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

James Rude

April 24, 2003
Never look back

Wheat harvested acreage

Source: Orden (2002)
New Wine in Old Bottles

• 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?)

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

- 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

- “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

- 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

• 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

- 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?

– 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

- 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