

Willingness to pay for E85: evidence from revealed and stated preferences

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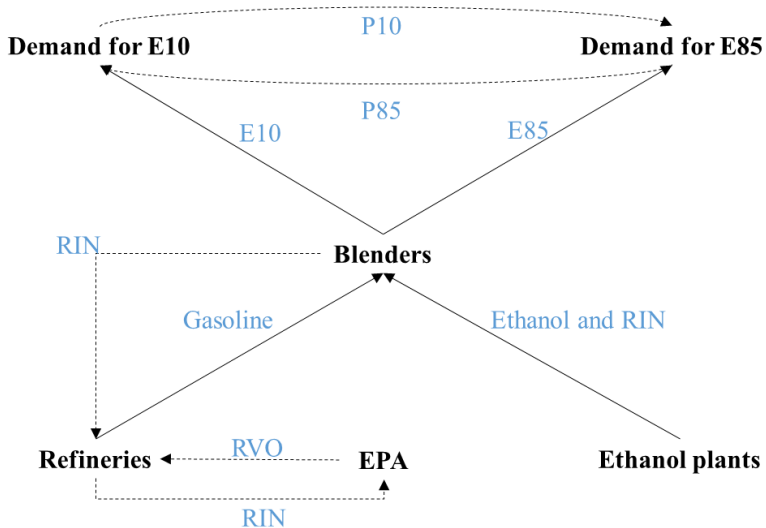
Iowa State University

April 1, 2015

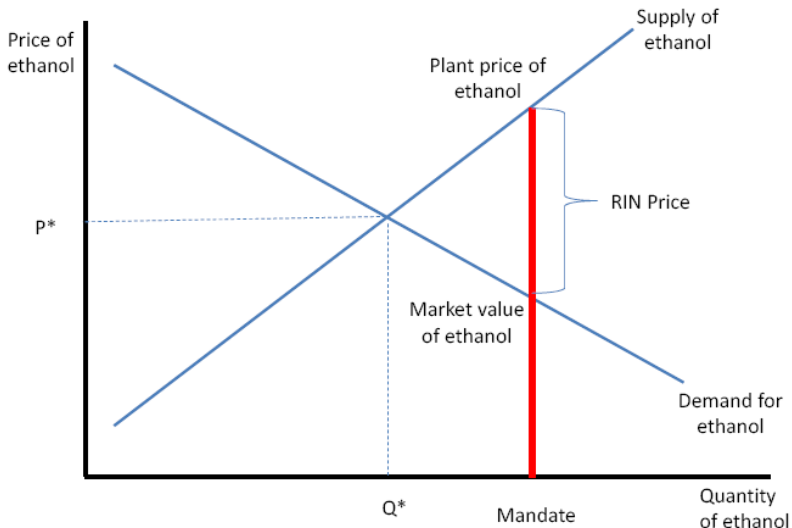
Berkeley Bioeconomy Conference

- If EPA is to increase biofuel mandates, one compliance pathway is through an increase in the sales of E85.
- What determines the price of E85?
- What is the role of RINs?
- What is the demand for E85?
- How do motorists substitute between regular gasoline (E10) and E85?

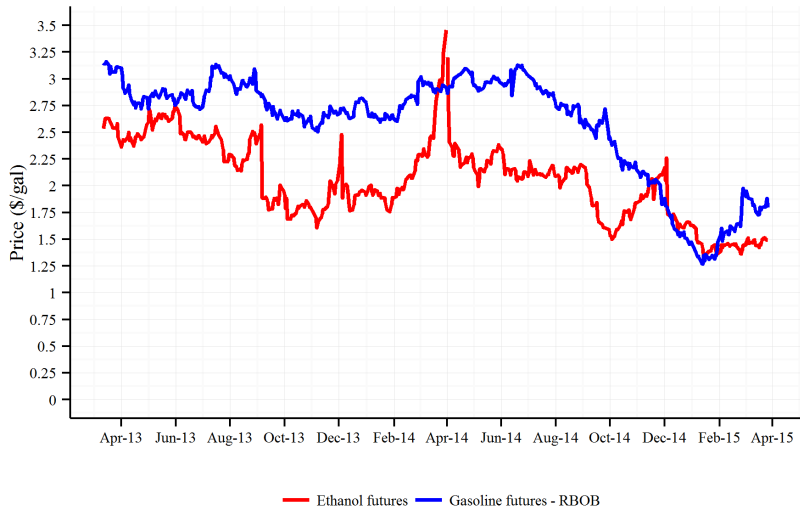
Mandate and the gasoline market



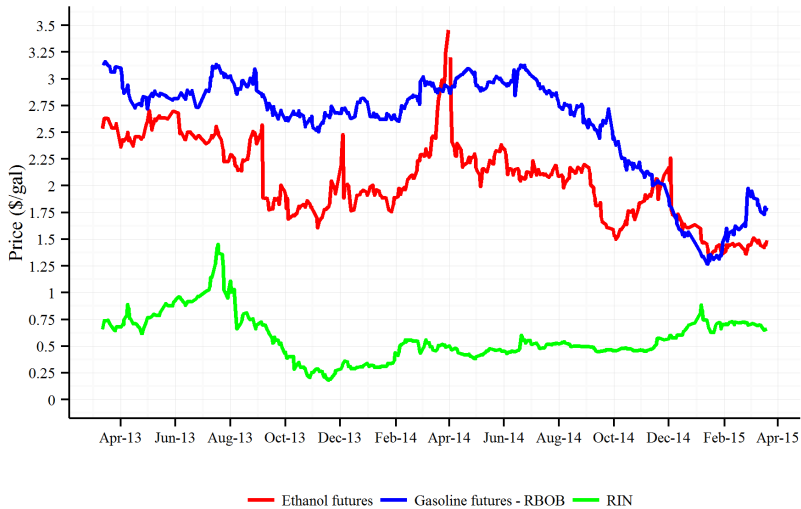
Price of RINs



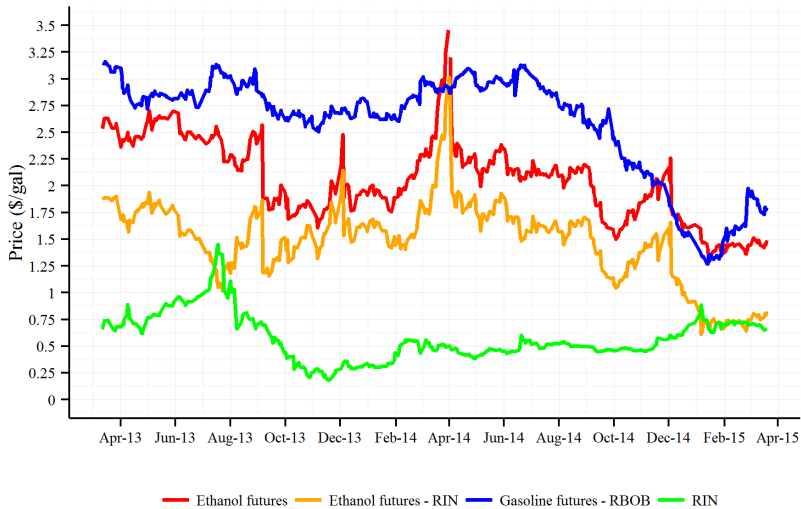
Gasoline and ethanol futures



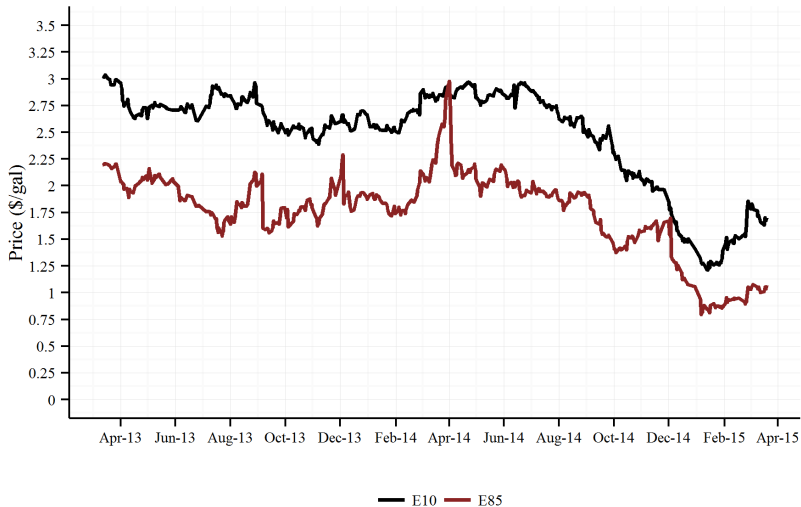
Gasoline and ethanol futures, and RINs



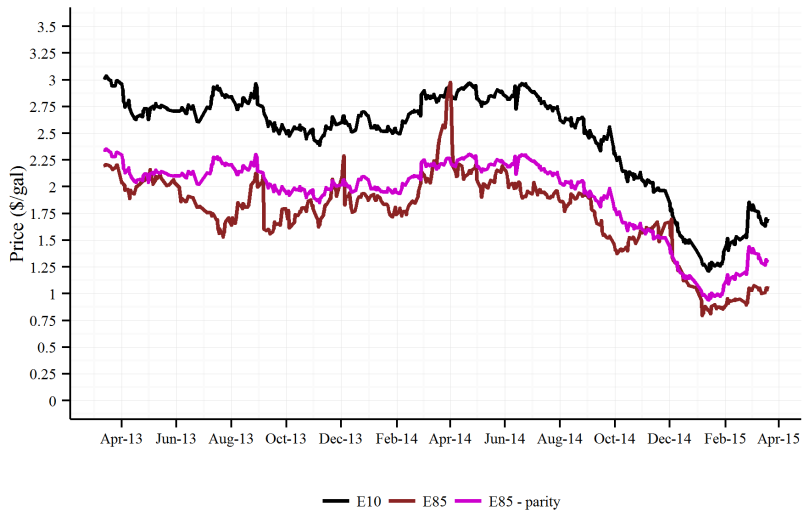
Gasoline and ethanol futures, and RINs



Calculated E10 and E85 wholesale prices



Calculated E10 and E85 wholesale prices



Survey of flex motorists

- Kenny Liao has been conducting a survey of flex motorists:

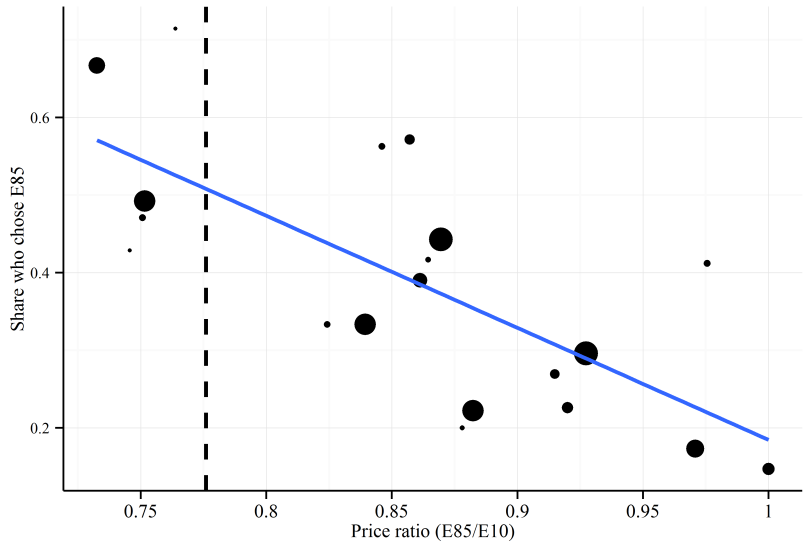
Location	Number of fuel stations	Number of observations	Percent E85
Iowa	4	345	43.0
Colorado	3	114	18.4
Oklahoma	3	152	31.6
Arkansas	3	121	32.2

- Kenny is currently collecting data in California.
- The survey will allow us to estimate willingness to pay for E85 vs E10 and test whether preferences vary by States.
- How do motorists make their choice?

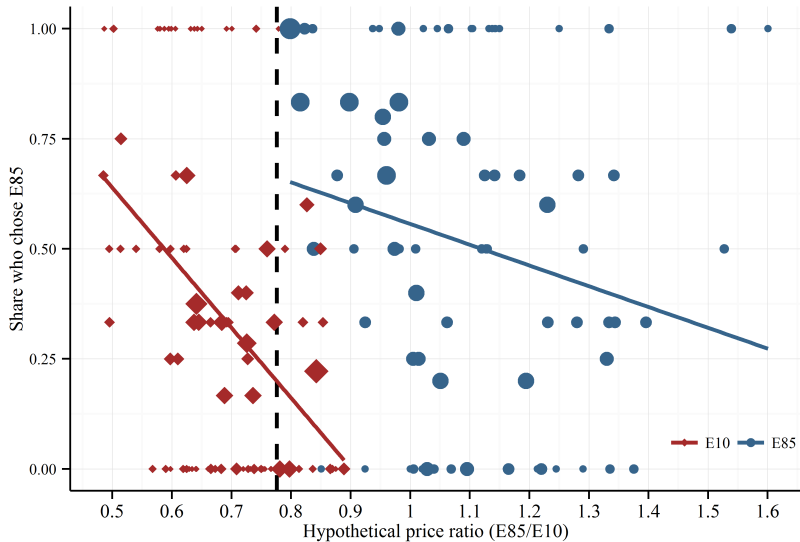
Revealed preferences - Iowa

Per-gallon E85 discount	Number of FFVs	Percent E85	Percent E10	Percent E0	Percent premium
> \$0.80	50	64	30	6	0
\$0.51 - \$0.80	96	49	50	1	0
\$0.21 - \$0.50	90	44	52	2	1
≤ \$0.20	109	26	67	6	2

Revealed preferences



Stated preferences



Questions to motorists who chose E10, E0 or premium

	Percentage who responded yes			
	Iowa	Colorado	Oklahoma	Arkansas
Is your vehicle flex?	89	86	83	84
Ever fueled with E85?	39	49	34	24
Know station offers E85?	74	77	79	71

Questions to all motorists

	Percentage who responded ethanol			
	Iowa	Colorado	Oklahoma	Arkansas
Better for the environment	80	64	42	57
Better for the engine	33	26	19	27
Better for the economy	78	45	35	40
Better for national security	59	34	24	36
More miles per gallon	13	16	14	17

Share of E85 per station

