

Objective Policy Analysis: Examples from FAPRI

by

Wyatt Thompson

Food and Agricultural Policy Research Institute at the University of Missouri
(FAPRI-MU)

Conference on the Benefits of the Multilateral Trading System

Ankara, Turkey

September 24-25, 2012



Food and Agricultural
Policy Research Institute



What is FAPRI and the FAPRI analysis process?

Mission

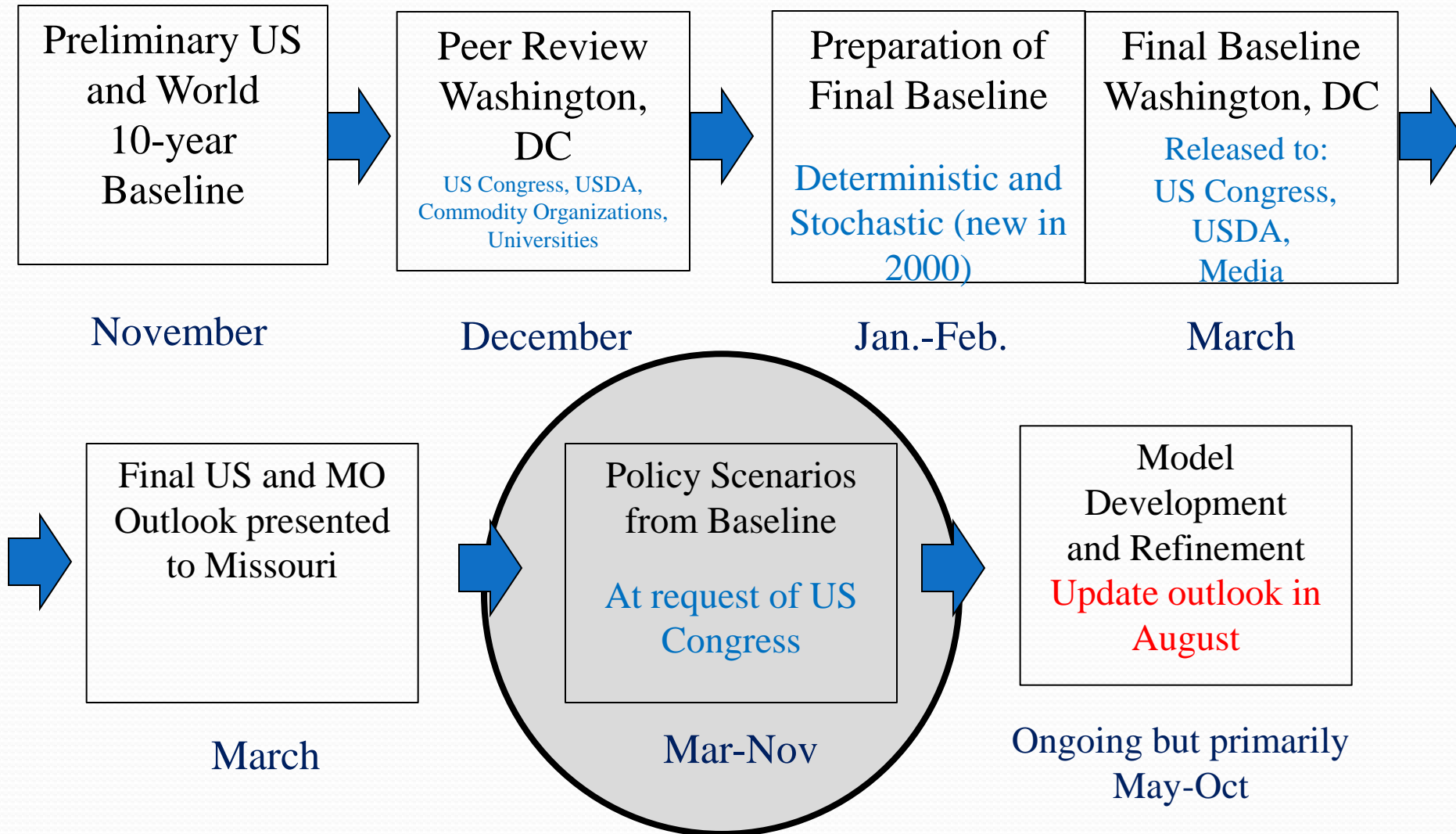
- Provide **objective policy impact analysis** on **contemporary issues** related to agricultural markets and policies.

Clients

- **US Congress**, US Government, agribusiness firms, farmers, NGOs, public, other modelers and other governments

FAPRI-MU Baseline Process

This basic design has been in place for 28 years



Examples

- United States Farm Bill
- Biofuel mandate waiver

United States Farm Bill

- Sets some US policies relating to
 - agriculture
 - food assistance
 - food safety
 - conservation
 - rural economy
- Every five years (approximately)
 - Food, Conservation, and Energy Act (finished in 2008)
 - Farm Security and Rural Investment Act (2002)
- Complicated process
 - Process → analysis questions, timing, format

Farm Bill of 2012

- Two proposals as of August 2012
 - Senate (June 21, 2012)
“Agriculture Reform, Food and Jobs Act”
 - House Committee on Agriculture (July 12, 2012)
“Federal Agriculture Reform and Risk Management Act”

Two Farm Bill Proposals

- Both proposals eliminate old crop payments
 - Including a \$5 billion/year program making fixed annual payments to farmers (Direct Payments)
- Both proposals add risk management programs
 - Senate
 - Includes program making payments when per-hectare revenues fall below a recent average (Agriculture Risk Coverage)
 - House
 - Includes a choice of a similar program making payments tied to per-hectare revenues (Revenue Loss Coverage)
 - Or a program making payments when market prices fall below a reference price (Price Loss Coverage)

Contribution of FAPRI-MU

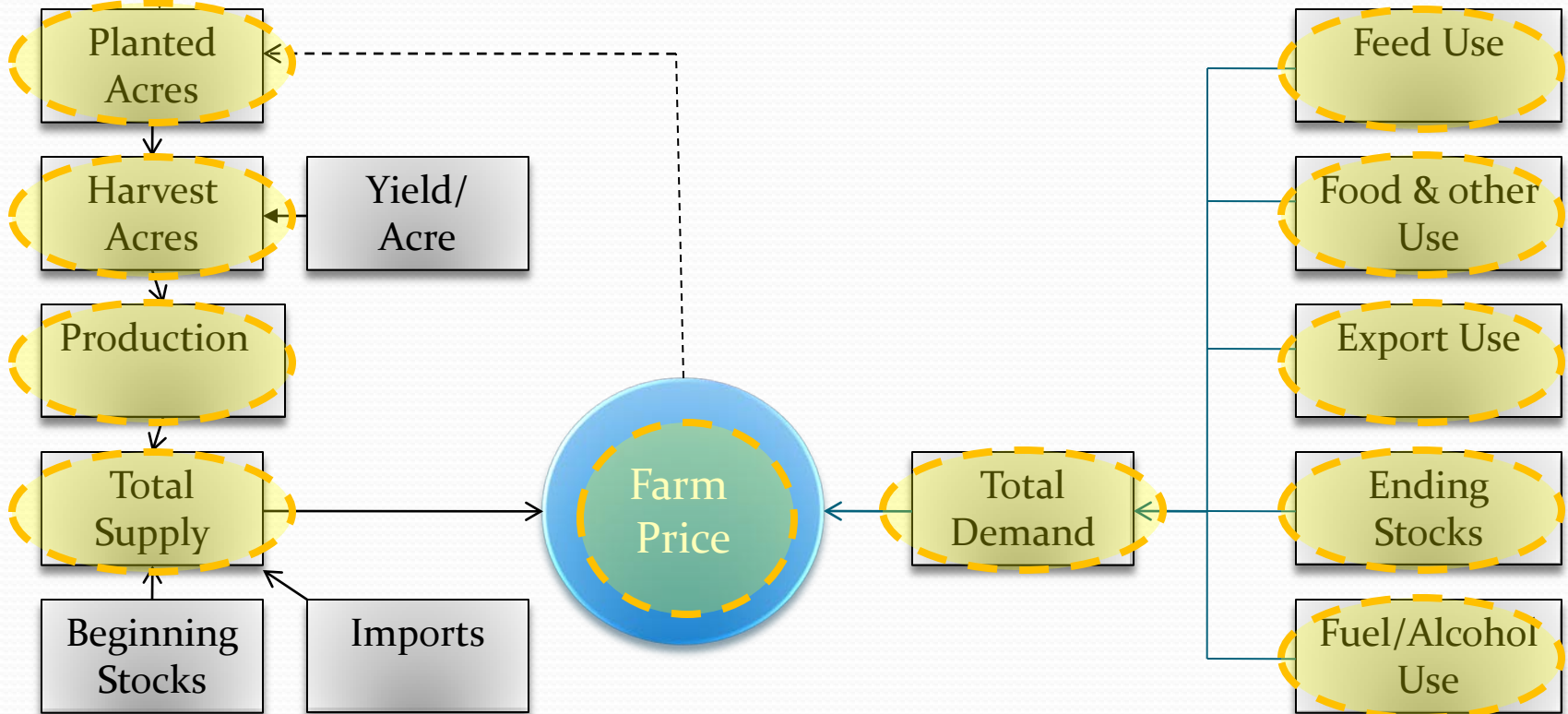
- Compare choices for decision makers
 - Impacts of Selected Provisions of the House Agriculture Committee and Senate Farm Bills
FAPRI-MU report #05-12, August 2012
- Objective analysis
 - Effects of policy options on market prices and quantities, taxpayers, consumers
 - No recommendations
- Authors
 - Pat Westhoff and Scott Gerlt

How to analyze policy?

- Economic models estimate how supply and demand responds to incentives
 - Incentives from prices and policies
- Start with text of proposals
 - What is level of support?
 - Who gets this support?
 - What action is necessary to get support?
 - Who pays?
- Change in policy
 - Change behavior of producer or consumer
 - Change markets, prices adjust and people respond
 - New market balance

Government Support

Recall: Corn Flow Chart



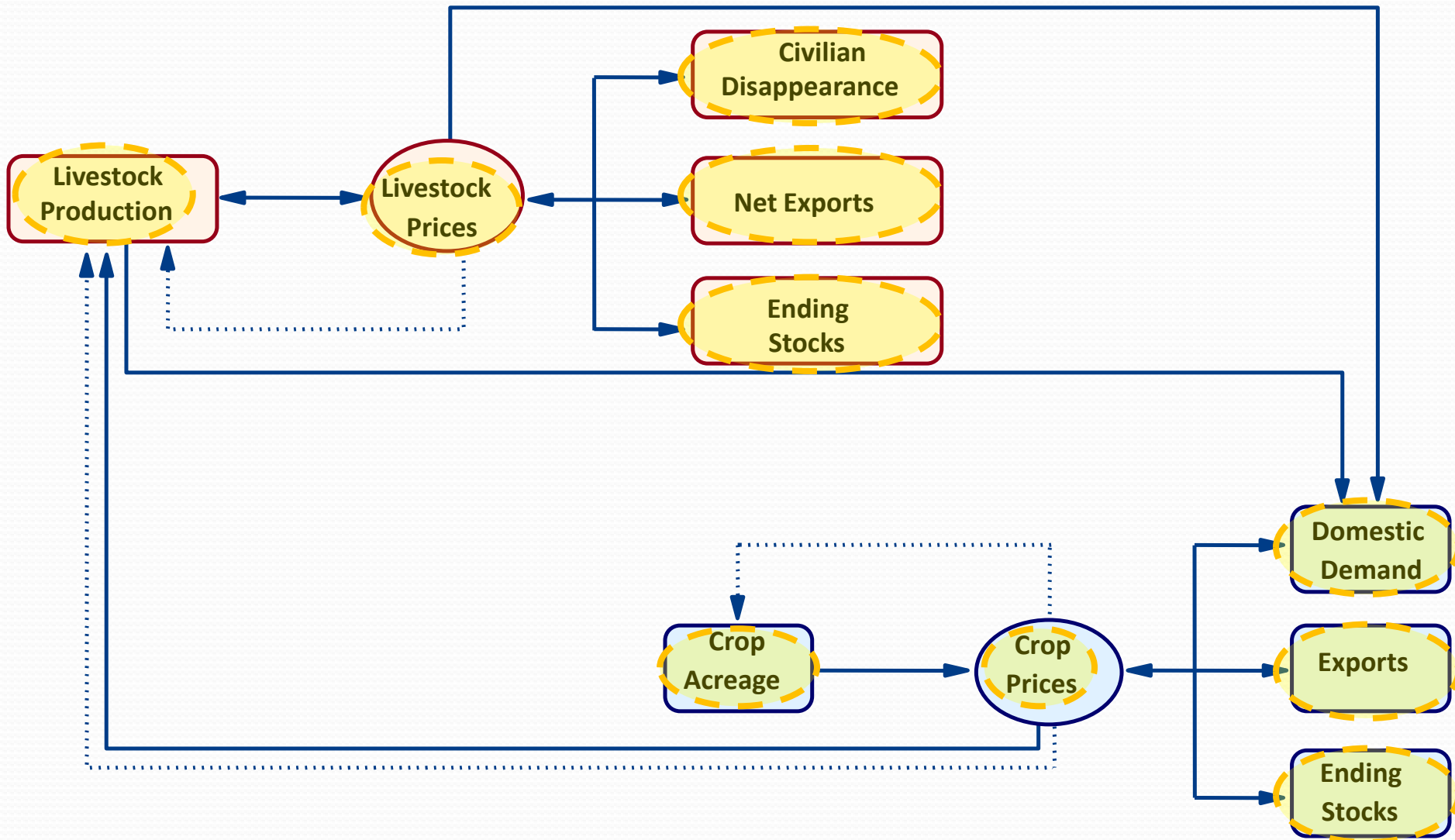
Supply = Demand

Production + Beginning Stock + Imports =

Feed + Food, Seed, Industrial + Exports + Ending Stocks + Fuel/Alcohol

Recall:

Interaction Between the Livestock and Crop Models



How to measure policy?

- Focus on future
 - Projections for next 10-years (not forecast)
- Comparison to baseline
 - Baseline: constant policy
 - market prices and quantities, costs
 - Scenario: new policy
 - new market prices and quantities, costs
 - Change from baseline to scenario equals estimate of policy change impacts
- Analysis never includes everything.

Recall:

What is a baseline and how is it used?

- It is not a forecast
- It is a projection based on a set of reasonable assumptions about
 - Macroeconomic outlook
 - Technology outlook
 - Policy outlook



Where to begin?

How big are payments that would be eliminated? Who gets them? What must they do to get payments?

→ Look at baseline projections

How big are new payments? Who gets them? What must they do to get payments?

→ Look at proposals, add to model

Baseline (current law) benefits and market receipts

dollars per hectare, 2013-2017	Market receipts per harvested hectare	Direct and counter-cyclical payments per base hectare	ACRE and marketing loan benefits per planted hectare	Crop insurance support* planted hectare
Maize	1,991	58	9	47
Soybeans	1,271	27	8	22
Wheat	677	37	5	49
Upland cotton	1,945	88	10	82
Rice	2,436	238	1	19

- *Crop insurance support is estimated as net indemnities (payments for losses minus producer-paid premiums).*
- *Source: Westhoff and Gerlt, "The U.S. Farm Bill: Possible Impacts on Commodity Markets", Farm Policy Journal, forthcoming.*

Maize benefits and market receipts, baseline and Farm Bill proposals

dollars per hectare, 2013-2017	Market receipts per harvested hectare	Direct and counter-cyclical payments per base hectare	Other program payments per planted hectare
Baseline	1,991	58	56
Senate proposal	1,978	0	99
<i>change from baseline</i>	-13	-58	+43
House proposal	1,985	0	89
<i>change from baseline</i>	-6	-58	+34

Source: Westhoff and Gerlt, "The U.S. Farm Bill: Possible Impacts on Commodity Markets", *Farm Policy Journal*, forthcoming.

Estimated impacts on US crop area

average change from baseline, 2013 -2017	Senate	House
Maize	0.3%	0.1%
Soybeans	-0.1%	-0.3%
Wheat	-0.3%	0.4%
Upland cotton	2.9%	2.8%
Rice	-0.5%	3.1%
12 major crops	0.1%	0.2%

Source: Westhoff and Gerlt, "Impacts of Selected Provisions of the House Agriculture Committee and Senate Farm Bills", FAPRI-MU Report #05-12, August 2012.

Estimated impacts on US crop prices

average change from baseline, 2013 -2017	Senate	House
Maize	-0.7%	-0.3%
Soybeans	-0.1%	0.3%
Wheat	-0.1%	-0.7%
Upland cotton	-2.0%	-1.9%
Rice	0.4%	-3.2%

Source: Westhoff and Gerlt, "Impacts of Selected Provisions of the House Agriculture Committee and Senate Farm Bills", FAPRI-MU Report #05-12, August 2012.

Other estimated impacts

change from baseline, 2013-2017, average except as noted	Senate	House
Federal farm program outlays (billion USD, FY 2013-22 total)	-12.88	-12.86
Net farm income (percent)	-2.3%	-1.8%
Farm real estate value (percent)	-1.4%	-1.1%
Consumer food expenditures (percent)	0.0%	0.0%

Source: Westhoff and Gerlt, "Impacts of Selected Provisions of the House Agriculture Committee and Senate Farm Bills", FAPRI-MU Report #05-12, August 2012.

Objective, neutral analysis

- Do not recommend or oppose a policy
 - Do not say a result is “good” or “bad”
 - Do not say that policy makers “should do” something
- Give facts
 - Estimated impacts of policy options
 - land use, agricultural commodity prices, taxpayers, consumers
 - Note key assumptions, uncertainties
 - Provide the analysis policy makers need so they can make informed choices

Examples

- United States Farm Bill

- Biofuel mandate waiver

Biofuel mandate waiver

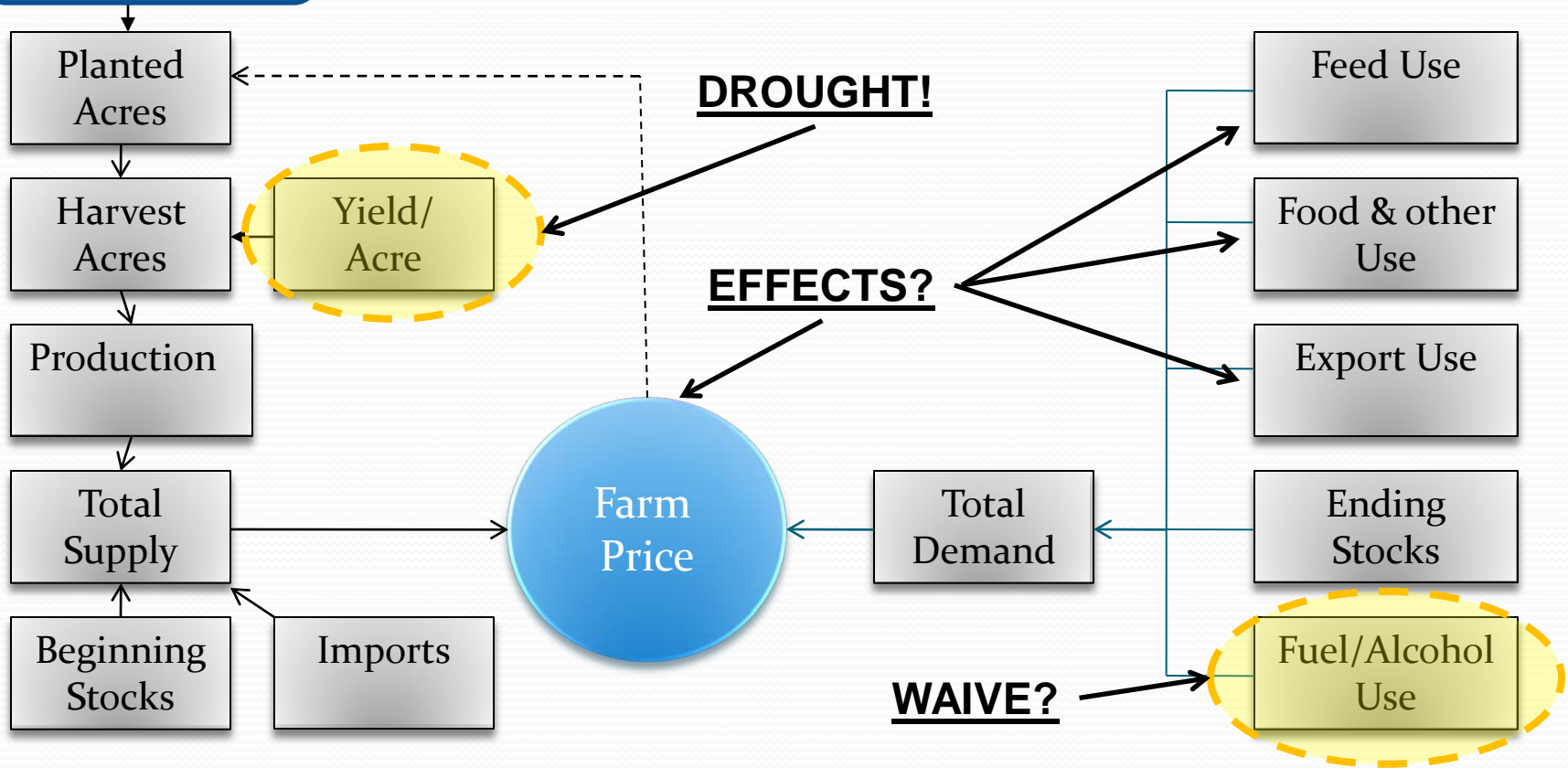
- Biofuel mandate
 - Minimum level of biofuel use
 - Maize ethanol helps meet mandate
- Recent events
 - Drought
 - Mandate waiver requests
- Policy options
 - Do not waive mandate
 - Continue to require at least minimum use
 - Waive mandate
 - Lower mandate or eliminate mandate

Useful facts for decision makers

- If mandate is waived, what happens to...
 - Maize price?
 - Livestock producers?
 - Other crop producers, other consumers?

Government Support

Corn Flow Chart



Supply=Demand

Production + Beginning Stock + Imports =

Feed + Food, Seed, Industrial + Exports + Ending Stocks + Fuel/Alcohol

Useful facts for decision makers

- Complications
 - Mandate has 4 connected parts
 - Market response
 - Ethanol demand, delayed effects

- FAPRI-MU analysis takes into account
 - Laws and regulations
 - Expectations of how people react, economics
 - Goal: objective analysis to inform decision makers

Other examples

- EPA and RFS₂: Market Impacts of Biofuel Mandate Waiver Options
- U.S. Biofuels Baseline and Impact of E-15 Expansion on Biofuel Markets
- Potential Impacts of Eliminating Direct Payments
- U.S. Biofuel Baseline and Impact of Extending the \$0.45 Ethanol Blenders Credit
- WTO Domestic Support Measures: How Accounting Rules and Market Circumstances Matter
- Stochastic U.S. Crop Model Documentation
- Crop Insurance: Background Statistics on Participation and Results
- Beginning Farmer and Rancher Development Project – West Central Feedgrain Representative Farm Final Report
- Beginning Farmer and Rancher Development Project - Online Decision Making Tools Summary

For these reports and other analysis, see www.fapri.missouri.edu.