

# Implications of the 2002 US Farm Act for World Agriculture: A Canadian's Reaction

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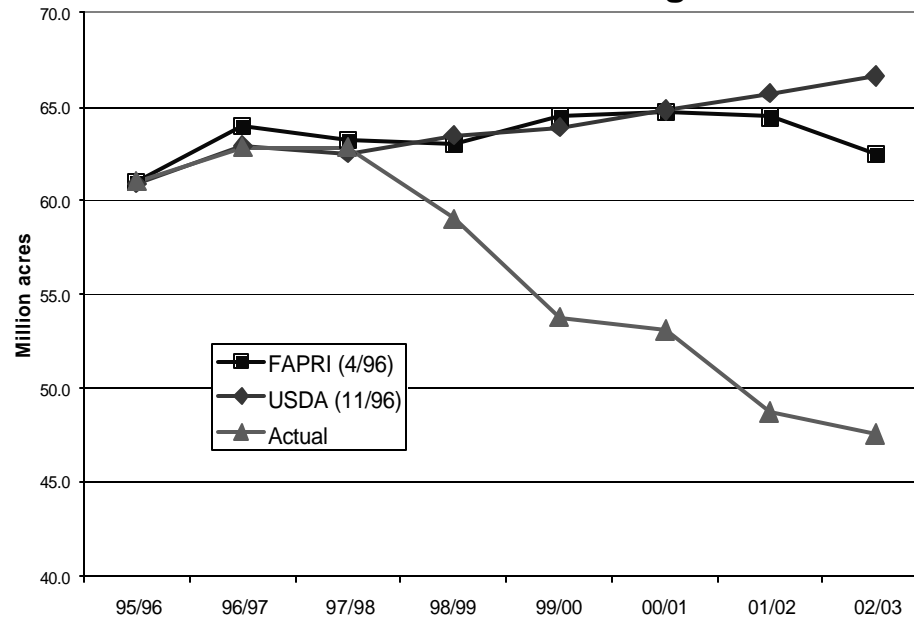
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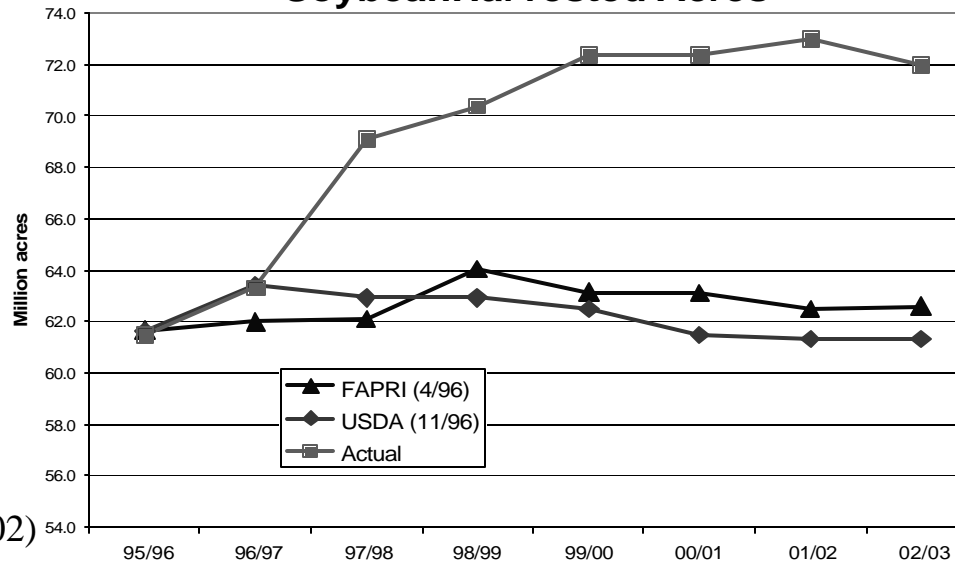
university of manitoba

# Never look back

## Wheat harvested acreage



## SoybeanHarvested Acres



Source: Orden (2002)

# New Wine in Old Bottles

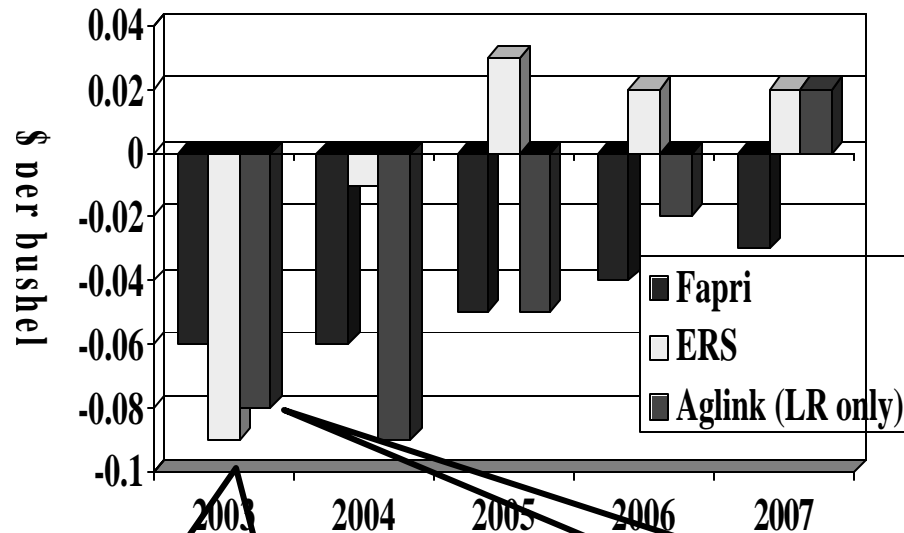
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- There a lot of similarities between FAIR and FSRI Acts and the same old problems modeling the programs remain
  - Direct payments which are not tied to current production still share a significant portion of expenditures
    - Counter-cyclical payments muddy the waters
  - Loan rates: lower soybeans rates and higher other rates
  - Added Conservation Reserve Program acres don't remove much cropland
- In order to judge FAPRI's Farm Bill Analysis I have chosen to compare relative impacts with Wescott, Young, & Price (2002) and with results of my own creation (AGLINK)
  - Different assumptions about modeling payments can lead to different results
  - Differences in baseline assumptions can lead to markedly results
  - Different model structure can lead to different results

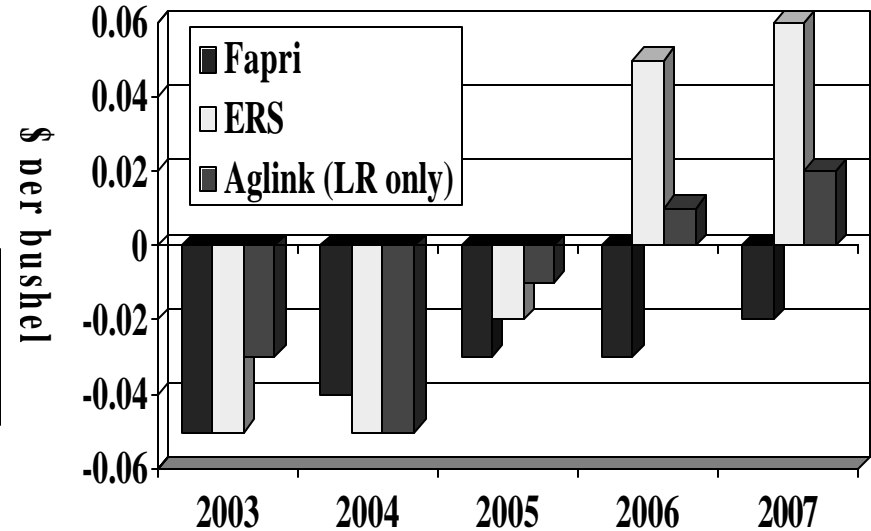
# Two of these things are not like the other

(Do loan rates matter?)

Change in US farm price for corn  
2002 versus 1996 Farm Bill



Change in US farm price for wheat  
2002 versus 1996 Farm Bill

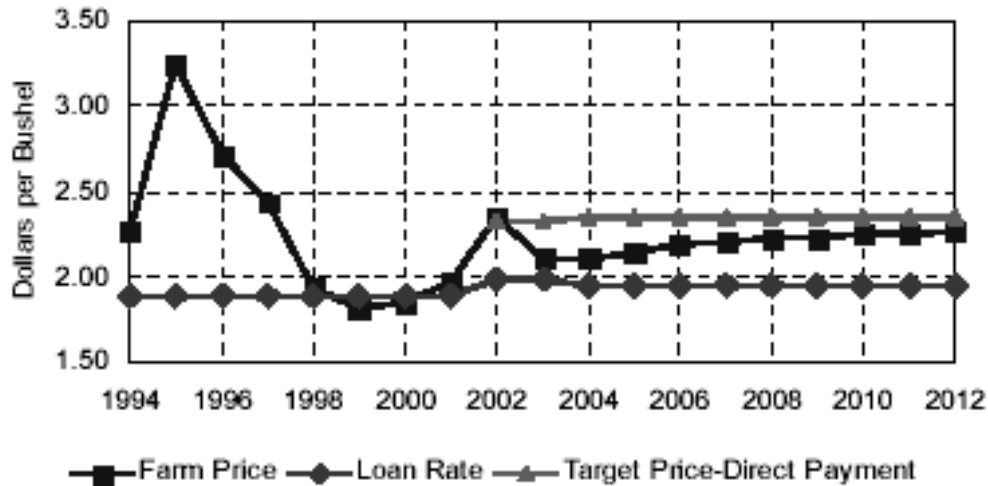


*-ERS assumes direct payments  
and counter-cyclical payments  
do not affect production  
-2002 baseline is employed*

*-In this scenario I have assumed  
away DP and ccp impacts  
- 2002 baseline is employed*

# Baselines Matter

Corn Prices



- FAPRI's 2003 Baseline projections show no or modest LDP revenues/acre for wheat and corn
- If market conditions are strong enough then increased loan rates don't matter very much

Source: FAPRI-UMC TDR 04-03 2003 US Baseline Briefing Book

- “Due to decoupled payments the total expansion in acreage is expected to be 1.037 million acres” (Kruse p. 14)
- “On average, total area planted to the nine major crops increases by on 1.03 million acres” (Kruse p. 16)
- Loan rate may trigger even if season average price exceeds the loan rate, as producers may chose to get payment at the year's lowest price

# Accounting for the Unaccountable

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- Given that the FAPRI results appear to be largely driven by decoupled payments and counter-cyclical payments how do they affect production?
- Are these transfers production neutral if the recipient can not affect the size of the pay-out?
  - idea of lump sum transfers
- When isn't a direct payment neutral?
  - Wealth effects reduce risk aversion
  - Wealth transfer relaxes debt constraints
  - Expectation effect: increase base in anticipation of new pay-out related to this new higher base
    - Optional Base Acreage Updating
  - Long- run entry and exit decisions

# Murder at the margin

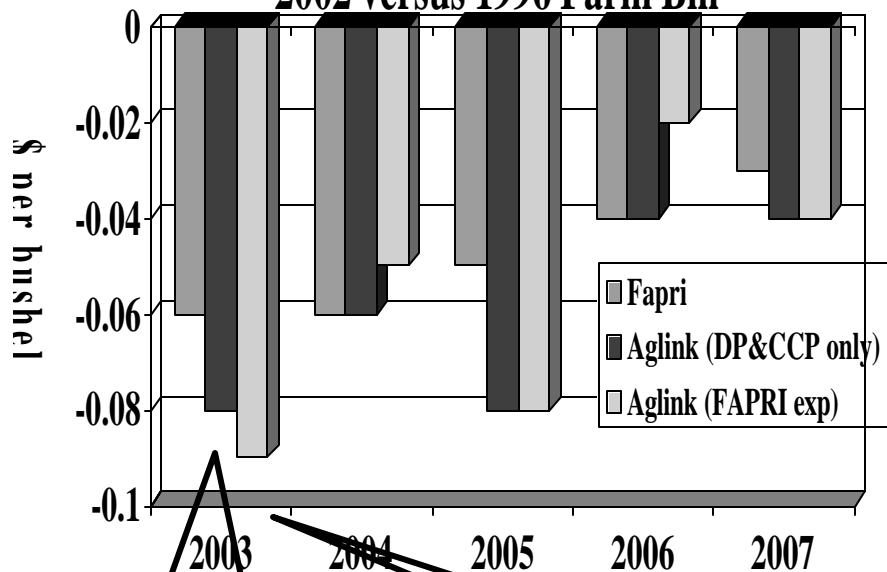
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- FAPRI ad hoc approach to include decoupled payments: *acreage expansion coefficient* and “*decoupled scaling factor*” allocated to crops by historic share
  - This approach is not transparent and appears to revive a linkage between expected net returns and decoupled payments
  - An earlier FAPRI paper by Adams et.al (AJAE #5, 2001) is still ad hoc but is more appealing
    - PFC and MLA payments affect total area but not crop mix
    - An elasticity of  $0.03 = \% \Delta \text{ total area} / \% \Delta \text{ government payments}$  (*marginal statistical significance*)
      - Determine change in total area for total payments
      - Allocate this change to each crop on the basis market determined crop shares
    - This approach used in the OECD AGLINK model

# And I thought decoupling was something done to dogs in heat

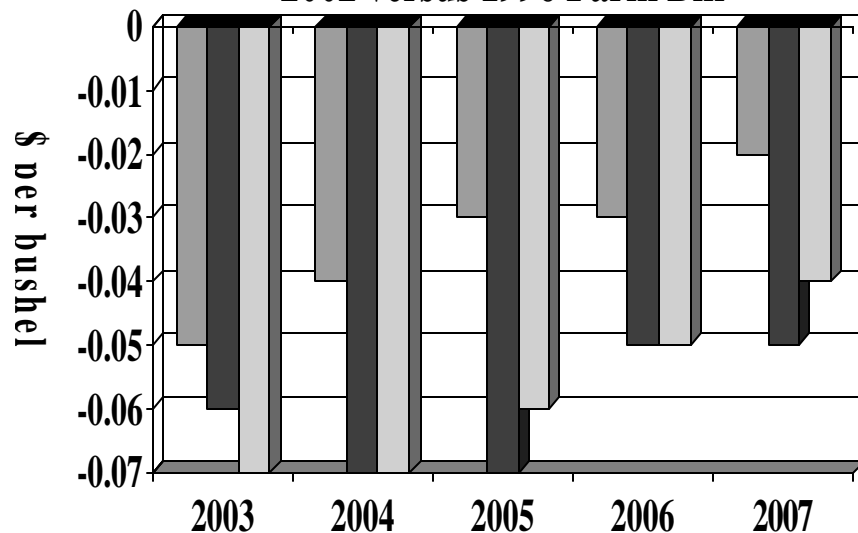
Change in US farm price for corn

2002 versus 1996 Farm Bill



Change in US farm price for wheat

2002 versus 1996 Farm Bill



*- New versus old farm bill  
Direct Payment and expected  
CCP with OECD 2002 baseline*

*-FAPRI 2003 baseline CCP and  
Direct Payment expenditures/acre  
applied to AGLINK model*



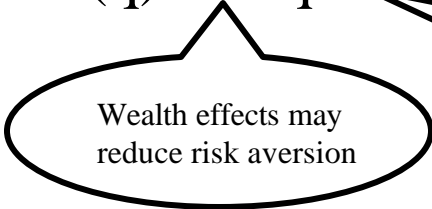
# So What?

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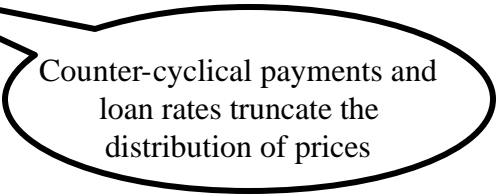
- The position of this farm bill neophyte is that the FAPRI impacts are probably understated
  - Differences in baseline assumptions lead to different impacts with respect to loan rates
  - ERS results are not really comparable since the impacts of direct payments and counter-cyclical payments are assumed away
  - Differences in how to model the payments/programs and differences in parameters/model structure probably explain much of the difference
- There are better ways to incorporate decoupled payments
- Under risky conditions, with uncertain prices, the supply equation is:

$$p = MC(q) + \text{risk premium}$$

$$P = MC(q) + \lambda \cdot q \cdot \sigma^2$$



Wealth effects may reduce risk aversion



Counter-cyclical payments and loan rates truncate the distribution of prices

# Special Crops

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- Although the majority of the support has been directed to major commodities loan rates have been extended to special crops (dry peas, lentils and chick peas)
- Over the 1990s western Canadian producers have diversified to these crops
- World markets for these crops are much thinner
  - Dry pea prices: food and feed
    - Feed prices are determined by soy meal prices
    - Food prices have a premium over floor feed price
  - Lentil and chickpeas are produced solely for food markets
    - With inelastic demands relatively small increase in supply will cause proportionately larger declines in price