A Review of Empirical Studies on the Production Impacts of PFC and MLA Payments Under the U.S. FAIR Act

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Background on Our Report

• Report commissioned by OECD as part of its program of work on decoupling
• Will be formally presented at OECD APM meeting on October 19-21, 2004
  – Working Party has not yet provided feedback
• This presentation is a preview of our report’s findings
The FAIR Act of 1996

- Fundamental change in system of direct payments to U.S. farmers
- Target price/deficiency payment program replaced by Production Flexibility Contract (PFC) payments
- Marketing Loss Assistance (MLA) payments introduced in 1999 as an “emergency assistance” measure
Potential Production Impacts

• Payments not linked to current farm-level production, so why should they influence output?

• Five possible mechanisms through which payments may influence output:
  – Helping cover short-run production costs
  – Relaxing capital constraints facing farmers
  – Reducing risk or farmers’ aversion to risk
  – Expectations about rebasing
  – Slowing structural change in agriculture
Covering Production Costs

- Payments may help cover short-run production costs, subsidizing otherwise unprofitable production
- Why would a producer do this?
  - Preference for farming lifestyle
  - Operating on downward portion of average total cost curve
- If payments raise prices of fixed farm assets, then production costs go up over time
Relaxing Capital Constraints

• Payments may help finance investments in farm operation out of retained earnings
• This requires imperfect or incomplete capital markets that constrain ability to borrow
• Lenders may also be more willing to make loans if payments are seen as reducing the risk of default
Reducing Risk or Risk Aversion

- Increase in wealth created by payments may make producers less risk averse \((\text{wealth effect})\)
  - Requires decreasing absolute risk aversion (DARA)

- Payments may reduce risk by reducing farm income variability \((\text{insurance effect})\)
  - MLA and other countercyclical payments
Expectations about Rebasing

• Producers might anticipate a future updating of base acreages or program yields
• Produce more today to qualify for higher payments in the future
• Current production and payments are linked only if producers also believe current payments are a predictor of future payments
Slowing Structural Change

• Payments may prompt some producers to remain in agriculture rather than exit
• Does this increase or decrease production?
  – If exit would lead to agricultural land abandonment or conversion to urban uses, payments increase production
  – If exiting farmers’ land would be taken over by more efficient farmers, payments decrease production
Studies We Reviewed

- Qualitative research studies
  - Focus groups (3 studies)
- Studies using synthetic economic models (7 studies)
- Econometric studies
  - Land allocation (4 studies)
  - Time allocation (3 studies)
  - Land rents and land values (9 studies)
Focus Group Studies

- Focus groups of farm managers and operators conducted soon after FAIR Act was passed

- Main findings:
  - Land prices and rents went up quickly
  - Some shift in land rental contracts from share rental to cash leasing
Synthetic Studies

• Synthetic farm- and sector-level models based on economic theory
• Results highly sensitive to assumptions about how PFC and MLA payments influence producer decision-making
• Main findings:
  – For risk, insurance effects are more important than wealth effects
  – In the long run, payments serve primarily to increase land values rather than production
Land Allocation Studies

- Farm-, county-, and state-level econometric studies of cropland allocation
- PFC and MLA variables sometimes statistically significant, sometimes not
- When statistically significant, impacts on crop acreage are small in magnitude
  - Combined impact of PFC and MLA payments is usually less than 10%
  - Larger impacts usually confined to less important crops
Time Allocation Studies

- Farm-level econometric studies of time allocation between on-farm work, off-farm work, and leisure
- PFC and MLA variables usually statistically significant
- More on-farm work hours and fewer off-farm work hours, but impacts small
  - Combined impact of PFC and MLA payments on on-farm work hours is less than 5%
Studies of Land Rents & Values

- If direct payments are captured by landowners, their potential to influence production is diminished
- Farm- and county-level econometric studies of land rents and values
- Direct payment variables almost always statistically significant
- Magnitude of impacts varies significantly from one study to another
  - Increase in cash rents per dollar of direct payments ranges from $0.34 to $0.85
Related Studies

• Related studies reviewed in our report:
  – Capital constraints
  – Risk response and risk aversion
  – Producer entry/exit and structural change
Conclusions

- PFC and MLA payments under the FAIR Act had some impact on production
- The production impact was small
  - Less than 10% based on land and time allocation studies
- PFC and MLA payments had a significant effect on land values and rental rates
Future Research

• Collect and analyze panel data for nationally representative sample of farm households

• Would make it possible to control for farm-level fixed effects
  – Failing to control → impacts of direct payments overestimated

• Would permit a longer term assessment of impacts of direct payments on farm household decision-making