
The Capitalization of Decoupled Government Subsidies Into Agricultural Land Values

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Do Government Payments Raise Land Values?

■ YES

- Featherstone and Baker (1988)
 - Beach, Boyd, and Uri (1997)
 - Barnard, et al. (1997)
 - Weersink, et al. (1999)
 - Lamb and Henderson (2000)
 - Barnard et al. (2001)
 - Goodwin et al. (2003a, 2003b, 2005)
 - Roe, Somwaru, and Diao (2003)
 - Shaik, Helmers, and Atwood (2005)
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Do Decoupled Government Payments Raise Rental Rates for Agricultural Land?

- YES, but by how much for each dollar of subsidy?
 - Lence and Mishra (2003): \$0.86
 - Goodwin et al. (2005): \$0.66
 - Roberts et al. (2003): \$0.34-\$0.41
 - Kirwan (2005): \$0.18
 - No estimates of the difference in rent paid for base and nonbase acres exist.
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Why Does It Matter?

- Domestic Policy Objectives
 - Do payments benefit farm households or nonfarming landlords?
 - Trade Policy Objectives
 - If payments accrue indirectly to nonfarming landlords, how production distorting can they be?
 - Unintended Consequences
 - Do elevated rental rates prohibit next generation farmers from entering the market?
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The Model

- Total rent equals the per acre rent times the number of acres rented.

$$R_i = r_i \cdot (A_i + B_i)$$

- If base (B) and nonbase (A) acres rent at different rates, the equation becomes:

$$R_i = r_{ai}A_i + r_{bi}B_i$$

The Model

- Each farm's rent can be equated to some group average rent plus their deviation from the average.

$$r_{ai} = \bar{r}_a + \varepsilon_{ai}$$

$$r_{bi} = \bar{r}_b + \varepsilon_{bi}$$

The Model

$$R_i = \alpha + \bar{r}_a A_i + \bar{r}_b B_i + (\varepsilon_{ai} A_i + \varepsilon_{bi} B_i)$$

- Rarely is the error uncorrelated with the independent variables
 - I add controls for location, farm size, and production specialty.
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The Data

- 2002 Agricultural Resource Management Survey (ARMS)
 - Excluded farms that did not rent any land or had any land under a share lease.
 - Farms that rented land only under cash agreements were included.
 - Two Important Questions:
 - How much base did you operate
 - How much base did you *own* and operate.
 - The difference is the quantity of base acres rented.
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Results at the National Level

■ Regression Results Without Fixed Effects

- Intercept not statistically different from zero.
- R-Square: 0.611
- Base acres: \$77 per acre
- Nonbase acres: \$63 per acre
- Premium: \$14

■ Regression Results With Fixed Effects

- Intercept not statistically different from zero.
 - R-Square: 0.915
 - Base acres: \$80 per acre
 - Nonbase acres: \$69 per acre
 - Premium: \$11
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Results at the National Level

- The sample mean per acre direct payment is approximately \$30.
 - If direct payments were responsible for the entire premium, only 30% of payments are going to landlords in the form of higher rents.
 - Similar to results of Roberts, et al. (2003) and Kirwan (2005).
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What Drives the Base Acre Premium?

- Direct Payments
 - Payments generally known to both landlord and tenant prior to lease agreements
 - Countercyclical Payments
 - Expected value of payments implicitly negotiated into rents
 - Land Quality
 - Literature generally assumes base acres are of a higher quality than nonbase.
 - “Base” is assigned to farm operation, not to specific acres.
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What Drives the Base Acre Premium?

- Fruit and Vegetable Planting Restrictions
 - Could diminish the base acre premium
 - Higher valued fruits and vegetables (higher rents) consistently planted on nonbase acres.
 - Young, et al (2007) say impact is not large

 - Market Power
 - Increasing trend of more, smaller, retired landlords and fewer, larger, farming tenants.

 - Type of Lease Agreement
 - How are rents captured under a share agreement? Higher shares when base acres rented?
 - Can and should be tested empirically.
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Domestic Policy Implications

- Nonfarming Landlords or Farming Tenants?
 - Who is a farmer if land is not leased?
 - \$1,000 or more of potential agricultural production
 - Ted Turner or, perhaps, a professional athlete
 - The lawyer that has a home on 1 of 10 base acres.
 - Retired farmers or heirs to agricultural land
 - Actual producers of agricultural commodities
 - Who is a nonfarming landlord?
 - All of the above except for those that continue to produce on their own land.
 - Most landlords of agricultural land are nonfarmers
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Trade Policy Implications

- Theoretical ways in which decoupled payments might affect production:
 - Expectations of future payments
 - Greater access to capital
 - Alter risk preferences

 - If passed through to landlord, only
 - Expectations of future payments
 - Alter risk preferences
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Unintended Consequences

- Do increased land rents due to government payments keep next generation farmers from entering the market?
 - Not necessarily, especially if the rate of pass through is less than 100%.
 - In fact, this should encourage entrance
 - However, this incentive to enter the market caused by government payments does not encourage increased production since aggregate number of base acres is fixed.
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Conclusions

- Base acres rent at a higher implicit rate than nonbase acres.
 - The bulk of this base acre premium comes from government subsidies.
 - The rate of pass-through is less than 100% at the national level.
 - Future research should focus on:
 - Market power in rental markets
 - Regional differences in rates of pass through
 - Rates of pass through for different commodities
 - Rates of pass through under different types of leases
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