Energy Policy Impacts on Agricultural Profitability: Outlook for 2013 and 2014

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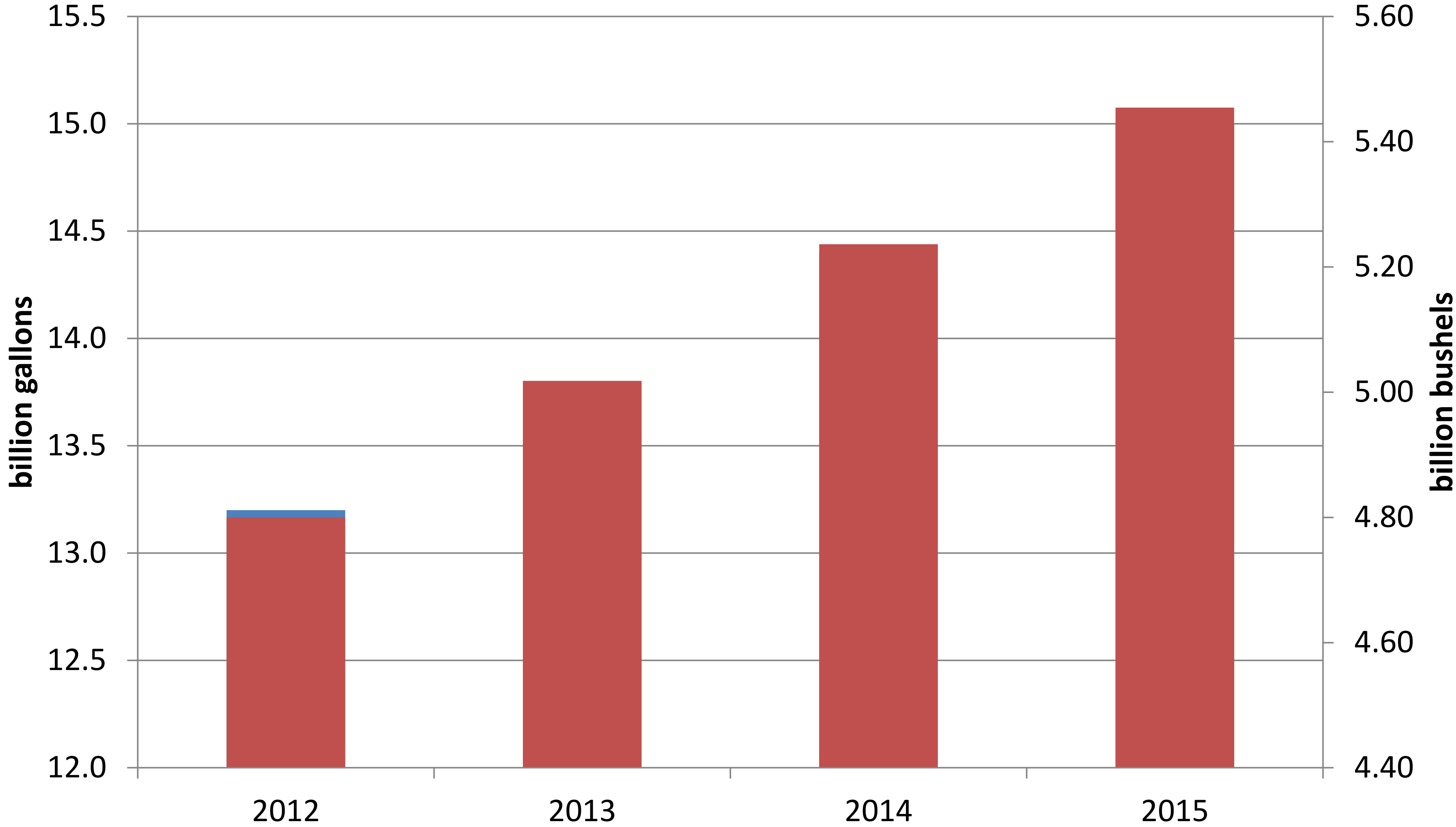
Importance of Ethanol to Agricultural Profitability

- 8.5 billion gallons of additional corn ethanol production since 2006
  - Three billion bushels of additional corn consumption
  - 2.25 billion bushels of consumption net of DDGS
  - Diversion of 15 to 20 million acres of productive crop ground from traditional uses

Importance of RFS Mandate for Conventional Ethanol



Understanding RIN Markets

- RINs are used to verify compliance with biofuel mandates
- Supply of RINS = Biofuel production + stored RINS
- Demand for RINs determined by mandates
- If supply < demand: RIN price rises
- If demand < supply: RIN price falls

Current Situation

- Without mandate, supply of RINs equal to about 10% of gasoline supply (E10)

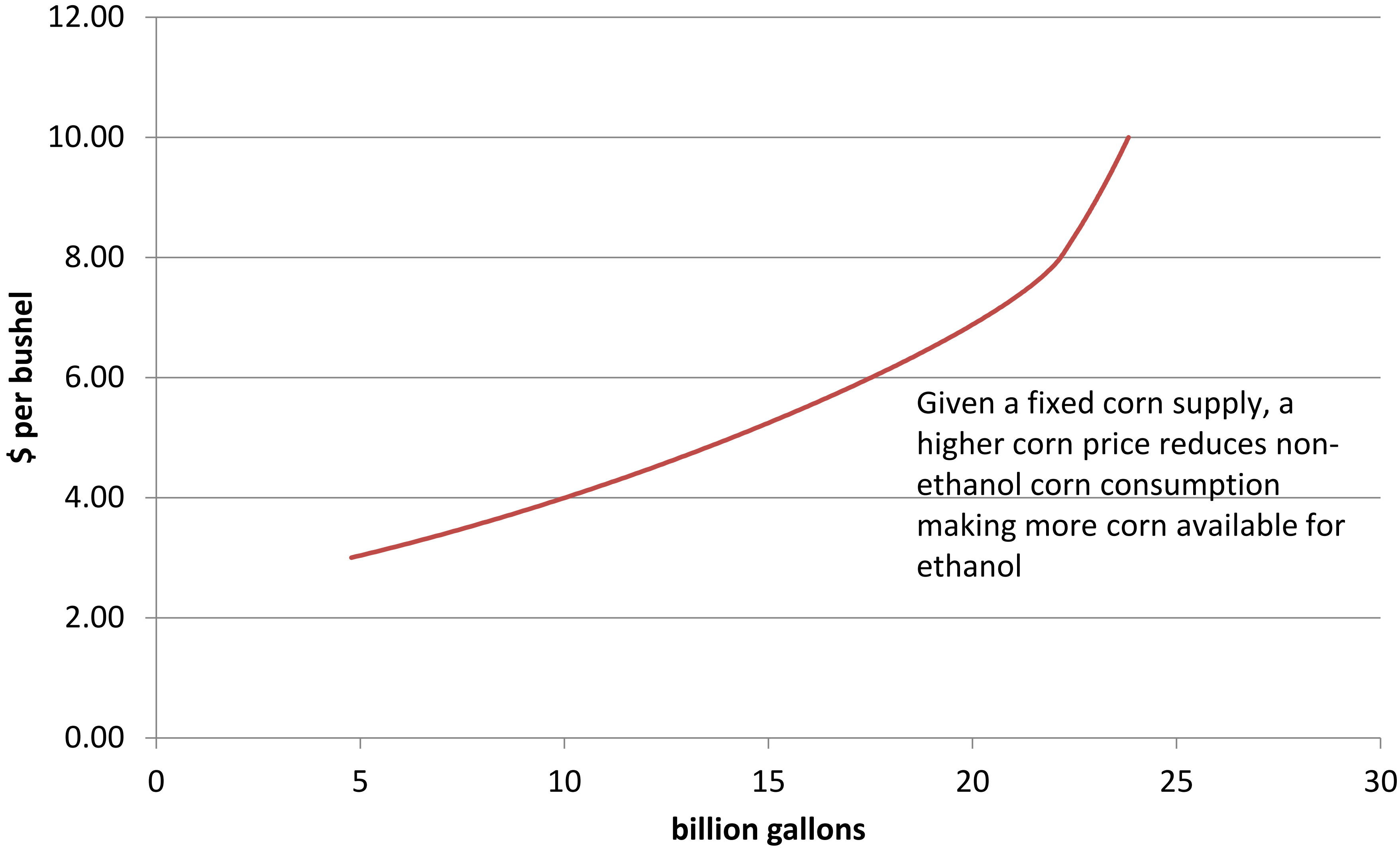
- Problem is that demand for RINs in 2014 and 2015 exceed this supply

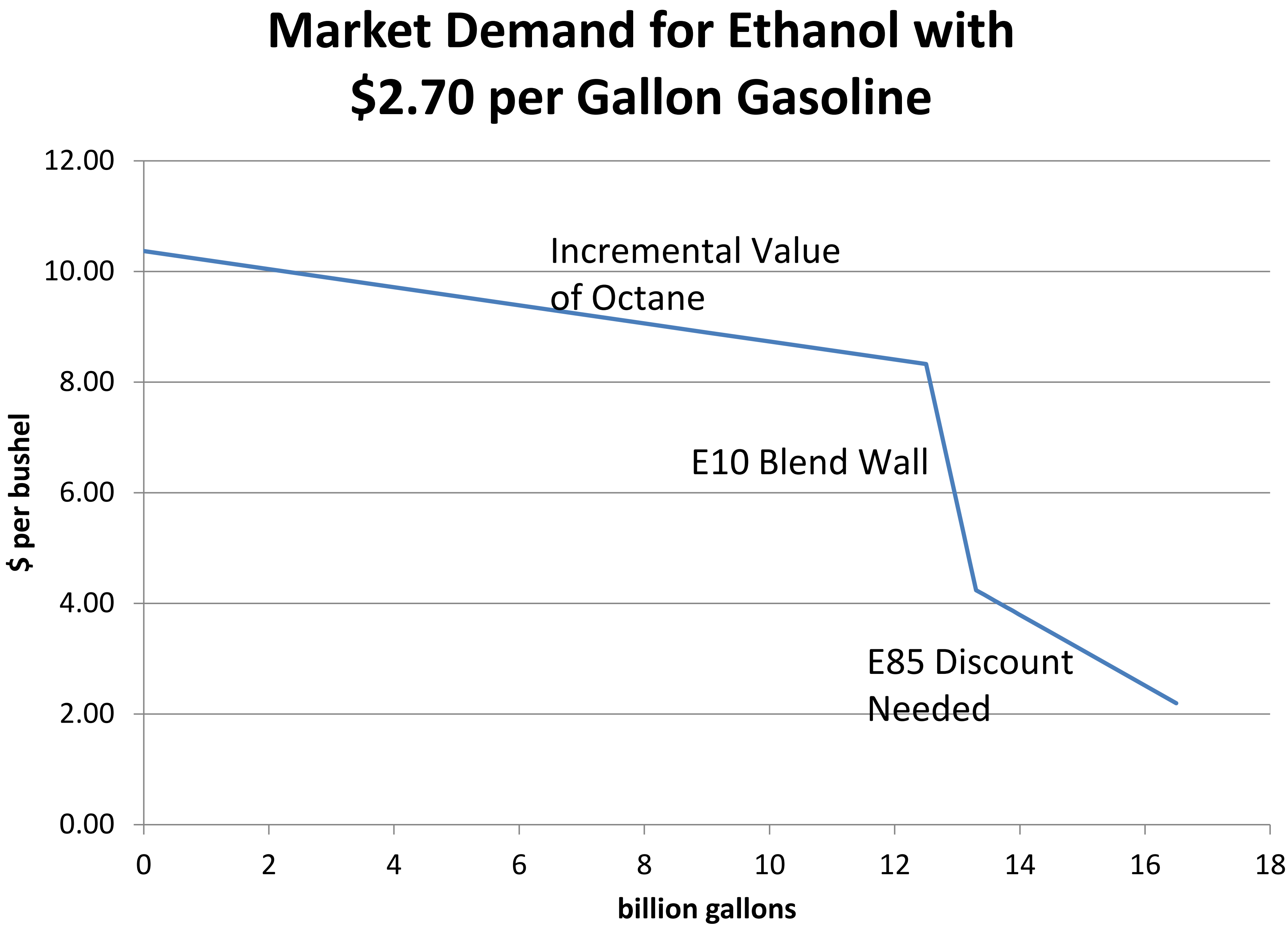
- Price of RINs will rise until supply = demand

Impact of \$0.90 per gallon RIN price

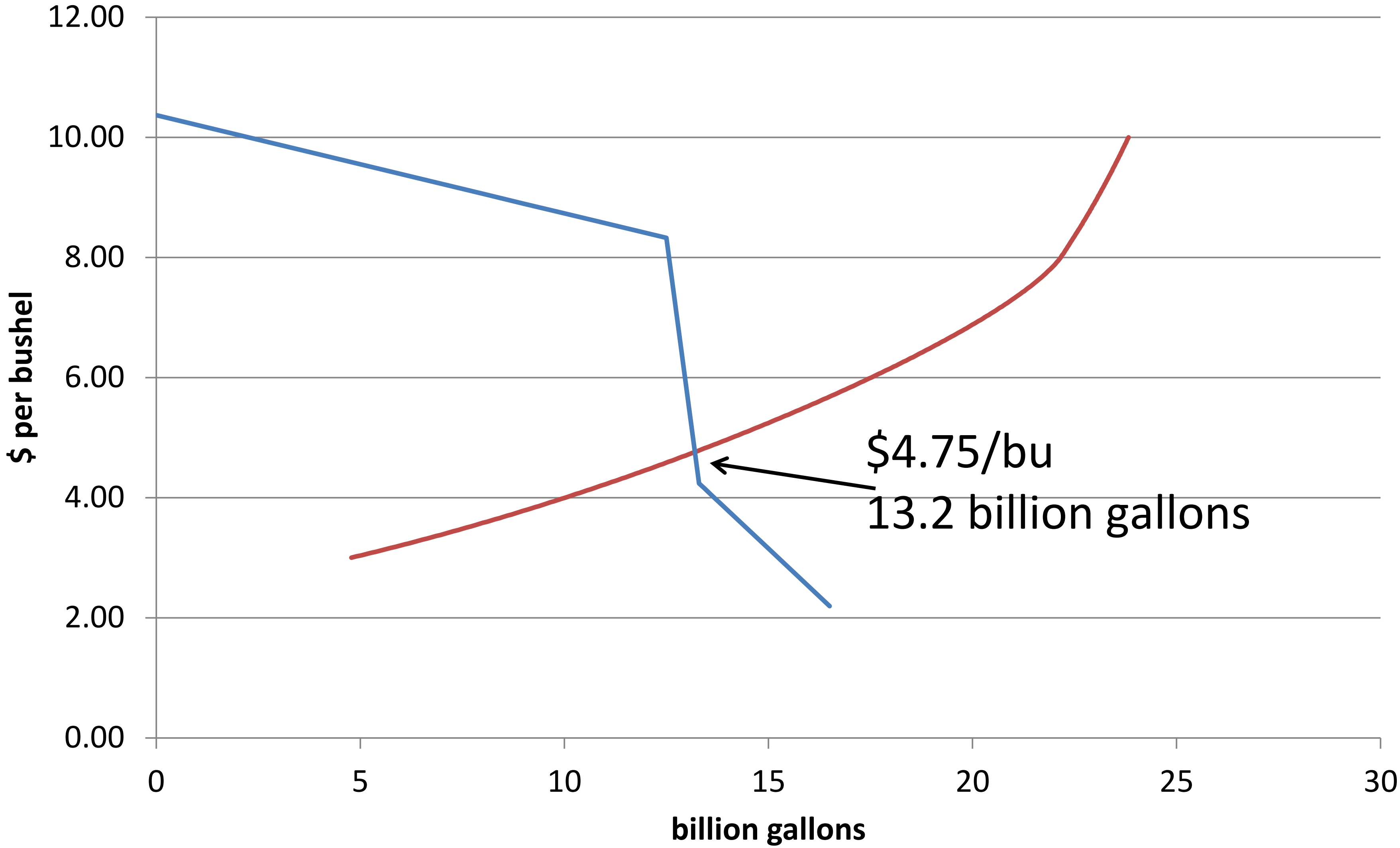
- Current ethanol price = \$2.40 per gallon
- Subtract \$0.90 per gallon to get the expected market value of "beyond E10" ethanol: \$1.50
- Ethanol is valued at 56% of gasoline
- Makes E85 attractive to owners of FFVs
  - Only way to meet mandate

Supply of Ethanol Given US Corn Yield of 158 bu/ac in Current Crop Year

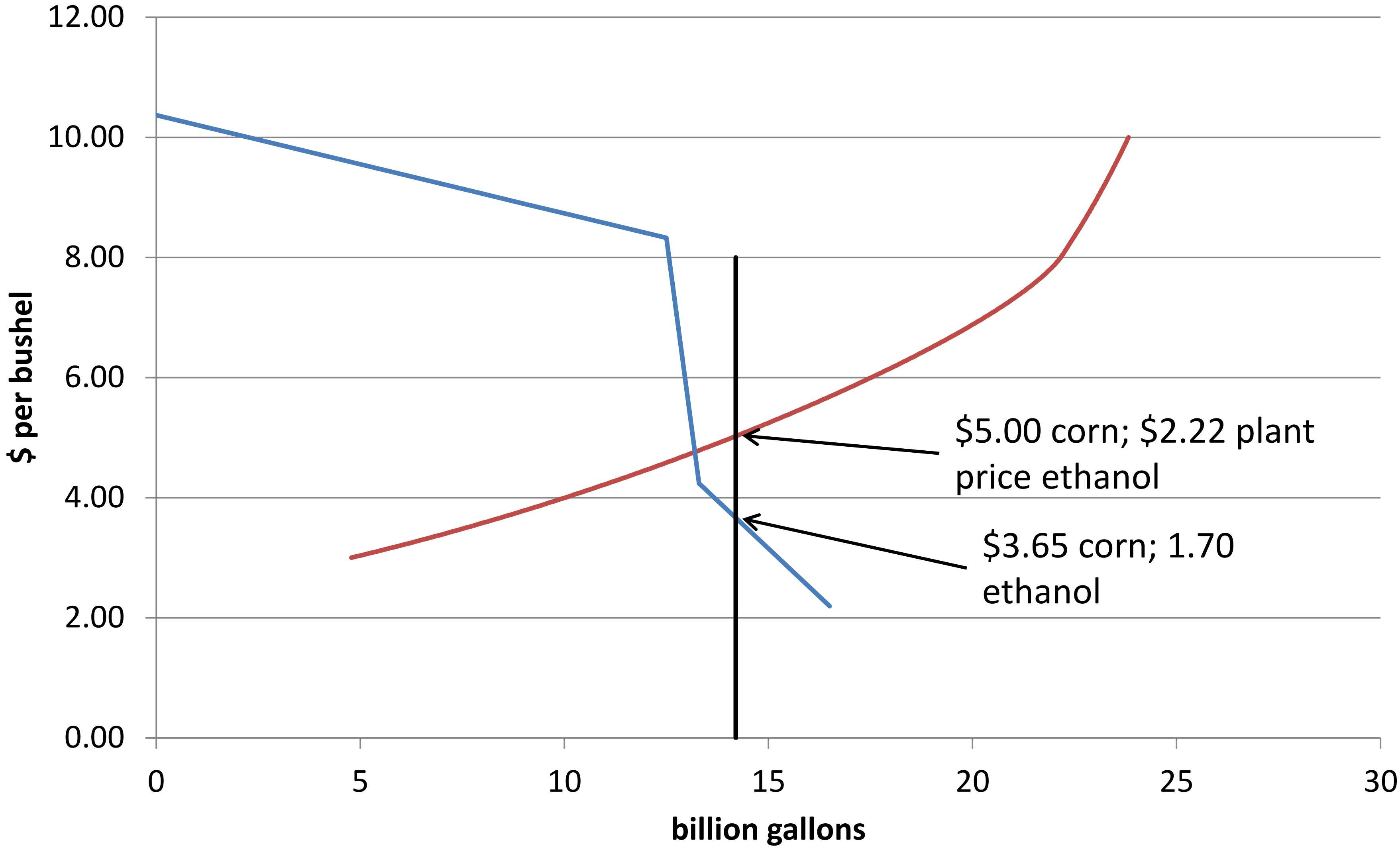



Market Demand for Ethanol with
$2.70 per Gallon Gasoline
12.00
10.00
8.00
6.00
4.00
2.00
0.00
$ per bushel
0
2
4
6
8
10
12
14
16
18
billion gallons
Incremental Value
of Octane
E10 Blend Wall
E85 Discount
Needed

Corn Market Equilibrium with $2.70 Gasoline, 158 bu Yield; No Mandate



But Mandate is 14.2 Billion Gallons in the Next Marketing Year



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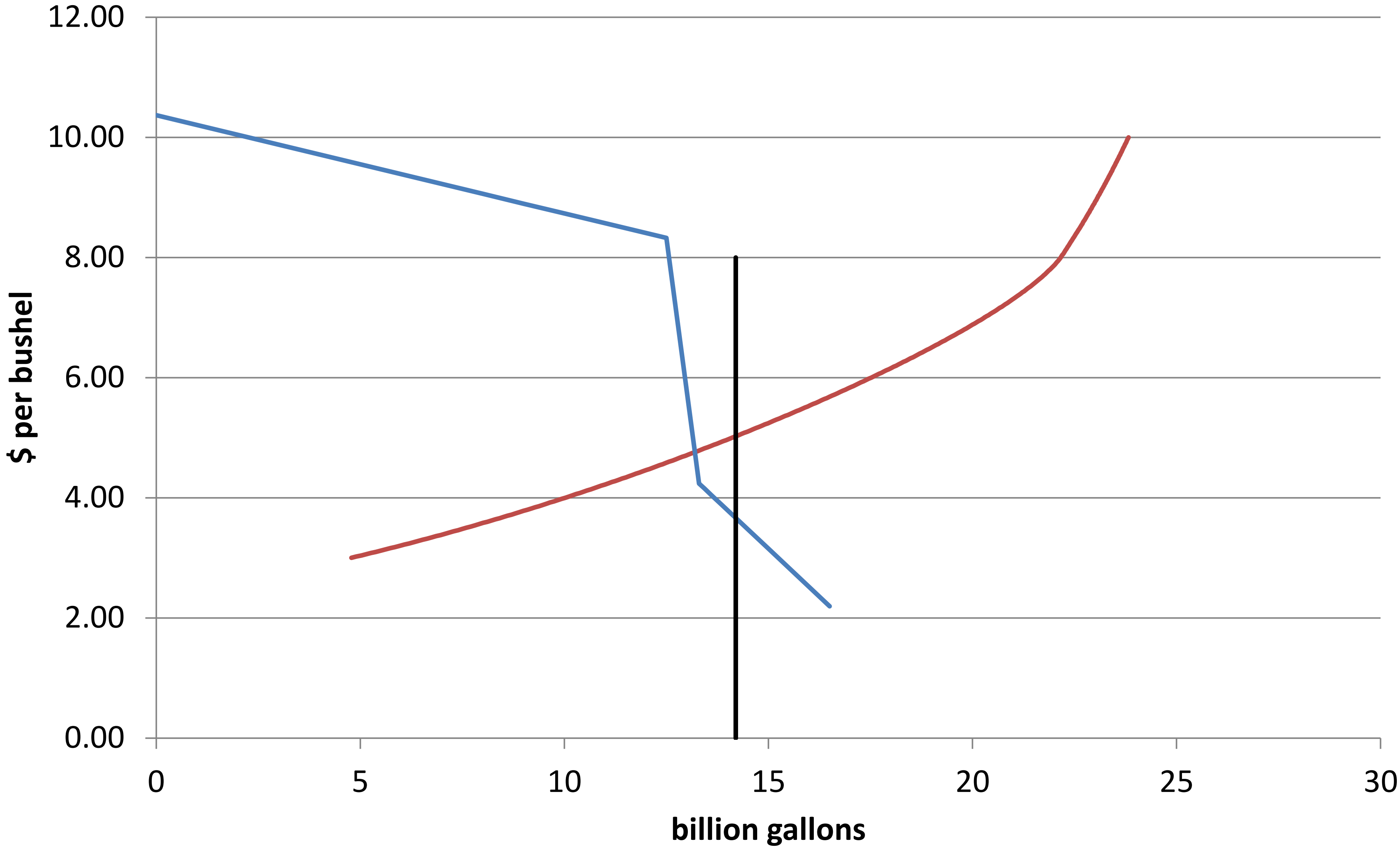

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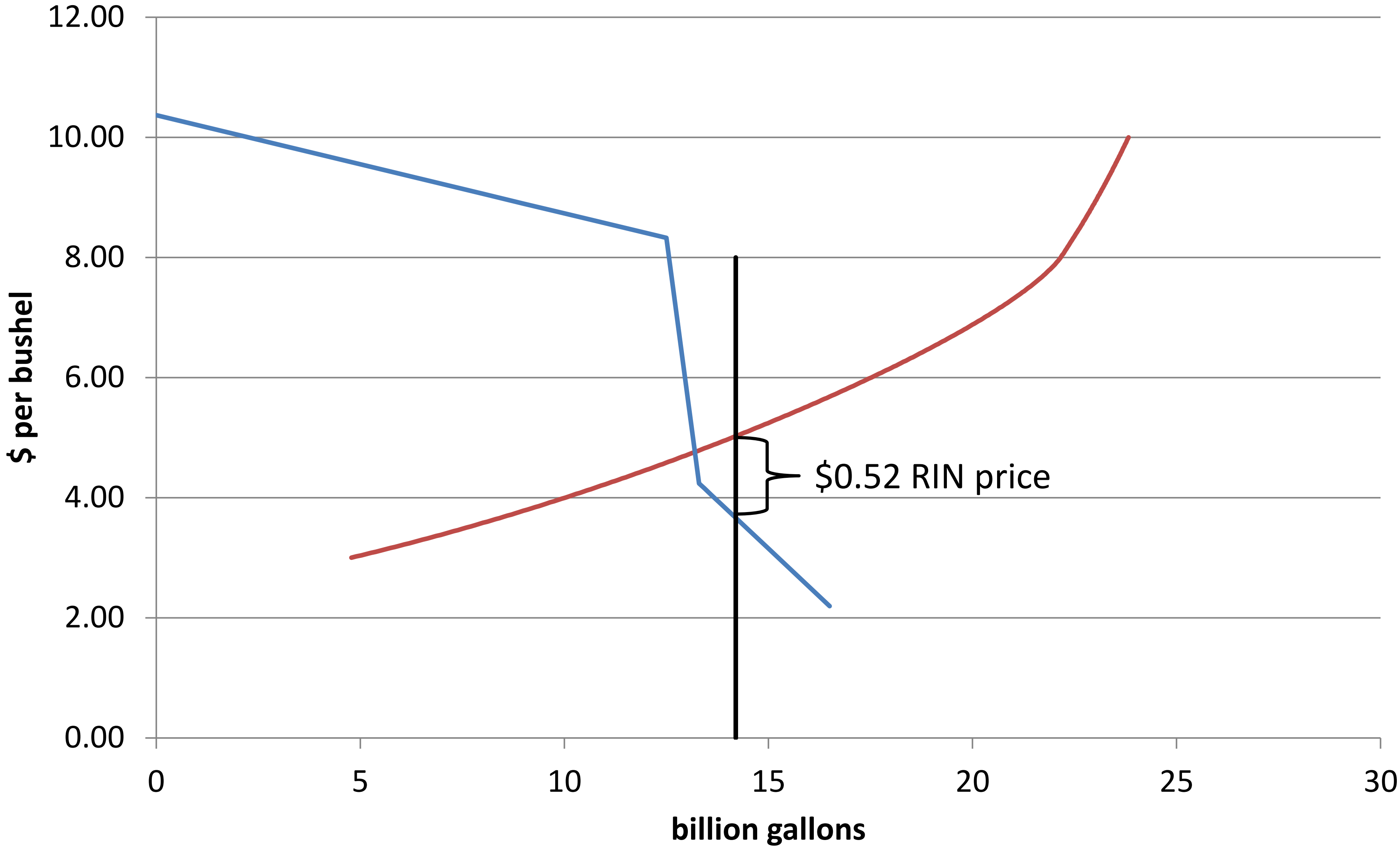


Impact of Mandates on Corn Prices

- Mandate increases corn prices by about $0.25 per bushel

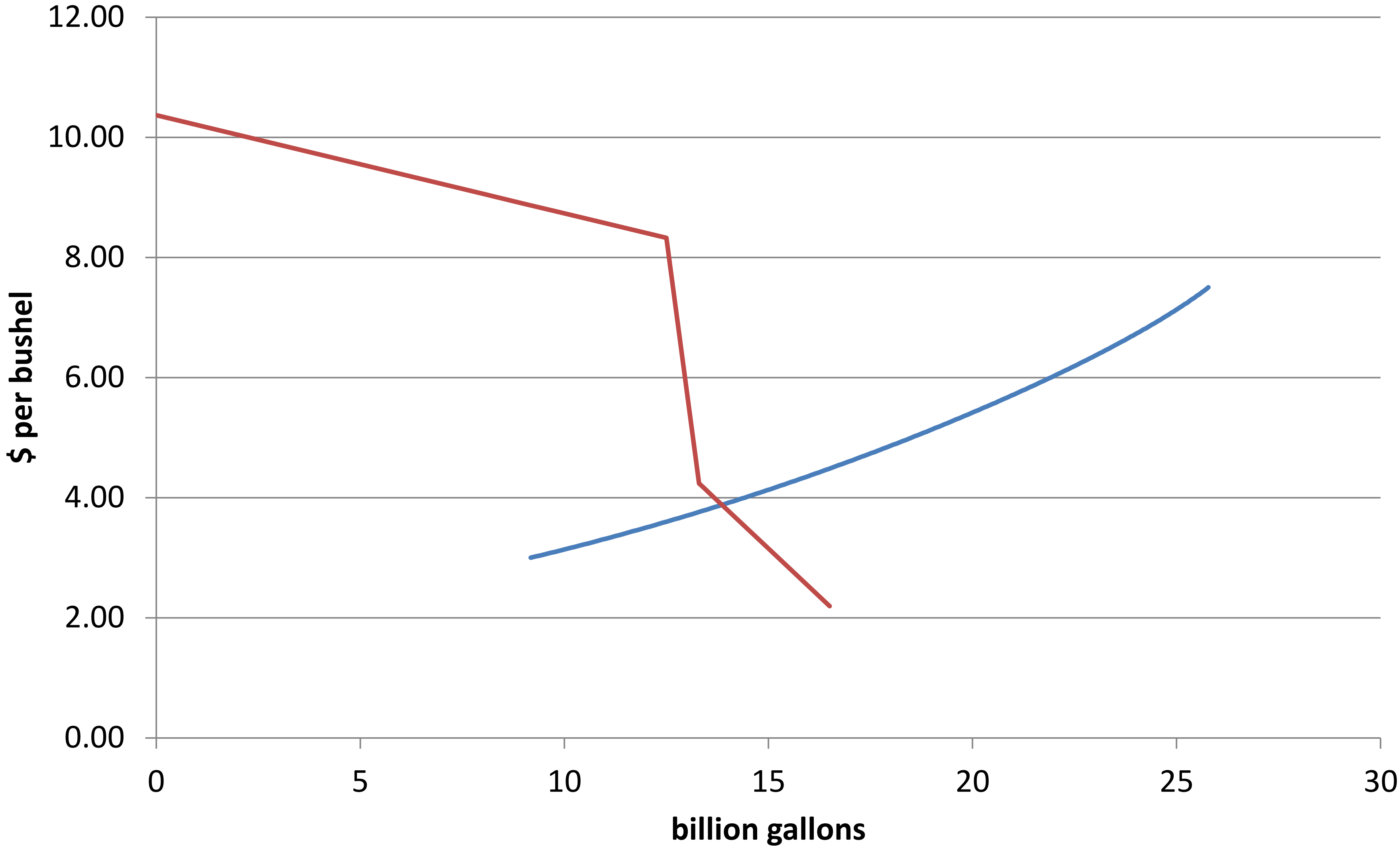
- Impact of policy on 2013/14 profitability modest

- Assumes that oil companies are rationale when it comes to buying ethanol

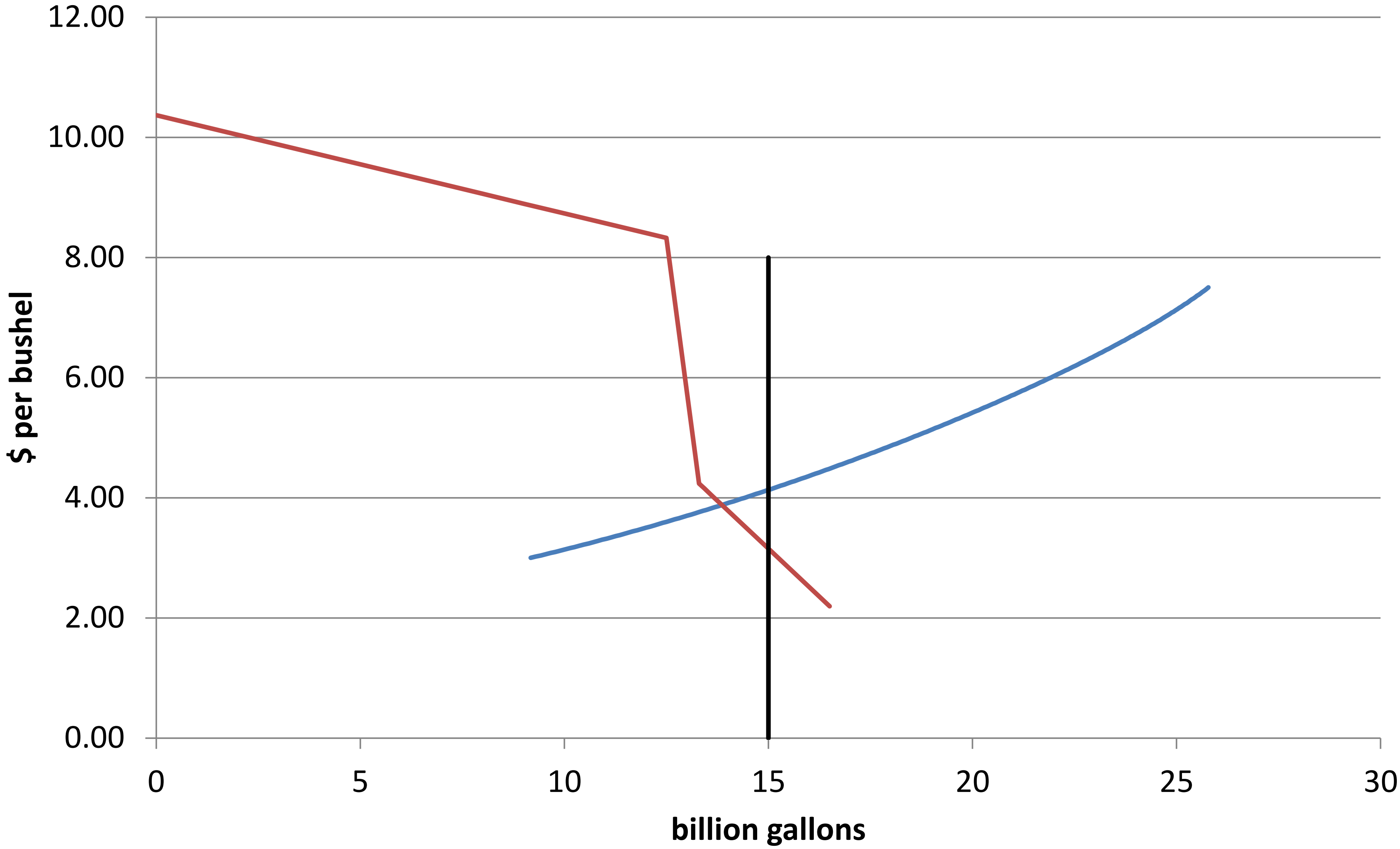
What About 2014/15?

- Carryover stocks from 2013/14 increase to 2 billion bushels: 15% stocks to use ratio
- Suppose we hold acreage constant in 2014 and have trend-line yields (162 bu/ac)
  - Total supply = 16.5 billion bushels
- What is the impact of the mandate?

Market Equilibrium in 2014/15 with No Mandate



15 Billion Gallon Mandate Has a Modest Impact on Corn Prices



Outlook Summary: 1

- If weather conditions are favorable
  - Price of corn will drop in 2013/14 and drop further in 2014/15 with or without ethanol mandates
  - Return to sub $4.00 corn possible in 2014/15
  - Mandates do little to support corn prices

- Without a 2014 drop in acreage, stocks could grow to 2.5 billion bushels

Outlook Summary: 2

- If weather conditions are unfavorable
  - Corn prices will be higher
  - Mandates will boost corn prices by more than under favorable weather
  - But is this what agriculture really wants?

Outlook Summary: 3

- If gasoline prices drop precipitously then mandates have a larger impact
  - But if refineries still use ethanol in a 10% blend impact of mandate still modest

Last Comments

- No reason why US corn ethanol industry could not emphasize exports
  - If corn is inexpensive, why not export?
  - Canada, Mexico, EU (perhaps) China, Asia, etc
- With inexpensive corn, food vs. fuel debate has no legs.
- Will gasoline prices stay high to support exports?