



Economic Impact Analysis of the Hog Production Industry in Jay and Randolph Counties



Agriculture in Concert with Regional Economics (ACRE)

Why did Ball State seek this project?

- Incendiary and divisive public dialogue
- Lack of unbiased data
- Co-opting of county plan commissions as environmental courts
- Economic development implications
- Ball State land use planning expertise



Agriculture in Concert with Regional Economics (ACRE)

Unique University Resources

- Office of Building Better Communities' economic development experience
 - Economic analysis capability
 - Applied IMPLAN modeling software
- Dept. of Urban Planning land use experience
 - Zoning and planning analysis & recommendations



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Project Scope

- Economic impact analysis
- Comprehensive plan and zoning ordinance review and recommendations
- Review and recommendations regarding locally available incentives
- Other duties as requested
 - Review literature on residential land value impacts
 - Review county's hog capacity



Strengths and Weaknesses of IMPLAN

■ Strengths

- Good tool for impact analysis
- Captures direct, indirect, and induced effects
- Detailed and reliable data
- Good for regional analysis
- Captures backward and forward linkages
- Price of software and datasets.

■ Weaknesses

- I-O model cannot quantify impacts of changes in relative price, technology, trade relations, or demographics.
- Full-time and Part-time workers are not separated.
- Regional trade relations based on the national structure and can be inaccurate or outdated.
- Limited number of sectors



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Other Data Sources

- Indiana Department of Environmental Management
 - CAFO and CFO permit applications
- US Department of Agriculture
 - National Agricultural Statistics Service/Census of Agriculture
- US Department of Labor
 - BLS – Census of Employment and Wages (including suppressed data)



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Other Data Sources (cont'd)

- University of Missouri – Columbia
 - Extension Service
- Indiana University
 - Indiana Business Research Center
- JBS United/JBS Feeds
 - Survey of producers



Key Economic Impact Analysis Findings

2007 Estimates

CAFO/CFO
Inventory
growth *

Direct output
Total output
Local inputs
percent local
growth *

*Base year

Dominant types
of hog farms

■ Randolph County

185,848

193%

\$ 49.6 million

\$ 61.8 million

\$ 8.8 million

21.5%

298%

2003

piglets and nursery
pigs

■ Jay County

262,000

90%

\$ 38.5 million

\$ 46.8 million

\$ 6.4 million

19.2%

93%

2004

finishing hogs

Key IMPLAN Analysis Results

2007 Estimates

- Output
- **Employment**
- **Income/worker**
- **Proprietary income**
- Local inputs
- Multipliers
 - Output
 - Employment
- Dominant types of hog farms

Figures in red identified for further study

■ Randolph County

\$ 49.6 million

1,264

\$ 2,672

\$ (366,930)

21.4 %

1.24

1.113

piglets and
nursery pigs

■ Jay County

\$ 38.5 million

838

\$1,656


\$ (657,919)

19.2 %

1.22

1.124


finishing hogs



Additional Findings

Employment and Income


- Hog and pig farming in Indiana (2003)
 - Full-time annual wage = \$26,319
 - Only 9% of employees are full-time
 - Part-time workers average 5.3 hours/week
- Randolph County (2003)
 - 335 employees (includes 68 proprietors)
 - 12% (32) full-time employees
 - Total FTEs = 64



Additional Findings

Employment and Income

- Hired farm workers in IL, IN, OH (2003)
 - Average annual wage \$17,528
 - Workers average 36 hrs/week
 - Average pay \$9.34 / hour
 - FTE wages \$19,448
- All sources point to higher wages in hog and pig farming than total farming wages



Additional Findings

Employment and Income

- Proprietors' reported income varies significantly from year to year
- Total proprietary income per IMPLAN:

Jay

\$ (341,105) in 2004


\$ (657,919) in 2007 *

Randolph

\$ (92,718) in 2003

\$ (366,930) in 2007 *


2007 figures are Ball State forecasts, based on IMPLAN model only



Additional Findings

Employment and Income

- Average reported hog farm proprietary income in USDA Heartland Region (1998-2005) is estimated at \$ (91,000) per year for farms with finishing capacity of 4,000
- Reported earnings are impacted significantly by non-cash expenses
 - Mostly depreciation



Additional Findings

Employment and Income

- In USDA Heartland Region, hog producers' proprietary income in 2004 and 2005
 - increased significantly
 - were the only years within the eight-year study term with positive net income
- When adjusted for depreciation and unpaid labor, proprietary income is positive each year over the same reporting period



Comments

- Jay County's hog output was higher than Randolph County's in 2004, but is projected to be lower in 2007.
- A lesser share of money goes to wages in Jay County
 - (5.3% based on employee compensation, 3.6 % if negative proprietary income is included for 2004).
 - Randolph County's wages in 2004 were about 10.7 % and 8.9 % of total output).
- Jay County's hog production is more concentrated in finishing farms, and Randolph County is more intensive in producing piglets and nursery pigs, a higher value-added activity.



Potential Economic Opportunities

■ Randolph County

- Real estate services
- Wholesale trade
- Transportation
- Ag support services
- Financial services
- Repair & maintenance
- Machinery & vehicle parts

■ Jay County

- Real estate services
- Wholesale trade
- Transportation
- Financial services
- Repair and maintenance
- Machinery & vehicle parts
- Warehousing
- Veterinary services



Planning and Zoning Review

- Modern Agriculture is Big Business
 - Heavy machinery and equipment, extended hours, dust, noise, odor
 - Fundamental difference between row cropping and modern livestock operations
- Modern Agriculture is Incompatible with Rural Residential
 - Additional separation of uses is required



Planning and Zoning Review

- Two agricultural zones recommended
 - A-L (Agriculture Limited) includes row crops, limited livestock, 'traditional agriculture'
 - A-I (Agriculture Intensive) includes CAFOs and all activities permitted in A-L zone – includes most of the rural areas



Planning and Zoning Recommendations

- Reciprocal set-backs
 - Set-backs vary based on manure handling technology
- Restrict county highway cuts



Planning and Zoning Recommendations

■ Randolph County

- Create new rural residential district
- Setbacks from public uses of 1,320 feet (750' with deep pit storage for certain uses)
- Require CAFOs to access only certain roads

■ Jay County

- Eliminate setbacks for existing residential
- Maintain most setbacks
 - Eliminate for existing properties
 - increase for subdivisions \geq 20 homes
- Restrict county highway cuts



Key conclusions

- Pork production represents a viable, home-owned small business economic development initiative in rural Indiana
 - Further opportunities exist within the sector
- Existing rural planning and zoning tools are insufficient in separating incompatible rural land uses