



## **The Price is Right: Changing the Pricing Model for Services**

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- Old School
  - Would spend unlimited capital to capture \$1 of sales
  - Residential privatization a lost leader to enter a new market
  - Recycling – “fuggedaboutit” BUT was then given away to keep the municipal contract
  - Direct haul disposal
  - Use the landfill to drive collection market pricing
  - Pooling of Interest Accounting
  - Love CPI inflation

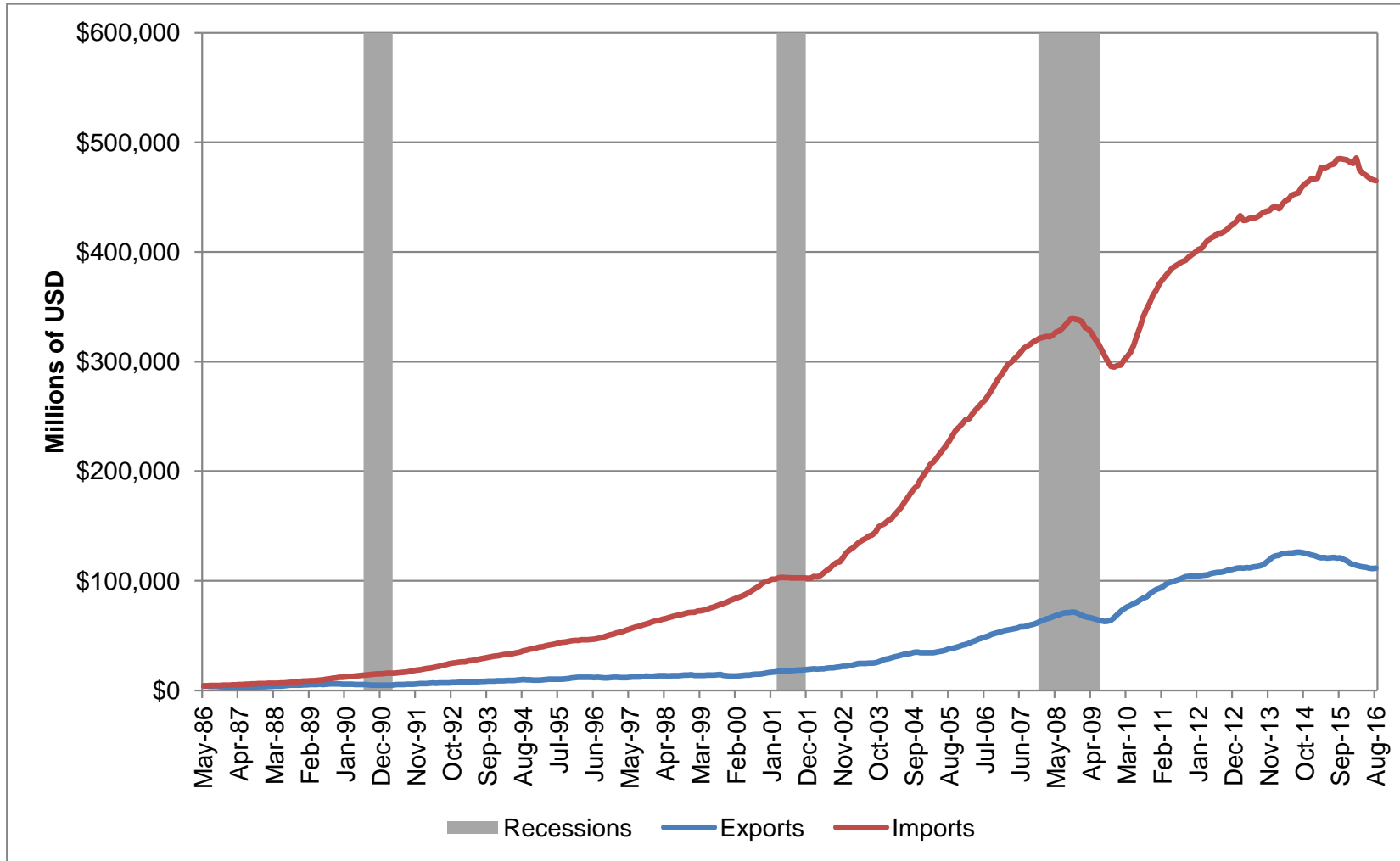
# **Solid Waste**

## ***Ten Observations Over Ten Years***

- 1. Little brown boxes in the waste stream, more and more and more.**
- 2. U.S. solid waste production remains at ~6 pounds per person (EREF).**
- 3. Landfill accounts for 64% of disposal, WTE 9% and recycling 21% and composting the remainder (EREF).**
- 4. U.S. average landfill tip fees double from current levels.**
- 5. Zero waste movement stalls.**
- 6. Diversion versus recycling more of the former less of the latter.**
- 7. Recycling processing model still predominantly commodity based but changing.**
- 8. Organic diversion/recycling not economical without subsidies.**
- 9. Alternative fueled collection vehicles (CNG) makeup 50% of the fleet.**
- 10. Coal ash and E&P Energy Waste are a factor but for no more than 10% of total sales.**

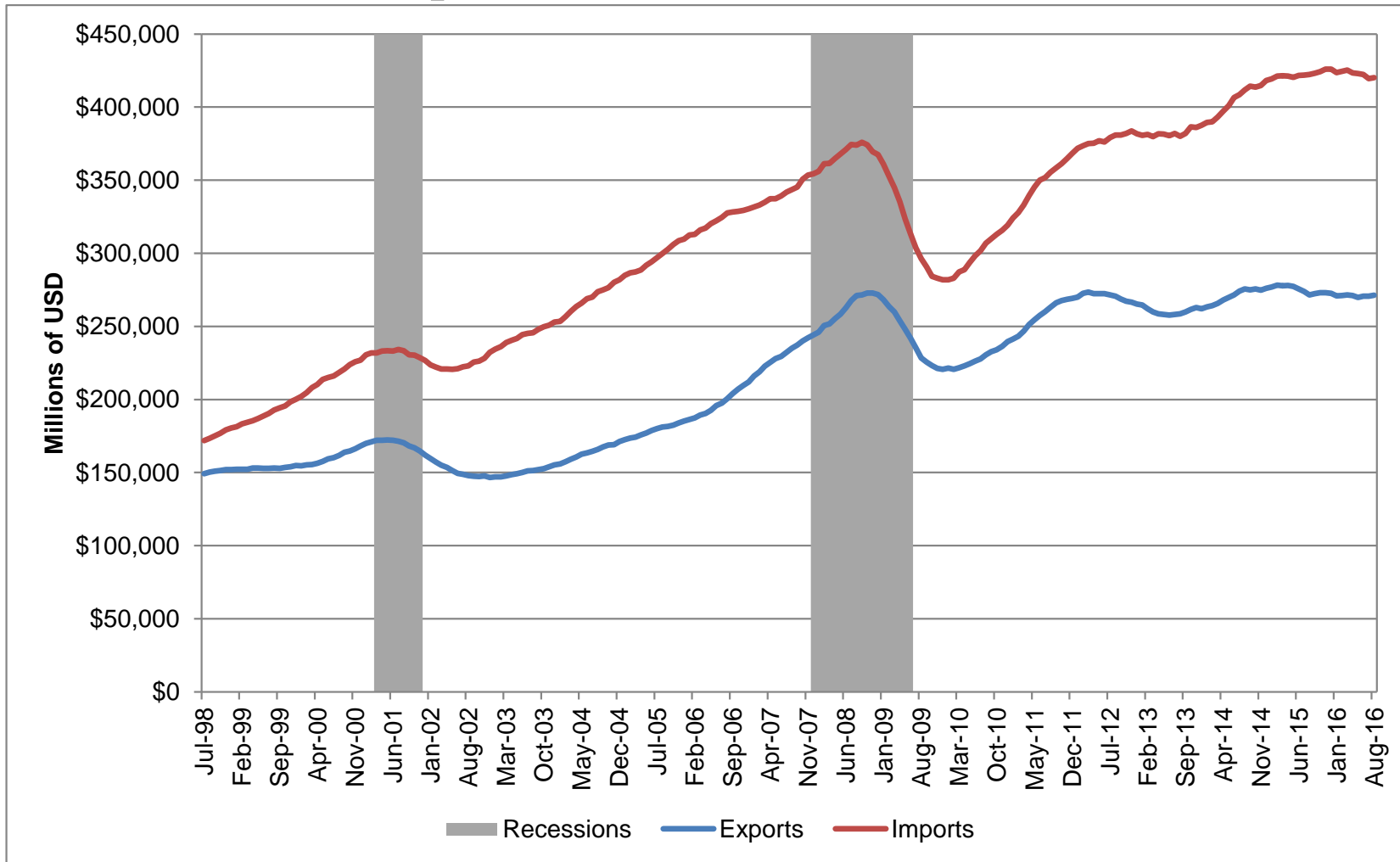
- If solid waste is truly local does it really matter what happens in China, Europe and Canada?
  - Yes, commodity prices are influenced by China demand
  - Yes – influences to the U.S. economy are global not just local
    - Capital, People and Data all move freely around the globe seeking the best after-tax return on investment

## US Trade with China



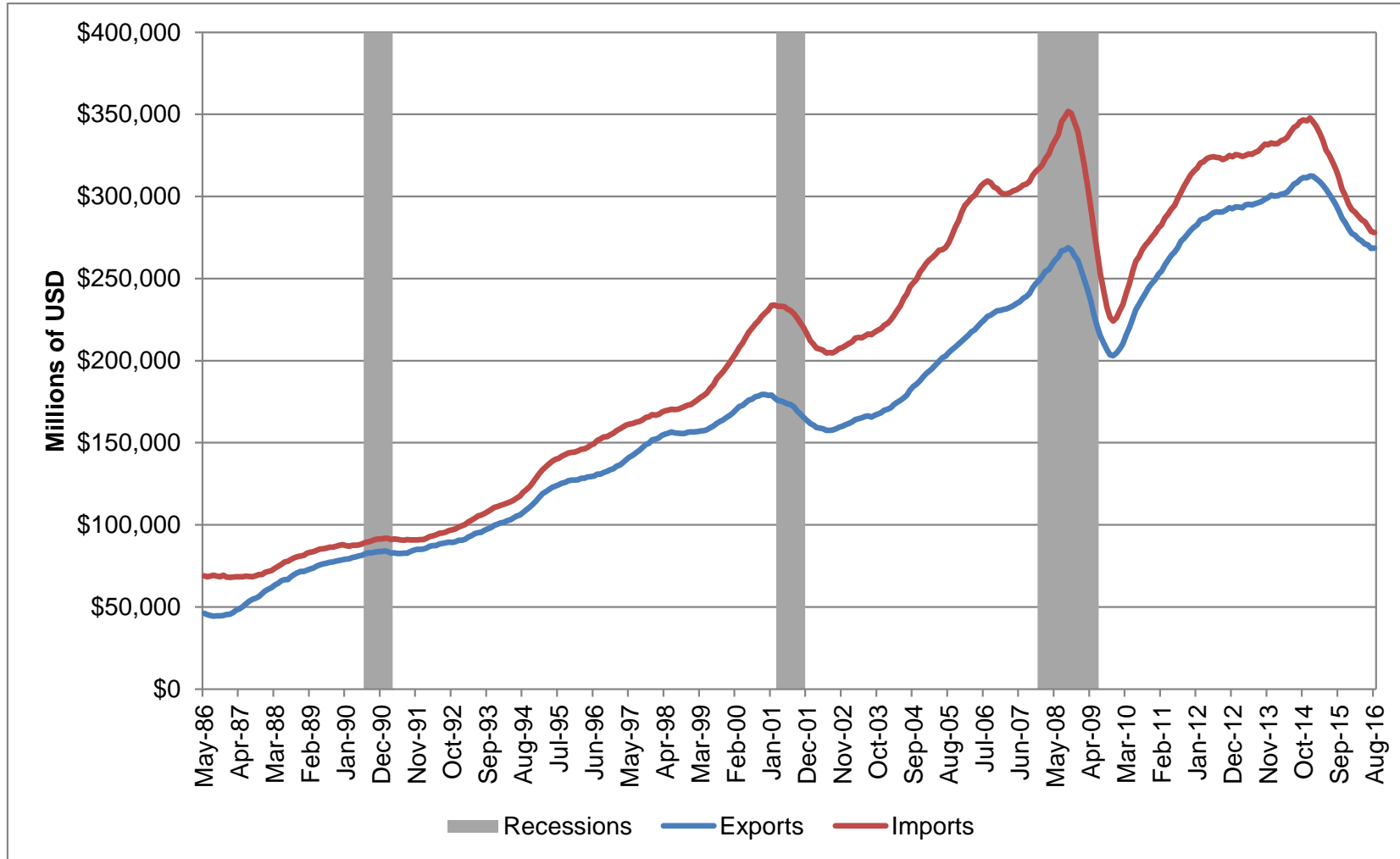
Source: FactSet

## US Trade with European Union



Source: FactSet

## US Trade with Canada



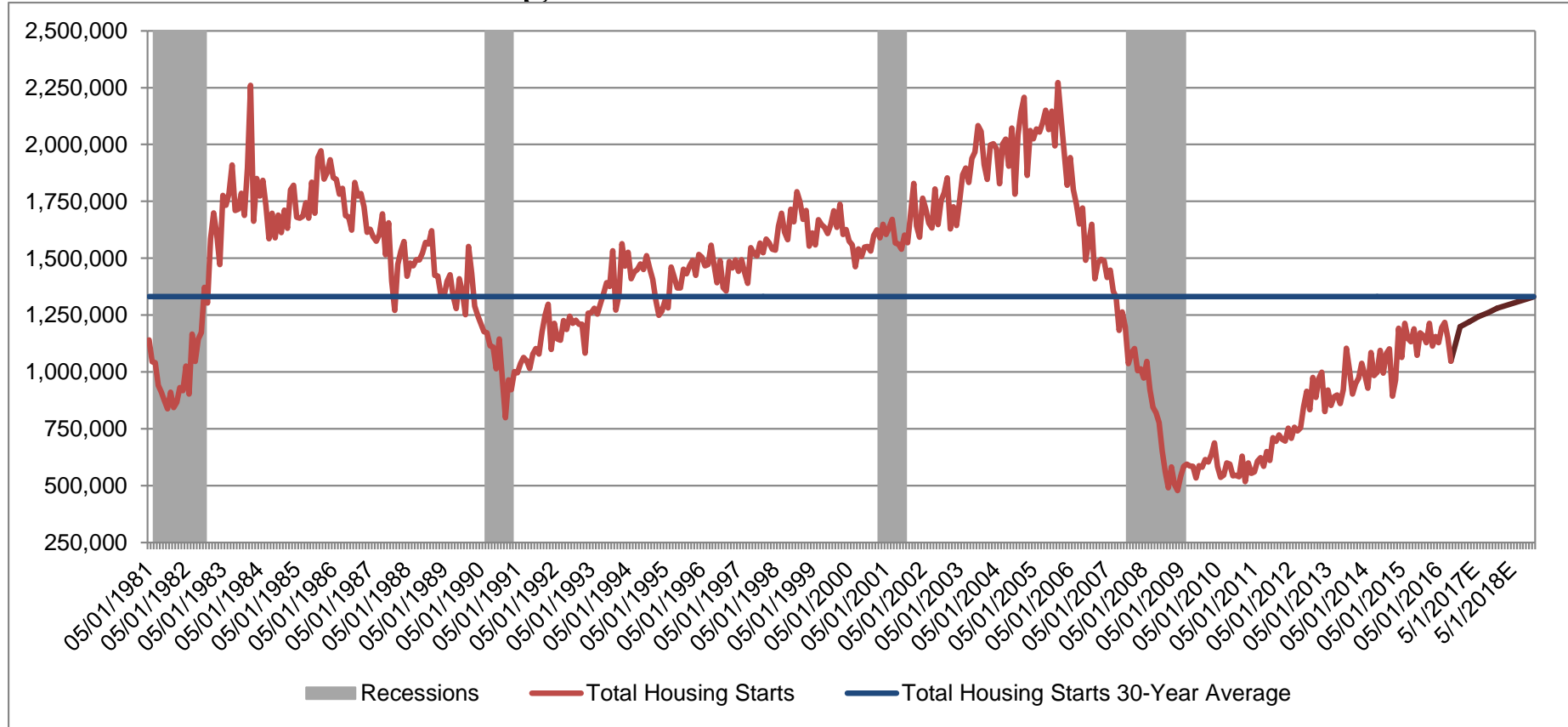
Source: FactSet

- Figure out the rules of the game and play the game until you are in a position to change the rules
- Two rules
  - US Corporate Taxes
  - US regulation



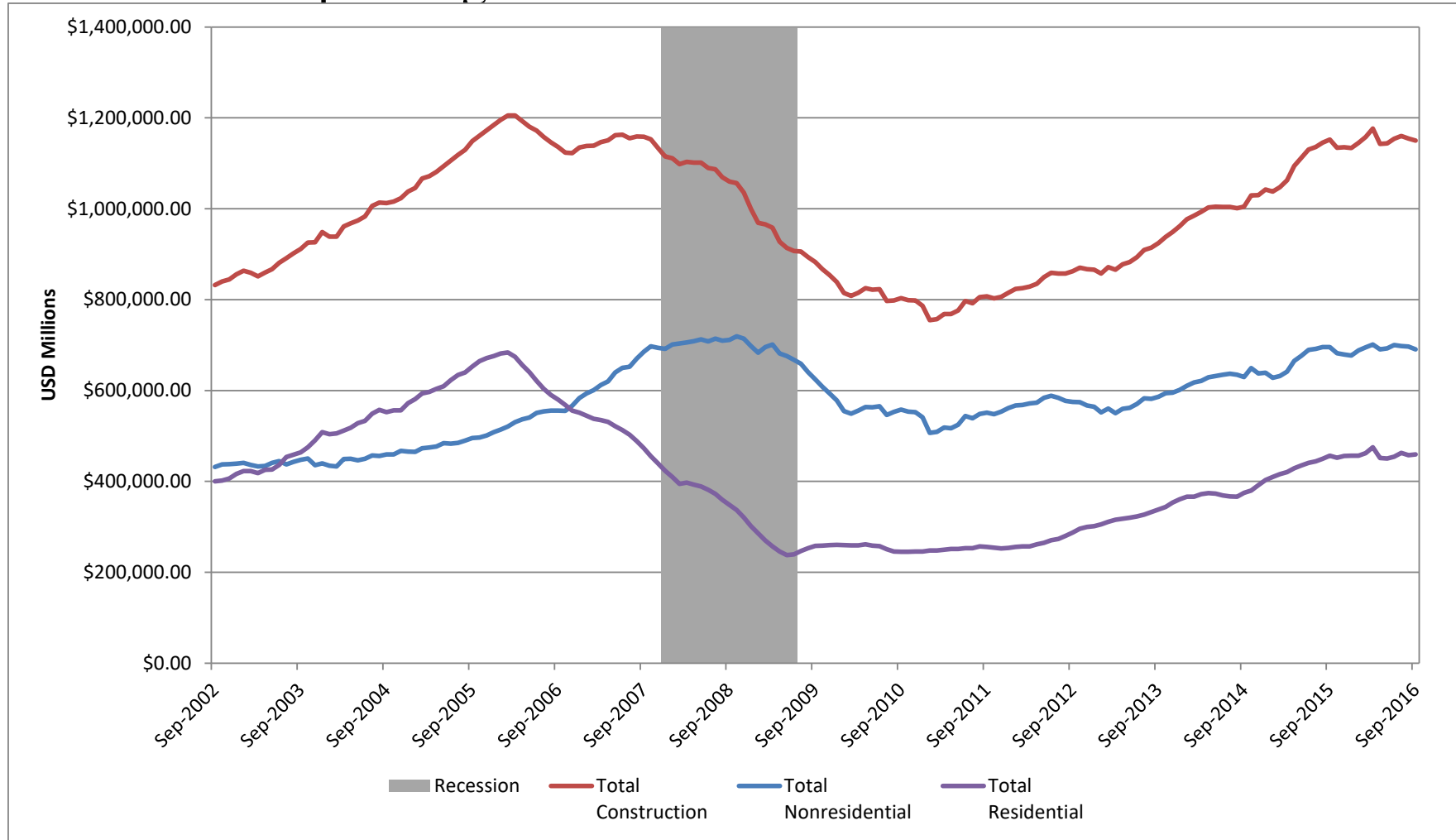
- Unfavorable corporate taxes and regulation have limited the scale of growth investing in the U.S.
  - Despite the U.S. being a low risk (arguably the lowest risk) market to put capital to work
- Housing has to get to 1 million starts to trigger a broad based recovery in solid waste
  - Four years into a national recovery 2014 marked the first 1 million start year
  - Housing normalized peak is 1.4mm and at the current pace does not occur until 2019

## Annual Rate for Housing Units Started: United States



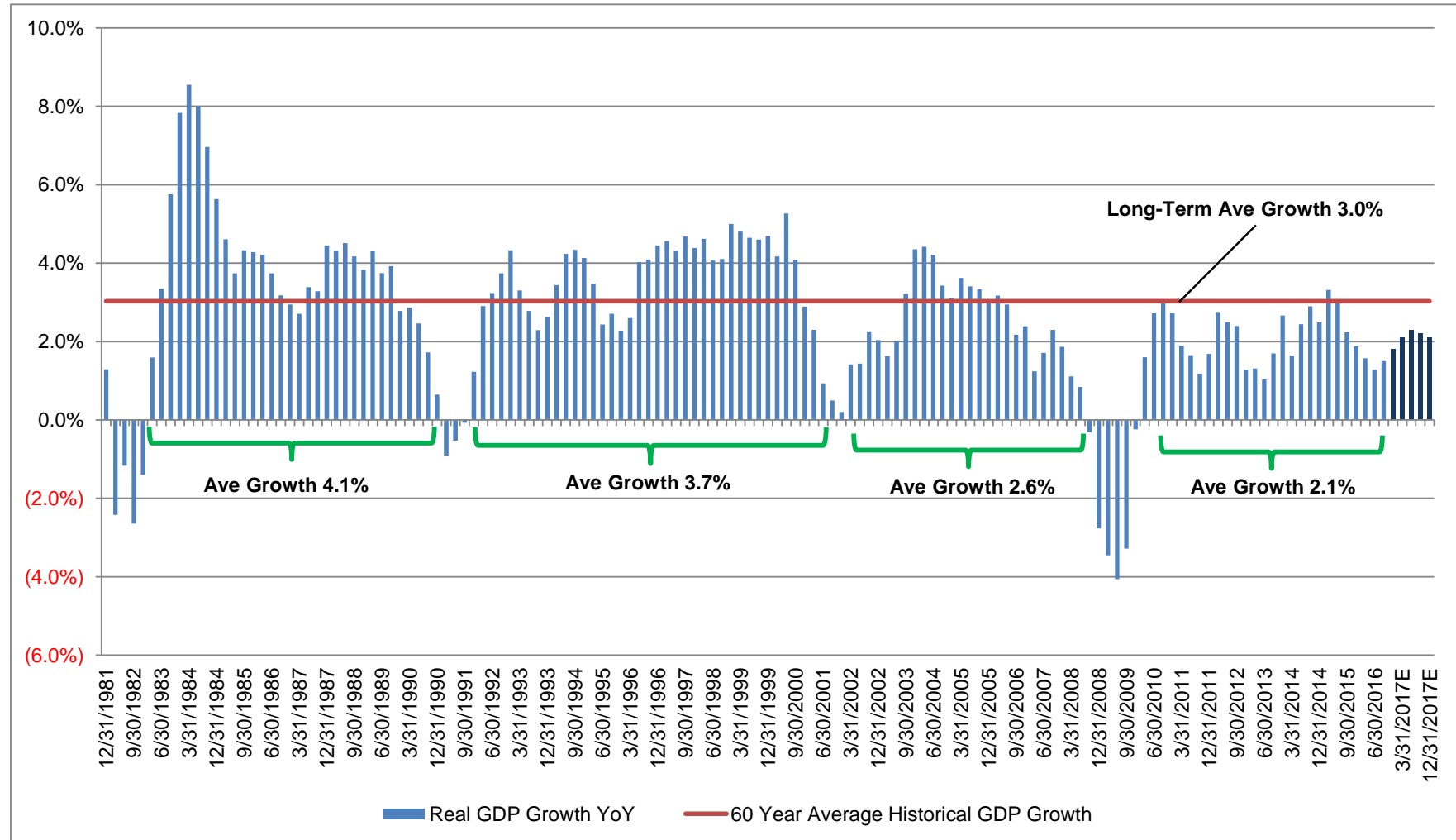
Source: Bloomberg

## Construction Spending – Annual Rate



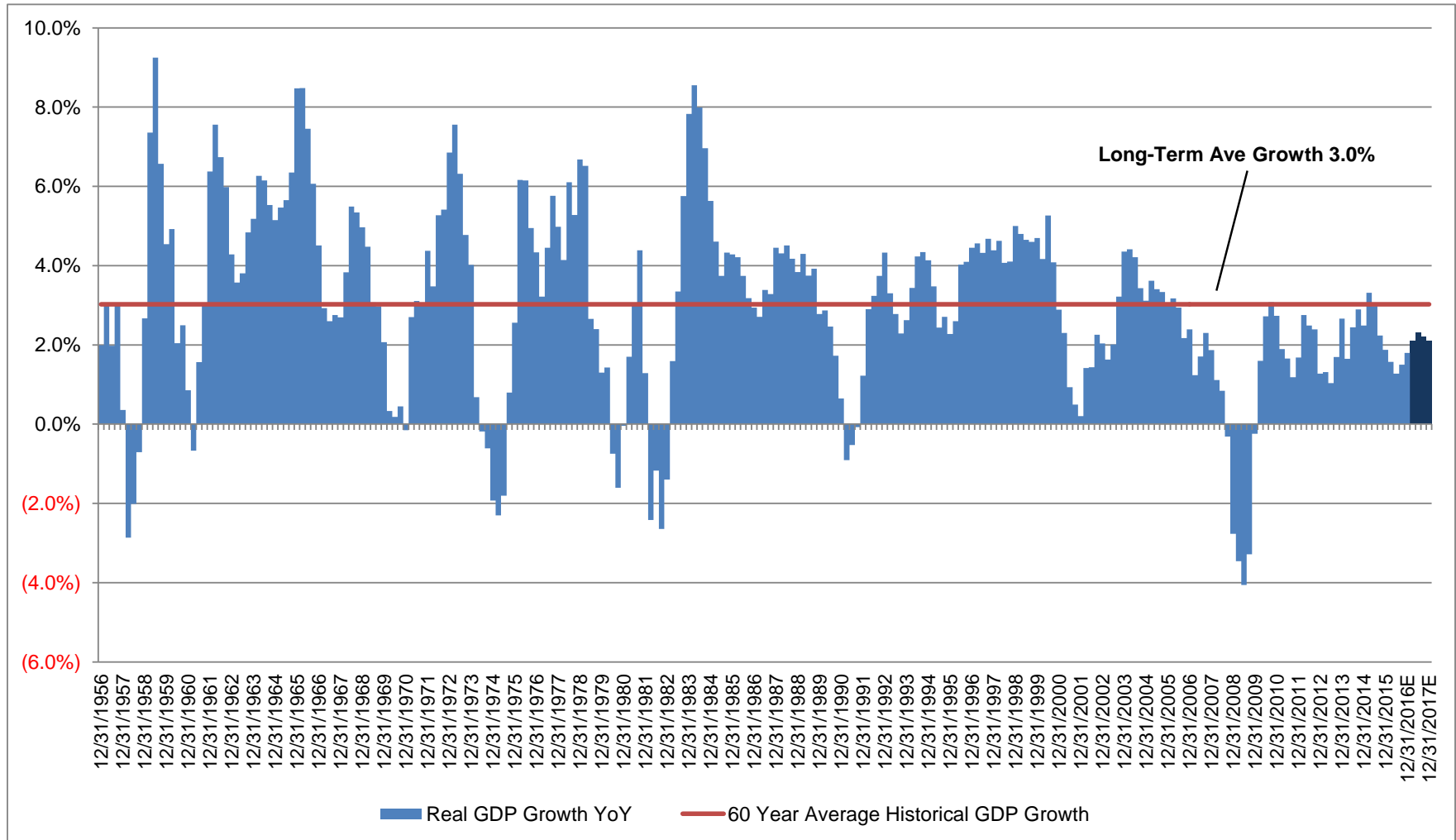
Source: Census Bureau

## US Real GDP Growth



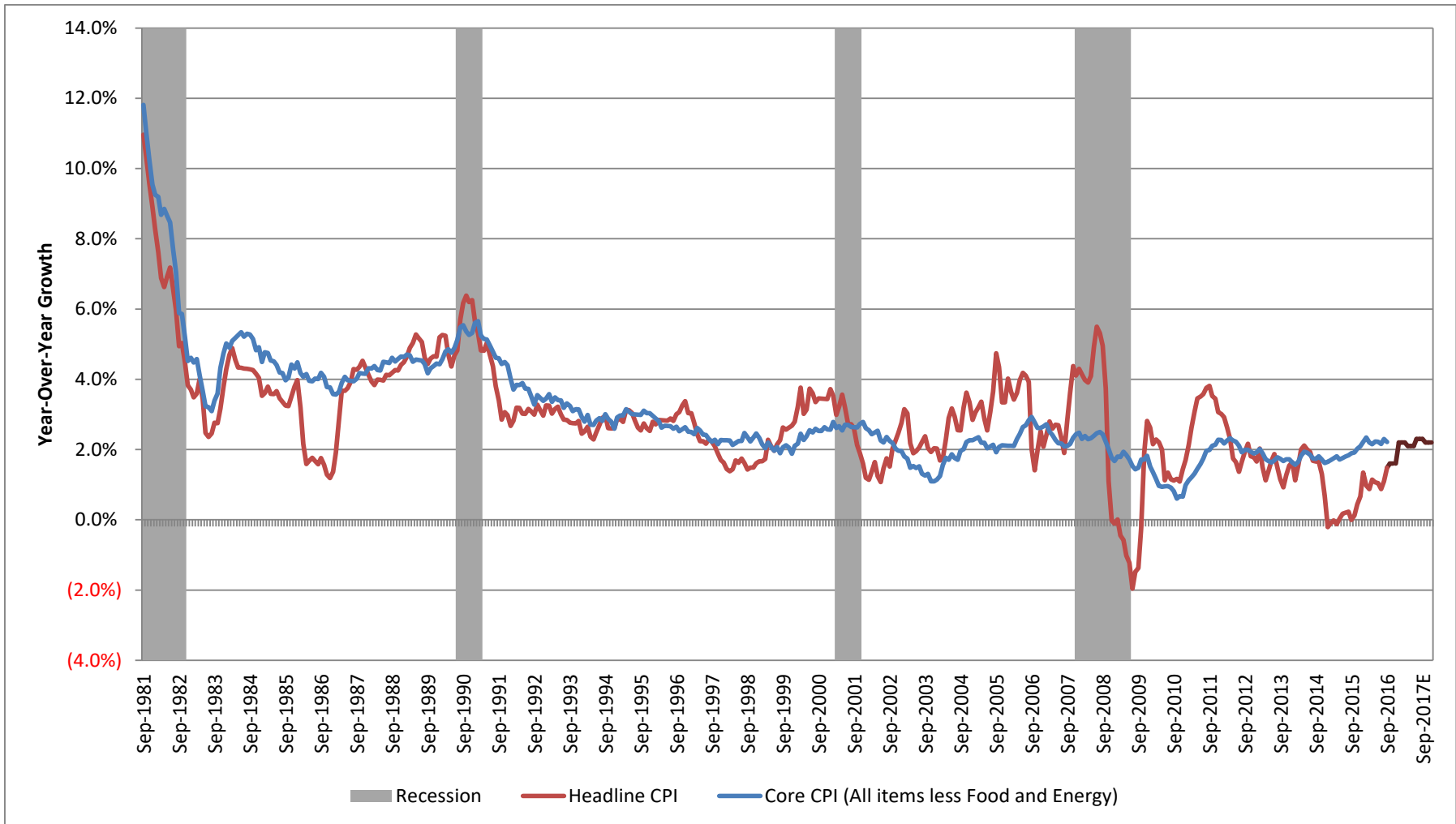
Source: Bloomberg

## US 60 Year Real GDP Growth



Source: Bloomberg

## US Headline and Core CPI Historical Growth Rates



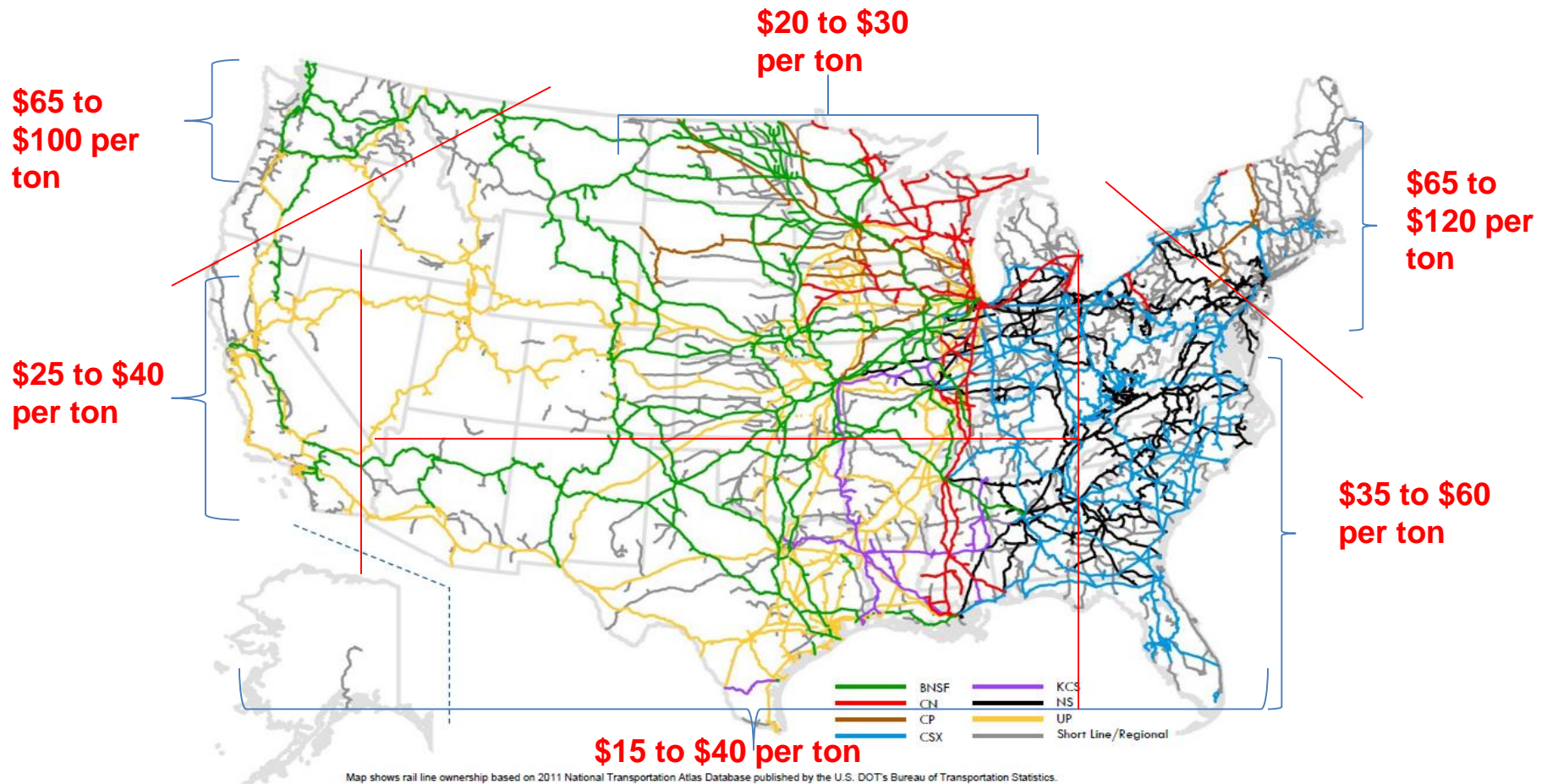
Source: Bloomberg

- 2015 was the “*Year of Volume – Again; Plus Price*”
- 2016 is setting up as “*More of the Same*”, in our opinion
  - 1Q16 exceeded all expectations on core price and volume
- FY17 Organic growth starts with 2.0%-plus-2.0% (core price and volume)
  - Individual company sales mix shifts around 2.0%-plus-2.0% (urban, secondary, exclusive markets, headline CPI)

- Core price is strong
  - Retaining more on better volume –
    - The collection market is basically at capacity, in our view
- Volume has not peaked
  - Construction cycle continues to improve in both residential and non-residential
  - Both C&D and Special Waste trends could remain strong, but the comparison narrows in our view
  - Coal ash, is not likely to have an impact until 2018
    - Some remediation volume may come earlier



- When \$20/ton landfill can be reached economically by train



Source: Association of American Railroads

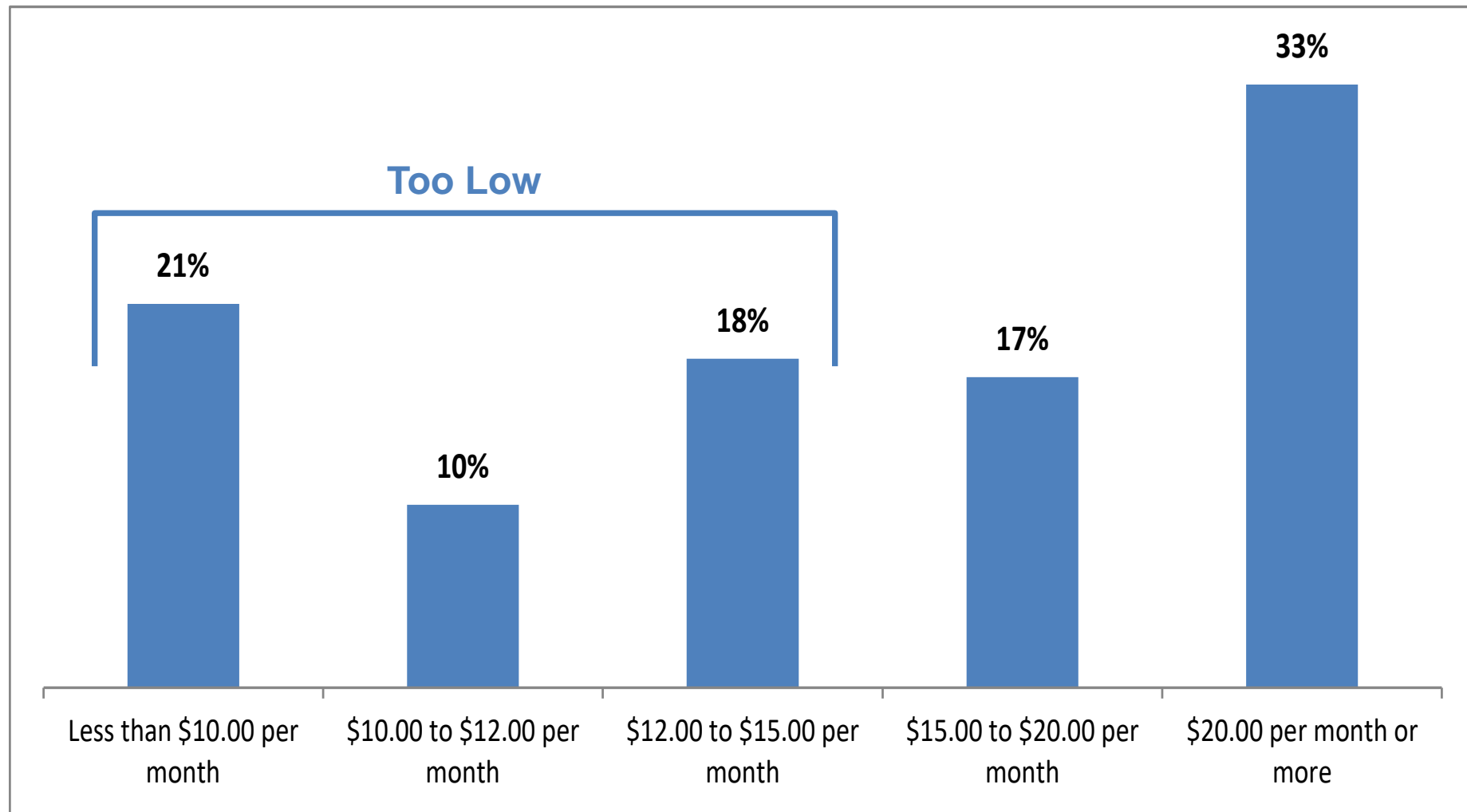


Source: Association of American Railroads

- Landfill all-in cash cost per ton = **\$20**
- Waste-to-Energy all-in cash cost per ton = **\$45**
- Recycling all-in cash cost per ton = **\$65**

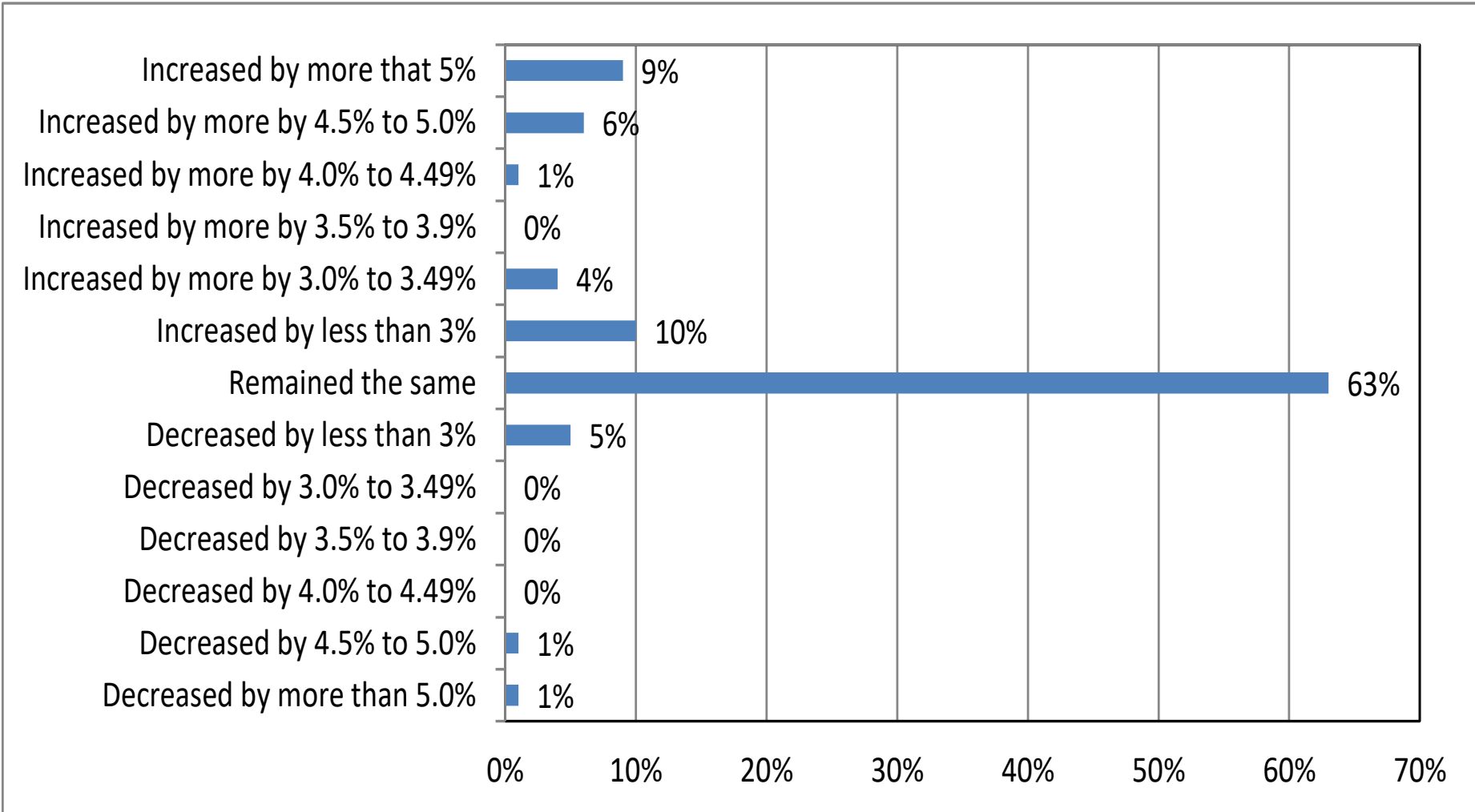


## Average Monthly Price per Household for Waste Collection



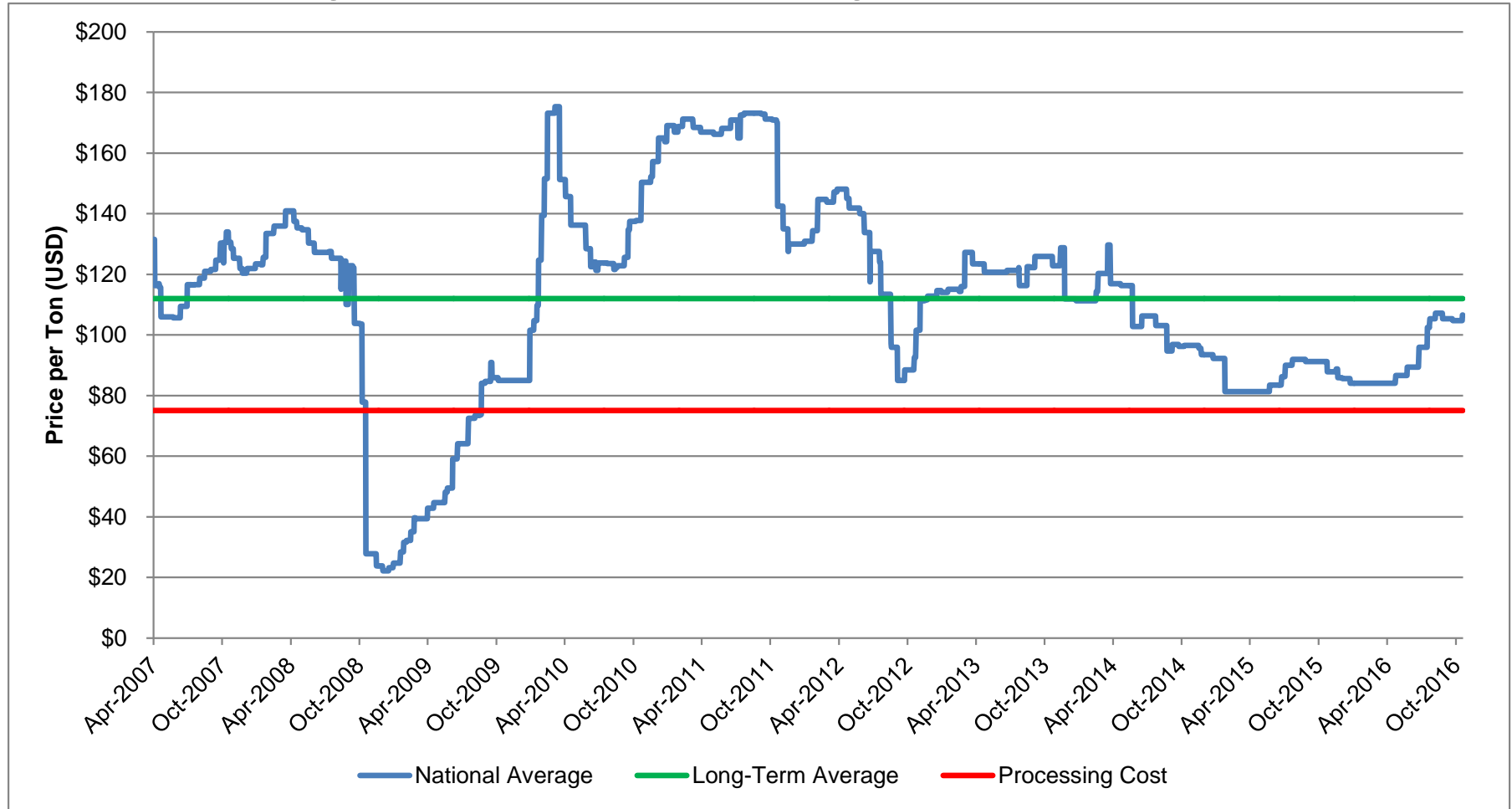
Source: Penton Waste360 Sentiment Study

## Average Monthly Residential Collection Price Changes over Past Six Months



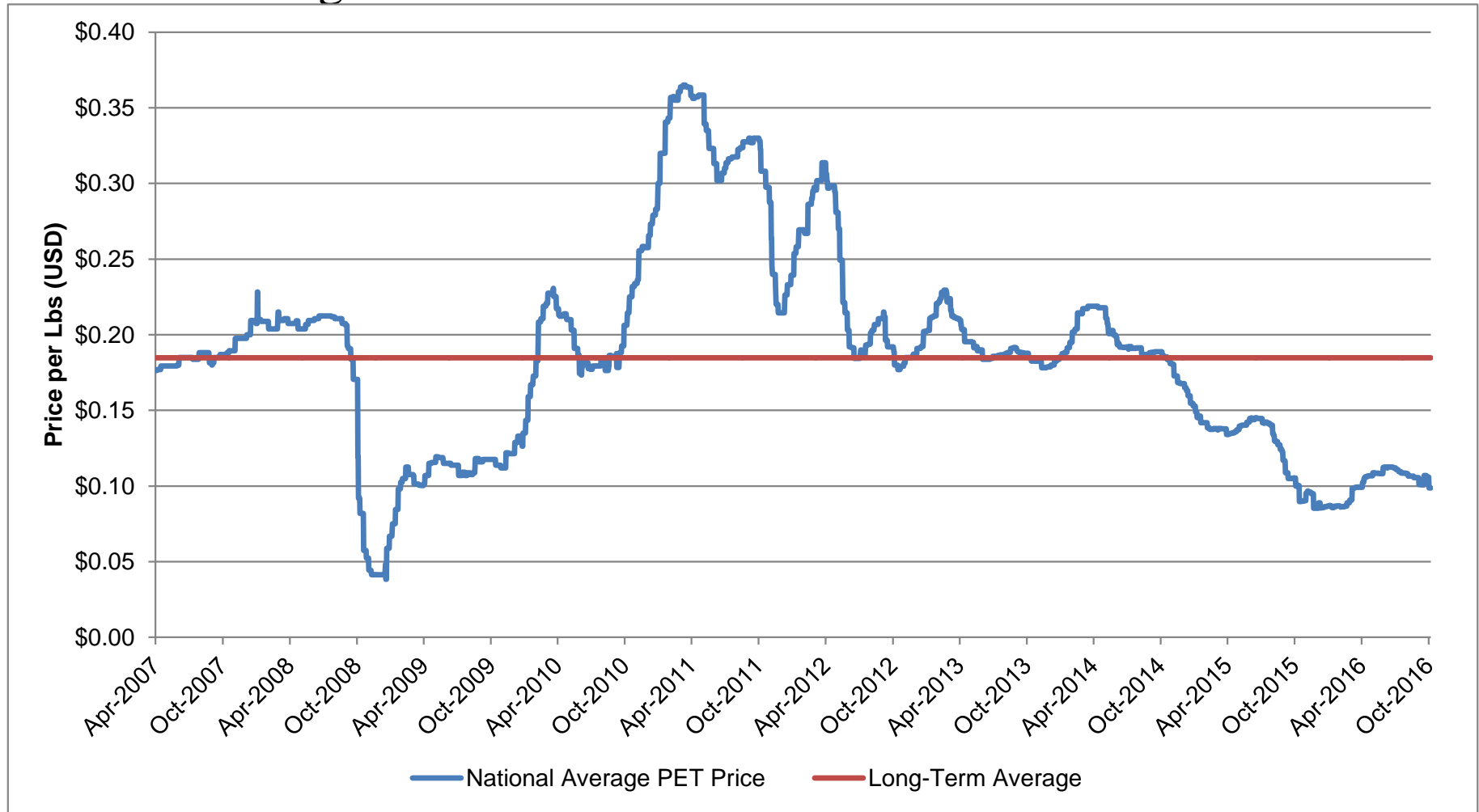
Source: Penton Waste360 Sentiment Study

## National Average Price for Other Corrugated Cardboard (OCC)



Source: RecyclingMarkets.com and Stifel estimates

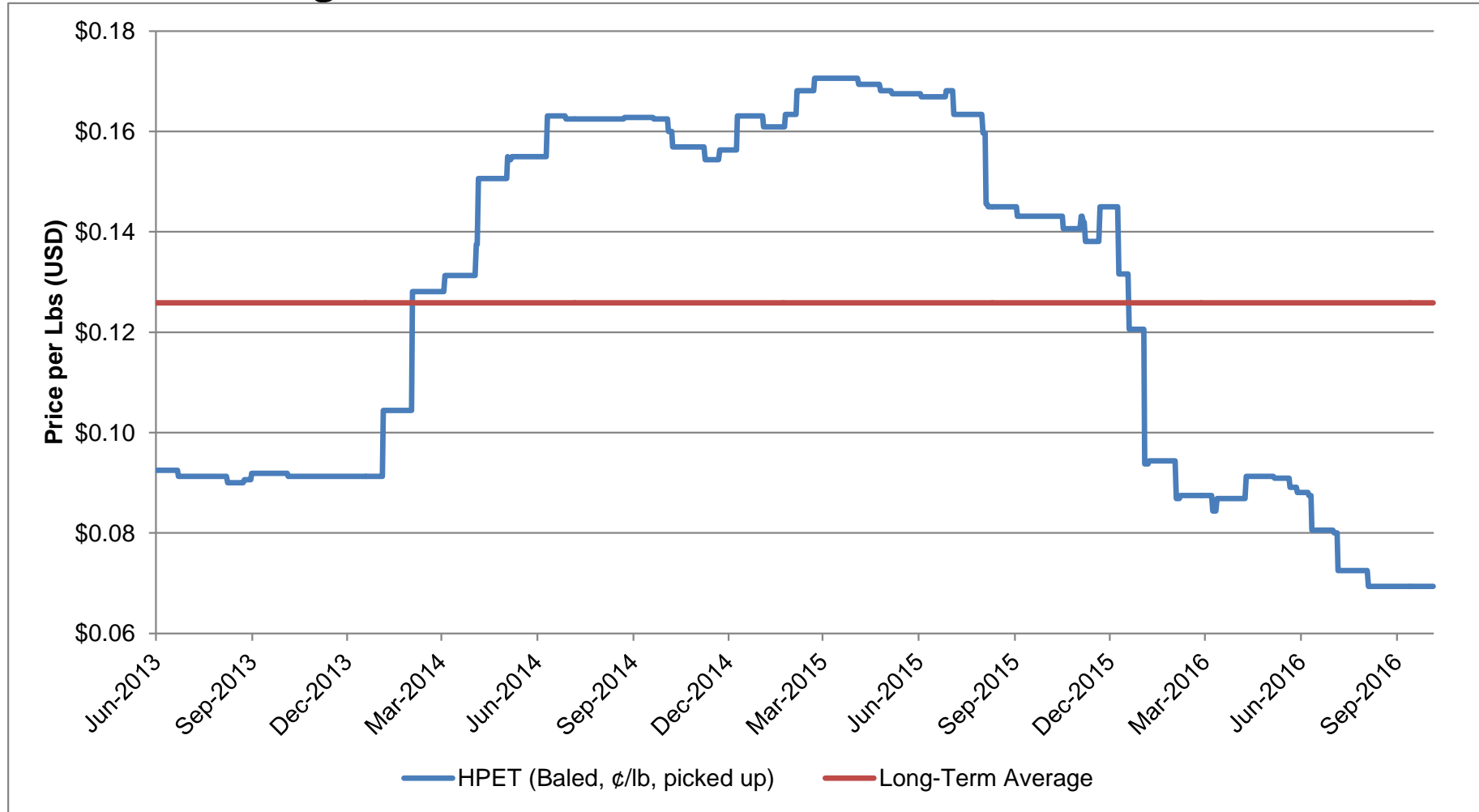
## National Average Price for PET



Source: RecyclingMarkets.com and Stifel estimates

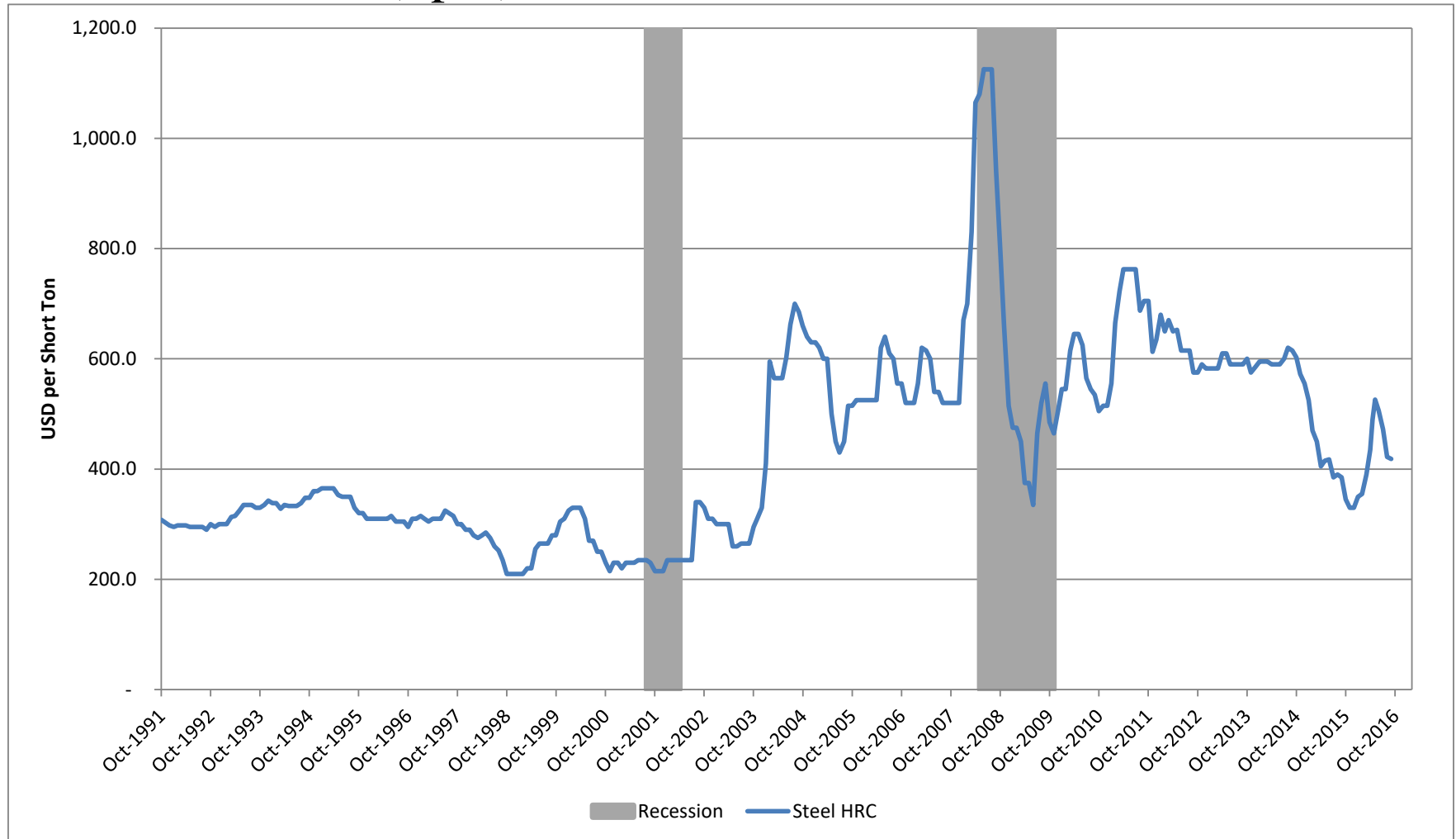


## National Average Price for HDPE



Source: RecyclingMarkets.com and Stifel estimates

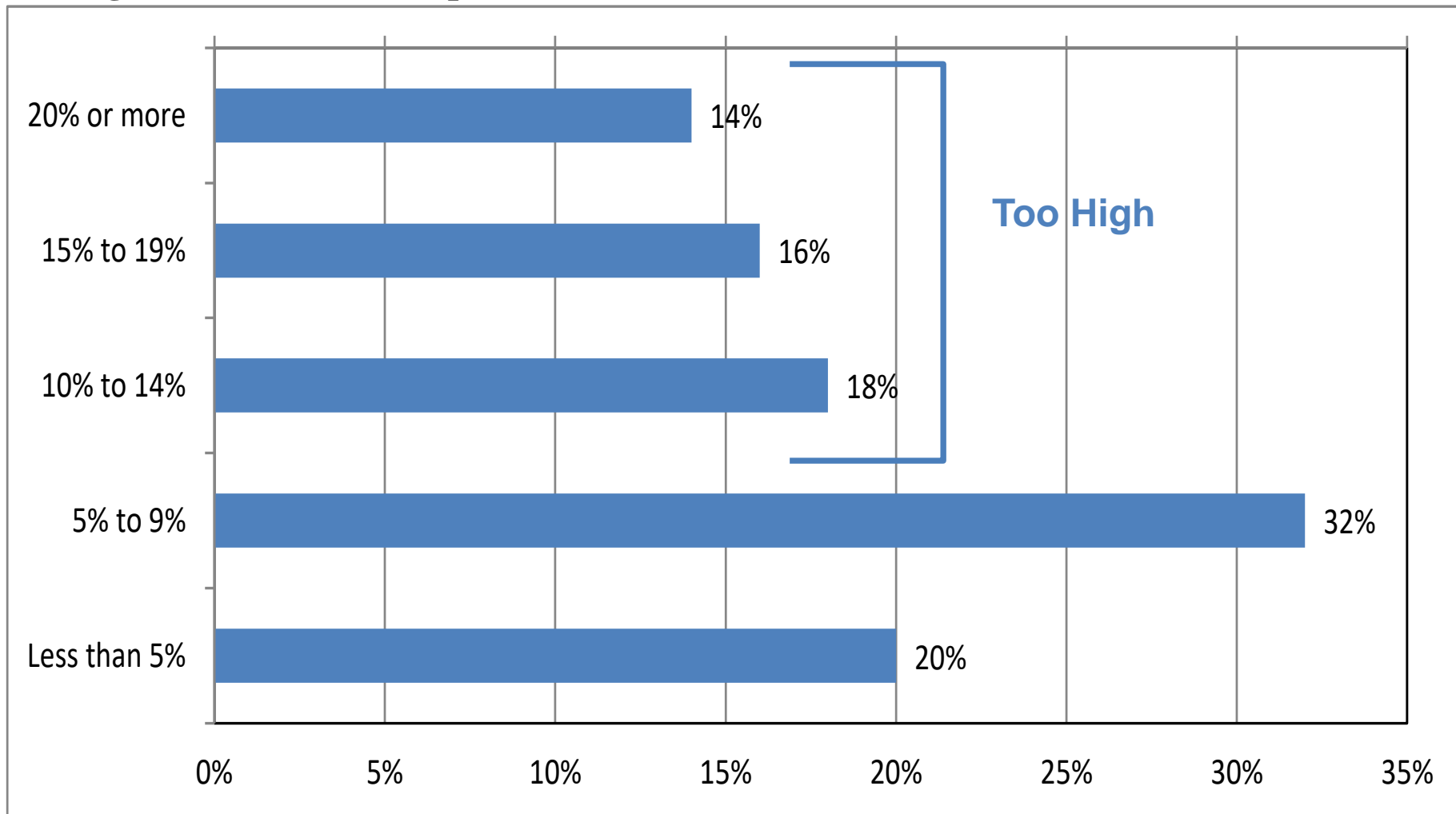
## Steel HRC Prices (Spot)



Source: FactSet

- Recycling versus Diversion
  - Recycling acknowledges the economic value capture of the recovered waste stream – **weight does not matter**
    - No Glass
    - #1 and #2 Plastics only
    - OCC, Newsprint, SOP and mixed office waste only
    - UBC and metal cans – ferrous and non-ferrous
  - Diversion how much volume is no longer going to landfill – weight influences the behavior
    - **Glass, glass and more glass**
    - High residuals is a problem and a dirty secret – they go back into the landfill
    - Lots of paper and plastics grades that have little or no recoverable value
    - Perpetuates the commodity based processing model

## Average Percent of Total Inputs Left as a Residual



Source: Penton Waste360 Sentiment Study

## Good



Source: Good Housekeeping



Source: Good Housekeeping



Source: Richard Wheeler (Zephyris)

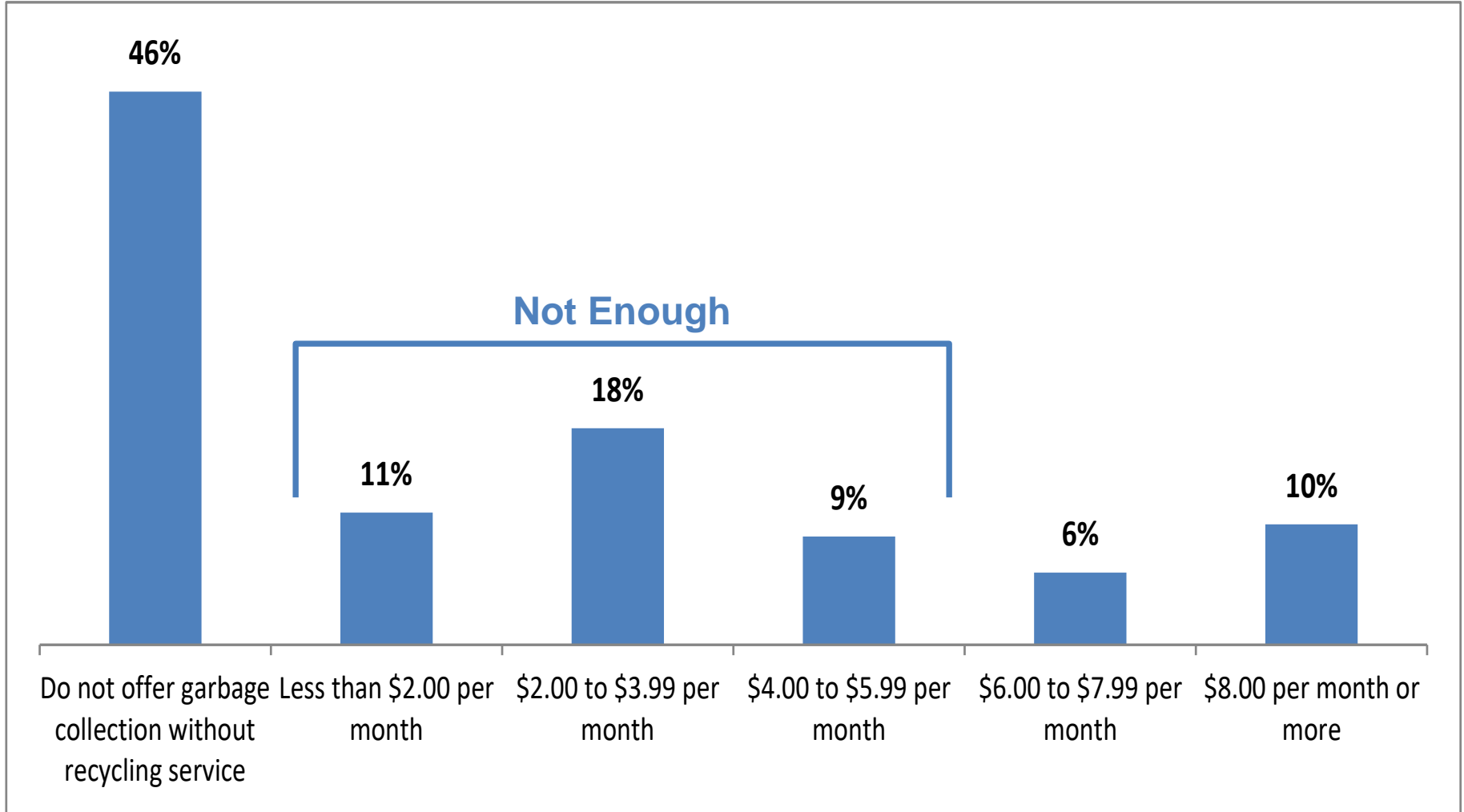
## Bad



Source: pixabay

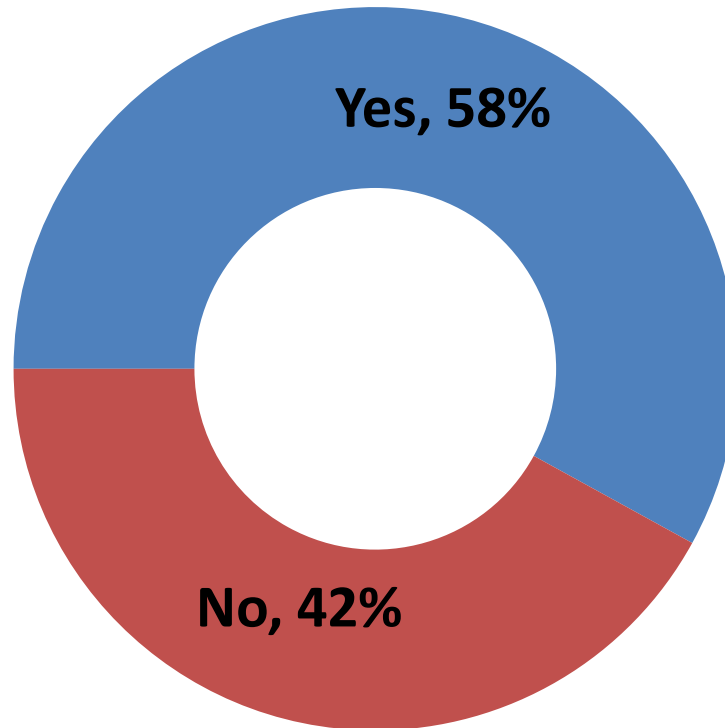
*Glass is just Sand!*

## Incremental Cost per Customer to Add Recycling to a Service Agreement



Source: Penton Waste360 Sentiment Study

## Does Incremental Recycling Charge Cover the Cost of Collection, including Capital Invested to Offer Service?



Source: Penton Waste360 Sentiment Study

- **Solid Waste Fundamentals have not peaked, buoyed by construction and the consumer, in our view**
- **Recycling model stays stubbornly stuck in a commodity format for longer**
- **At \$20/ton all in cash cost landfill remains the dominant form of disposal**



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