How Will Tobacco Farmers Respond to the Quota Buyout? Findings from a Survey of North Carolina Tobacco Farmers

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Outline

- Study overview
- Background
- Data
- Farmer attitudes and expectations
  - Tobacco production
  - Buyout
- Expected tobacco production response to buyout
- Farmer attitudes
  - Tobacco control
Study Overview

- Develop survey and collect data from NC tobacco farmers on farm and household characteristics, tobacco production and marketing, and attitudes regarding various programs, policies, and entities affecting tobacco markets
  - Largest tobacco-producing state, about 40% of national production
- Evaluate tobacco farmer attitudes towards and interest in diversification into alternatives to tobacco
- Examine ability of tobacco farmers and tobacco-dependent communities to adjust to changes taking place
- Track changes in attitudes towards tobacco control policies over time
- Evaluate effectiveness of providing information about diversification opportunities and funding sources to tobacco farmers
Tobacco Quota and Price Support Programs

- Quota program with price supports was instituted in 1930s to limit production and keep prices up.
- Farmers had to own or lease marketing quota to grow tobacco:
  - Right to grow could not be transferred across county lines (except burley tobacco in TN).
- Contributed to making tobacco a very profitable crop.
- Over past 30 years, US prices rose to about 50% higher than world price:
  - Percentage of imported tobacco soared.
- Quotas were cut by about 60% between 1997 and 2004:
  - Number of farms growing tobacco dropped by 39% between 1997 and 2002.
Tobacco Quota Buyout

- Removal of quotas and price supports will
  - Lower tobacco prices
  - Allow geographic relocation of production
- Expected to speed transition to fewer, larger tobacco farms
- Tobacco farmers and quota holders will receive buyout payments for the next 10 years to aid in transition, though top 20% of recipients are expected to receive about 80% of payments (EWG, 2005)
Panel survey of NC tobacco farmers drawn from 14 of the 15 highest-producing counties for flue-cured tobacco in the state

Combined with secondary data on market variables:

Household Characteristics
- Demographics (age, gender, race), education, tobacco use, treatment county

Resources
- Total acreage owned, tobacco acreage owned, share of household income derived from tobacco, indicator variables for married, children
Data (continued)

- Market Incentives
  - Expected tobacco revenue per acre, average county wage, indicator variable for proximity to urban county

- Risk and Uncertainty
  - County-level tobacco yield variance

- Variables for survey year to capture changes in tobacco quotas and other policies impacting tobacco production over time
Farmer Attitudes: Would You Advise Your Children to Grow Tobacco?

- Percentage that would advise their children to go into tobacco production dropped from 67% in 1997 to 21% in 2004

- Regression model shows highly significant and increasingly negative time effects, suggesting a large negative shift in attitudes towards the future of tobacco farming. [Table_Logit_attitudes.doc](#)

- Farm operators that were white, male, and married were less likely to advise their children to grow tobacco, as were those located in urban or adjacent counties.

- Those with larger tobacco acreage grown and larger total acreage owned were more likely to advise their children to grow tobacco.
Farmer Attitudes: Do You Expect to Exit Tobacco Production Other than Retirement?

- Regression model shows highly significant and increasingly positive time effects, indicating that there has been an increase in the proportion of farmers that expect to exit tobacco production. 
  - Consistent with advice to children
- Age has a negative effect, as expected, because older operators are more likely to exit for retirement
- Attending at least some college increases the probability that growers expect to exit, which may indicate better off-farm opportunities
- Having children also increased probability of exit, while using tobacco products decreased expectations of exiting tobacco production
- Probability of exiting tobacco production decreased with tobacco acreage grown, though at a slower rate as acreage increased
Tobacco manufacturers want to end tobacco program?
- 64% agree or strongly agree in 1997, up to 89% in 2004
- 28% disagree or strongly disagree in 1997, 7% in 2004

Congress will eliminate the federal tobacco program?
- 33% agree or strongly agree in 1997, 66% by 2001
- 59% disagree or strongly disagree in 1997, 24% by 2001
Respondents were increasingly in favor of a tobacco quota buyout over time, with over 70% supporting a buyout in the most recent survey.

- 64% favored a 50-cent cigarette tax increase if used to fund buyout.
- 76% favored FDA regulations if tied to buyout (28% if not tied to buyout).

Nonetheless, respondents indicated that eliminating the tobacco program was a risk for tobacco farmers.

- About 66% of respondents indicated eliminating the program was a great risk, 19% some risk, 9% slight risk, and 7% indicated no risk.
## Intentions for Buyout Funds

<table>
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<th>Intention</th>
<th>1999</th>
<th>2001</th>
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<tbody>
<tr>
<td>Expand/diversify farm</td>
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<td>48</td>
<td>89</td>
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<tr>
<td>Invest in another business</td>
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<td>82</td>
<td>46</td>
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<tr>
<td>Invest in a retirement acct</td>
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<td>161</td>
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<tr>
<td>Pay off debts</td>
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<td>305</td>
<td>206</td>
</tr>
<tr>
<td>Retire</td>
<td>17</td>
<td>28</td>
<td>32</td>
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<tr>
<td>Other</td>
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<td>37</td>
<td>130</td>
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</table>
Tobacco Production Intentions Following Potential Buyout

- When asked if they would continue growing tobacco if they had to sell at the world market price
  - 55% said they would not
  - 5% were unsure
  - 40% would continue growing

- When asked about acreage intentions if the federal program were ended:
  - 35% would stop growing tobacco
  - 39% would increase tobacco acreage
  - 21% would keep tobacco acreage the same
  - 4% would decrease tobacco acreage
However, intentions varied significantly with tobacco acreage grown.

- Only 22 percent of farmers growing 25 or more acres of tobacco plan to exit compared with 60 percent of farmers with less than 5 acres of tobacco.

- Almost half of all tobacco farmers with 25 or more acres planned to expand tobacco acreage following a buyout, while only 23 percent of those with less than 5 acres were planning to expand.
Expected Tobacco Production Response

- Estimated Generalized Ordered Logit Regression Model with 4 categories for response to end of federal tobacco program:
  - Will no longer grow tobacco
  - Will reduce tobacco acreage
  - Will keep tobacco acreage the same
  - Will increase tobacco acreage

- Categories can be ranked in order

- Coefficients for this model show effects of model variables on the probability of being in that category or above vs. being in a lower category. Table_GOL_acreage.doc
Expected Tobacco Production Response: Summary of Results

- Operator age has a negative effect and tobacco acreage has a positive effect across all comparisons, which indicates that smaller and older tobacco producers are less likely to continue producing tobacco, less likely to keep tobacco acreage the same or greater, and less likely to increase tobacco acreage.

- Higher educational attainment increased the probability that operators planned to increase their tobacco acreage.

- White farmers were more likely to keep acreage at least the same or expand.
There was a positive effect for probability of increasing acreage in the most recent survey year. This may reflect in part the sharp reductions in tobacco quota that had taken place, increasing farmer interest in raising tobacco acreage relative to these reduced levels.

Higher expected revenue per acre is associated with farmers being more likely to continue production and to keep acreage at least as high as before the end of the program.

The diversification treatment effect has a negative effect on tobacco acreage.
Among those that still derive income from tobacco in the 2004 survey, tobacco income share had no significant effect on their support for:

- smoking ban at schools
- enforcement of fines for businesses selling to youth

But it did have a highly significant negative effect on:

- Support for voluntary restaurant ban on smoking

There was also a highly significant positive effect of tobacco income share on perceived risk of public smoking restrictions.

Being in a county receiving the tobacco diversification program had significant effects in the expected direction.
### Grower Attitudes Towards Tobacco Control: Model Results

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<thead>
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<td><strong>Voluntary Restaurant Smoking Bans</strong>&lt;br&gt;(0=Support, 1=Neutral, 2=Oppose)</td>
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Tobacco Farmer Support or Opposition - Voluntary Restaurant Bans on Smoking

![Graph showing the relationship between the share of household income from tobacco and the probability of support, neutrality, or opposition.](image-url)
Risk of Public Smoking Restrictions Perceived by Tobacco Farmers
Changes taking place in tobacco markets have had a very significant impact on growers’ attitudes towards the future of tobacco farming.

- Most growers expected and favored a tobacco quota buyout, though they also see greatly increased risk.

- A large number of tobacco growers are expected to exit tobacco production in the absence of the federal program, particularly smaller operations and those with older operators.

- Level of dependence on tobacco income affects attitudes towards some tobacco control measures.
Future Research

- Use new survey data being collected post-buyout to look at the impacts of the tobacco quota buyout on:
  - Farmer attitudes
    - Tobacco farming
    - Diversification
    - Tobacco control
  - Tobacco production
  - Income
  - Future plans