
China’s Demand for Soybeans

Source: FAS (2011) USDA PS&D online database
Biofuels’ Demand for Corn

Source: Renewable Fuels Association (www.ethanolrfa.org).
Biofuels’ Mandate

Billions of Gallons

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<td>Biomass-based Diesel</td>
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</table>
Tighter and more volatile markets

Source: Bloomberg, CBOT, Rabobank 2011
Agricultural Commodity Outlook

• Smaller stocks of inventories relative to use
  – Permanently elevated prices
  – Increased volatility

• Food vs. Fuel

• Weather?
ENERGY PRICES
Brent Crude Oil Spot

$/barrel

Graph showing the price of Brent Crude Oil from November 2010 to September 2011.
U.S. On-Highway Diesel Fuel Prices
U.S. Retail Motor Gasoline Prices (regular grade) 1920 through 2010

Source: US Energy Information Administration, Short Term Energy Outlook
Energy Information Administration

- On-highway diesel fuel retail prices
  - Averaged $2.99 per gallon in 2010
  - Will average $3.85 per gallon in 2011
  - Predict average of $3.87 per gallon in 2012
- U.S. refinery diesel fuel margins:
  - Averaged $0.38 per gallon in 2010
  - Will average $0.65 per gallon in 2011
  - Fall to an average of $0.58 per gallon in 2012
Conclusions

• Sysco’s “Act of God”

• Don’t raise prices; change quantity
  – Success in cereal and ice cream
  – Appropriate for beverages?
  – Tropicana reduced the size of its half-gallon cartons from 64 ounces to 59 ounces
• Analysis of Price Transmission Along the Food Chain

• USDA Food Dollar

• Farm Foundation: What’s Driving Food Prices in 2011?

• Rabobank Outlook

• Gasoline Explained
Questions?

Michael Gunderson, PhD
Food and Resource Economics
PO Box 110240
Gainesville, FL 326011-0240
352-392-1826 x301
mag79@ufl.edu