Preliminary Assessment of Statewide Poultry Industry Damage in Arkansas from the January Winter Storm, 2026

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Executive Summary

- Between January 23 and January 27, 2026, a historic winter storm brought prolonged freezing temperatures, heavy snowfall, and widespread power outages across Arkansas, severely disrupting commercial poultry operations that rely on continuous climate control, ventilation, and automated feeding systems.
- Eight poultry integrators reported bird mortality and structural damage following the storm. Estimated losses from bird mortality total $12.08 million, while structural damages range from $172.33 million to $202.06 million, depending on the severity of damage. These estimates are based on primary company-level data, USDA indemnity values, and industry construction cost benchmarks.
- Potential production capacity losses were estimated assuming a full year of lost grower income for damaged or destroyed poultry houses, based on industry-standard flock sizes, turnover rates, and grower pay from USDA ERS and Alabama Cooperative Extension benchmarks, resulting in an estimated $26.83 million in foregone grower income statewide.
- The statewide total economic impact of poultry mortality in Arkansas is estimated at $21.74 million in lost output, including $5.83 million in value added, of which $2.85 million represents labor income. These losses reflect the combined direct, indirect, and induced effects of reduced poultry production and correspond to approximately 44 annual average jobs (full-time equivalent) statewide. These losses include reductions in tax revenues of approximately $1.19 million, distributed as $54,015 to sub-county general governments, $27,336 to special districts, $44,623 to counties, $383,145 to the state, and $682,221 to the federal government.

- The statewide total economic impact of lost poultry production capacity due to damaged or destroyed poultry houses in Arkansas is estimated at $48.26 million in lost output, including approximately $12.95 million in value added, of which $6.33 million represents labor income. These losses reflect the combined direct, indirect, and induced effects of reduced poultry production capacity and associated disruptions across supply chains and household spending. The estimated economic contraction corresponds to approximately 98 annual average full-time equivalent jobs statewide. These impacts include an estimated $2.64 million reduction in tax revenues across all levels of government, including approximately $119,919 to sub-county general governments, $60,689 to special districts, $99,067 to counties, $850,620 to the State of Arkansas, and $1.51 million to the federal government.
- Poultry house reconstruction and repair are expected to generate positive economic outcomes. Total statewide economic impacts are $292.92 million, $318.18 million, and $343.45 million under the 25%, 50%, and 75% damage scenarios, respectively. These figures include associated tax revenues of $29.76 million, $32.33 million, and $34.90 million, which are distributed across government levels in proportion to the total economic impact.

Background

Between January 23 and January 27, 2026, a historic winter storm swept across much of North America, bringing prolonged periods of below-freezing temperatures, heavy snowfall, ice accumulation, and widespread power outages. The winter storm affected large portions of the central and eastern United States, with record low temperatures reported in several states and significant disruptions to electricity and transportation networks. On January 23, Governor Sanders declared a state of emergency in anticipation of severe winter weather (Arkansas Governor's Office, 2026). During the winter storm, Little Rock received approximately 6 inches of snow on January 24th, breaking a daily snowfall record set in 1899 (Fox Weather, 2026), and numerous weather-related incidents were reported across the state.

Extreme weather can severely affect poultry operations. Commercial poultry facilities, particularly large broiler operations, rely on continuous climate control, ventilation, and an uninterrupted feed and water supply. Extended power outages, structural damage to poultry houses, and prolonged exposure to extreme cold can lead to elevated bird mortality and production interruptions. Even brief failures in environmental control systems may result in substantial losses, as a single poultry house can contain tens of thousands of birds.

Following the winter storm, numerous poultry contractors in Arkansas reported structural damage and bird losses to their integrators. In response, The Poultry Federation requested an assessment of the winter storm's economic impact. This report provides a preliminary economic assessment of these impacts. The following estimates are derived from primary company-level data submitted by affected integrators to quantify the total loss to the state's poultry industry.

Data Collection and Loss Assessment

Data Collection

In collaboration with The Poultry Federation, we conducted a phone survey of five poultry integrators operating in Arkansas to assess damages associated with the recent winter storm. The survey collected detailed information on bird mortality and structural damages, disaggregated by production type (broilers, turkeys, and table eggs) and by flock stage (chicks, pullets, and layers). Responses from three additional integrators were subsequently submitted through the Poultry Federation, resulting in a total of eight responses. Responses are summarized and reported in aggregate form to maintain confidentiality. This approach allowed losses to be attributed more precisely across segments of the industry.

Estimation of the Value of Production Losses

Reported bird mortality (number of birds lost) was multiplied by 2025 indemnity values published by the USDA Animal and Plant Health Inspection Service (USDA-APHIS, 2025) to estimate the value of production losses. Indemnity values reflect standardized compensation rates by bird type and production class, providing a consistent framework for valuing losses across integrators. As a result, the estimated value of production losses totaled $12,084,580. These estimates reflect direct losses associated with bird mortality. Information was not collected on other winter storm impacts, such as processing disruptions, grower downtime during rebuilding, or longer-term effects on production capacity. The estimates also do not account for lost grower income or out-of-pocket expenses incurred by growers during the winter storm.

Estimation of Potential Production Capacity of Damaged or Destroyed Poultry Houses

To estimate the potential production capacity associated with damaged or destroyed poultry houses, this analysis adopts a conservative assumption of one full year of lost grower income. This assumption acknowledges the likely duration of reconstruction, permitting, and restocking processes that could delay reactivation of poultry operations for an entire production cycle year. Reported counts of destroyed or severely damaged houses were combined with representative flock sizes, typical house dimensions, and average grower pay per flock as reported by the U.S. Department of Agriculture Economic Research Service (USDA ERS) and the Alabama Cooperative Extension System. These sources provide industry-standard benchmarks for commercial poultry production, including bird placements, housing capacity, and compensation structures for contract growers. Base pay rates were applied to calculate expected grower pay per flock across production types including broilers, pullets, turkeys, and broiler breeders and multiplied by estimated flock turnover frequencies to derive total annual income potential.

Annual production turnover assumptions reflected standard industry cycles, assuming four flocks per year for broilers, two to three for turkeys, two for pullets, and one for broiler breeders (USDA ERS, 2024; Alabama Cooperative Extension System, 2024). For each production type, estimated grower pay per flock was multiplied by the corresponding number of annual flocks and the number of destroyed or damaged houses to determine aggregate foregone grower pay. The resulting estimate represents the annual counterfactual income that would have been generated if those facilities had remained operational. Under these assumptions, the total estimated loss in grower pay is approximately $26,828,940, signifying a substantial temporary reduction in poultry production capacity and a measurable economic impact on the affected region’s contract growers.

Estimation of the Value of Structural Damages

Survey responses indicate that 241 poultry houses were destroyed during the winter storm, and an additional 91 houses sustained repairable damage. Damages to poultry houses were estimated using a combination of industry benchmarks and internal cost assessments (Brothers and Rabinowitz, 2023), with a construction cost of $22 per square foot applied to approximate repair and replacement costs. As a result, total structural losses are estimated to range from approximately $172.3 million to $202.1 million, depending on the severity of repairs needed for the damaged houses (Table 1).

To be more specific, destroyed houses were assumed to require full replacement, whereas repairable houses were evaluated under low (25%), moderate (50%), and severe (75%) damage scenarios, as detailed below:

Value of a Single House (241 houses)

- Square Footage: 54 ft × 550 ft = 29,700 sq. ft.
- Cost per Square Foot: $22
- Total Cost per House: 29,700 × 22 = $653,400
- Total Loss for Destroyed Houses (241 units): 241 × 653,400 = $157,469,400

Repairable Houses (91 houses)

- Scenario A: Low Damage (25%)
    - Repair cost per house: 653,400 × 0.25 = $163,350
    - Total repair cost: 91 × 163,350 = $14,864,850
- Scenario B: Moderate Damage (50%)
    - Repair cost per house: 653,400 × 0.50 = $326,700
    - Total repair cost: 91 × 326,700 = $29,729,700

- Scenario C: Severe Damage (75%)
    - Repair cost per house: 653,400 × 0.75 = $490,050
    - Total repair cost: 91 × 490,050 = $44,594,550

Table 1. Estimated Structural Damages

Scenario	Destroyed Houses (241)	Repairable Houses (91)	Total Economic Loss
Low Damage (25% damage)	$157,469,400	$14,864,850	$172,334,250
Moderate Damage (50% damage)	$157,469,400	$29,729,700	$187,199,100
Severe Damage (75% damage)	$157,469,400	$44,594,550	$202,063,950

Note: Dollar values are expressed in 2026 dollars

Methods

The reported damages were used as inputs for Input-Output (I-O) modeling with IMPLAN. Developed by Nobel Prize winner Wassily Leontief, I-O modeling recognizes that economic activity in one sector generates ripple effects across other sectors through supply-chain linkages and household spending. IMPLAN uses annual, region-specific data to map buy-sell relationships among industries, households, and governments within an economy. Its dataset integrates industry production, income, trade, household spending, and demographic information to represent these interconnections and estimate how changes in one sector influence output, employment, and value-added in others.

For this analysis, a state-level model was calibrated using reported poultry house damages to estimate the total economic impact, including output, value-added, and employment, rather than conducting a region-specific analysis due to the lack of detailed regional data. This approach

provides a preliminary, company-level estimate of the winter storm's economic impact on Arkansas's poultry industry while capturing broader economic linkages across the state economy.

Specifically:

- Direct effects represent the immediate losses in poultry production reported by integrators.
- Indirect effects capture changes in economic activity among suppliers to the poultry industry, such as feed producers, equipment suppliers, and maintenance services.
- Induced effects represent the changes in household spending resulting from the loss of income in the poultry sector and its suppliers.

Results

1. Economic Impact of Poultry Mortality

Impact Overview

Based on integrator-reported damages and IMPLAN modeling, the total estimated impact on the state's economy is approximately $21.7 million in lost output, with corresponding reductions in labor income and value added (Table 2). These losses are distributed across direct, indirect, and induced effects.

- Direct effects, representing immediate losses in poultry production due to the winter storm, total $12.1 million in output, nearly $2.0 million in value added, and $0.86 million in labor income. These impacts correspond to an estimated reduction of approximately 13 full-time equivalent (FTE) jobs within the poultry sector.
- Indirect effects, reflecting reduced activity among suppliers such as feed manufacturers, equipment providers, and transportation services, account for an additional $8.0 million in

output, $2.9 million in value added, and $1.5 million in labor income. These supply-chain disruptions are associated with roughly 22 FTE jobs.

- Induced effects, capturing declines in household spending resulting from reduced earnings in directly and indirectly affected industries, contribute $1.7 million in output, $0.97 million in value added, and $0.48 million in labor income, affecting approximately 9 FTE jobs.

Overall, the combined effects of the winter storm result in an estimated loss of $21.7 million in output, $5.8 million in value added, and $2.85 million in labor income, along with a total reduction of approximately 44 FTE jobs across Arkansas's economy.

Table 2. Overview of the Economic Impact of the Poultry Mortality in Arkansas

Impact	Employment	Labor Income	Value Added	Output
Direct	(12.79)	$(855,585.80)	$(1,987,394.83)	$(12,084,580.00)
Indirect	(22.13)	$(1,511,153.69)	$(2,869,222.81)	$(7,980,254.85)
Induced	(9.16)	$(484,086.31)	$(974,952.34)	$(1,671,414.88)
Total	(44.09)	$(2,850,825.80)	$(5,831,569.97)	$(21,736,249.73)

Note: Dollar values are expressed in 2026 dollars

Estimation of Tax Revenue Reduction by Level of Government

Table 3 presents the estimated tax revenue losses associated with the modeled economic impacts, disaggregated by level of government. These tax losses are already embedded within the overall economic impacts reported in Table 2, as they result directly from reductions in output, labor income, and value added. However, they are presented separately here to illustrate the fiscal implications for different levels of government and to inform policy and budgetary planning.

The total estimated tax revenue loss across all levels of government is approximately $1.19 million. These losses are distributed across direct, indirect, and induced effects.

- Direct effects, representing the immediate reduction in poultry production activity, result in an estimated $293,405 in lost tax revenue. Of this total, approximately $7,558 accrues to sub-county general governments, $3,881 to sub-county special districts, $6,265 to counties, $71,712 to the state, and $203,989 to the federal government.
- Indirect effects, reflecting reduced activity among suppliers and related industries, account for the largest share of tax losses, totaling approximately $671,052. This includes $34,610 in sub-county general revenues, $17,476 in special district revenues, $28,577 at the county level, $232,163 in state tax revenues, and $358,226 in federal tax collections.
- Induced effects, capturing the decline in household spending resulting from reduced labor income, contribute an additional $226,884 in lost tax revenue. These impacts are distributed as $11,848 to sub-county general governments, $5,979 to special districts, $9,781 to counties, $79,270 to the state, and $120,006 to the federal government.

Overall, the combined economic effects of the winter storm reduce tax revenues by approximately $54,015 for sub-county general governments, $27,336 for special districts, $44,623 for counties, $383,145 for the state, and $682,221 for the federal government.

Table 3. Estimated Tax Revenue Reduction by Level of Government

Impact	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct	$(7,557.62)	$(3,881.40)	$(6,264.56)	$(71,711.99)	$(203,989.48)	$(293,405.04)
Indirect	$(34,610.01)	$(17,475.98)	$(28,577.12)	$(232,163.29)	$(358,225.54)	$(671,051.94)
Induced	$(11,847.78)	$(5,978.84)	$(9,781.27)	$(79,270.04)	$(120,005.59)	$(226,883.52)
Total	$(54,015.40)	$(27,336.22)	$(44,622.94)	$(383,145.32)	$(682,220.61)	$(1,191,340.50)

Note: Dollar values are expressed in 2026 dollars

Top 20 Industries by Economic Loss from Direct Poultry Mortality

Using Input-Output (I-O) modeling, these losses can be decomposed into direct, indirect, and induced effects, providing a comprehensive view of how mortality reverberates across the regional economy. Direct losses reflect the immediate value of birds lost, indirect losses arise from disruptions to supply chains and related industries, and induced losses result from reduced household spending caused by these economic shocks.

Table 4 summarizes the top 20 industries most affected by the direct impact of poultry mortality, measured in 2026 dollars. Key findings include:

- Poultry and Egg Production suffered the largest total loss of approximately $14.13 million, driven primarily by direct output losses of $12.08 million. This underscores the vulnerability of the primary production sector to mortality events.
- Other Animal Food Manufacturing and Wholesale – Other Nondurable Goods Merchant Wholesalers experienced total output losses of approximately $1.44 million and $1.26 million, respectively, reflecting the downstream impact of reduced poultry production on feed suppliers and distribution networks.
- Transportation and Logistics, including Truck Transportation and Rail Transportation, show measurable losses of $0.45 million and $0.09 million, highlighting the dependence of poultry distribution on reliable transport services.
- Agriculture-Related Support Services, such as Grain Farming and Support Activities for Agriculture and Forestry, face secondary losses of $0.42 million and $0.17 million, due to reduced demand for feed grains and related inputs.
- Healthcare, Real Estate, and Financial Services, including Hospitals, Owner-Occupied Housing, and Monetary Authorities and Depository Credit Intermediation, experience

smaller yet notable induced losses ranging from $0.07 million to $0.12 million, reflecting broader economic ripple effects of reduced income and spending in the agricultural sector.

Table 4. Top 20 Industries Affected by the Direct Impact of Poultry Mortality

Industries		Direct Output	Indirect Output	Induced Output	Total Output
1	Poultry and egg production	$(12,084,580.00)	$(2,042,487.22)	$(3,712.27)	$(14,130,779.49)
2	Other animal food manufacturing	$0.00	$(1,435,150.60)	$(722.85)	$(1,435,873.46)
3	Wholesale - Other nondurable goods merchant wholesalers	$0.00	$(1,236,392.74)	$(20,254.59)	$(1,256,647.34)
4	Truck transportation	$0.00	$(424,524.13)	$(20,708.68)	$(445,232.81)
5	Grain farming	$0.00	$(422,731.00)	$(869.43)	$(423,600.43)
6	Wholesale - Grocery and related product wholesalers	$0.00	$(181,984.81)	$(14,577.40)	$(196,562.22)
7	Owner-occupied housing	$0.00	$0.00	$(191,292.27)	$(191,292.27)
8	Support activities for agriculture and forestry	$0.00	$(164,959.39)	$(151.39)	$(165,110.78)
9	Other real estate	$0.00	$(106,897.05)	$(58,072.12)	$(164,969.17)
10	Veterinary services	$0.00	$(160,397.09)	$(3,224.13)	$(163,621.22)
11	Monetary authorities and depository credit intermediation	$0.00	$(95,509.82)	$(51,712.61)	$(147,222.43)
12	Management of companies and enterprises	$0.00	$(92,873.03)	$(29,285.52)	$(122,158.55)
13	Hospitals	$0.00	$0.00	$(119,388.75)	$(119,388.75)
14	Electric power transmission and distribution	$0.00	$(78,894.70)	$(32,804.64)	$(111,699.34)
15	Insurance carriers, except direct life	$0.00	$(70,562.82)	$(40,391.70)	$(110,954.52)
16	Insurance agencies, brokerages, and related activities	$0.00	$(75,818.12)	$(22,902.47)	$(98,720.59)
17	Wholesale - Drugs and druggists' sundries	$0.00	$(82,234.28)	$(14,734.77)	$(96,969.05)
18	Rail transportation	$0.00	$(88,463.18)	$(1,438.69)	$(89,901.87)
19	Wholesale - Petroleum and petroleum products	$0.00	$(60,767.49)	$(11,384.23)	$(72,151.72)
20	Offices of physicians	$0.00	$0.00	$(67,844.79)	$(67,844.79)

Note: Dollar values are expressed in 2026 dollars

2. Economic Impact of Potential Lost Output from Nonoperational Poultry Houses

Impact Overview

This analysis provides an estimate of the potential output loss resulting from damaged or destroyed poultry houses in Arkansas. To be more specific, it measures the projected annual value of foregone production associated with these facilities, assuming no additional external shocks or market disruptions occur during the same period. The estimated loss captures both the direct economic impact on contract growers and the broader ripple effects across supporting industries such as feed supply, equipment maintenance, and local services.

- Direct effects, representing the immediate production and income losses to growers from damaged or destroyed poultry houses, total $26.8 million in output, $4.41 million in value added, and $1.9 million in labor income. These impacts correspond to an estimated reduction of about 28 full-time equivalent (FTE) jobs within the poultry sector.
- Indirect effects, reflecting reduced economic activity among suppliers such as feed producers, equipment vendors, and transportation providers, account for an additional $17.7 million in output, $6.37 million in value added, and $3.35 million in labor income. These supply chain effects are associated with approximately 49 FTE jobs.
- Induced effects, resulting from decreased household spending by workers in the directly and indirectly affected industries, contribute $3.7 million in output, $2.16 million in value added, and $1.07 million in labor income, supporting roughly 20 FTE jobs.

Overall, the combined effects of poultry house losses are estimated at $48.3 million in output, $12.95 million in value added, and $6.33 million in labor income, along with a total reduction of about 98 FTE jobs across Arkansas's economy. These results highlight the significant economic

importance of poultry housing infrastructure and the broad ramifications of production disruptions within the state's agricultural sector.

Table 5. Overview of the Economic Impacts of Potential Output Losses from Nonoperational Poultry Houses in Arkansas

Impact	Employment	Labor Income	Value Added	Output
Direct	(28.4)	($1,899,483.48)	($4,412,209.32)	($26,828,940.00)
Indirect	(49.13)	($3,354,907.80)	($6,369,953.00)	($17,716,939.97)
Induced	(20.34)	($1,074,718.58)	($2,164,488.77)	($3,710,703.19)
Total	(97.88)	($6,329,109.86)	($12,946,651.10)	($48,256,583.16)

Note: Dollar values are expressed in 2026 dollars

Estimation of Tax Revenue Reduction by Level of Government

Table 6 presents the estimated tax revenue reductions associated with the modeled economic impacts of poultry house losses, disaggregated by level of government. These reductions are embedded within the broader economic impacts reported in Table 5, as they arise from declines in output, labor income, and value added across the poultry sector and related industries. Showing them separately highlights the fiscal implications for local, state, and federal governments, providing insight into the cascading effects of poultry production disruptions on public revenue sources.

The total estimated tax revenue reduction across all levels of government is approximately $2.64 million. These losses are distributed among direct, indirect, and induced effects.

- Direct effects, representing immediate tax losses from reduced poultry production, amount to $651,388. Within this category, approximately $16,779 is lost to sub-county general

governments, $8,617 to sub-county special districts, $13,908 to counties, $159,208 to the state, and $452,876 to the federal government.

- Indirect effects, driven by reduced supply-chain activity in sectors such as feed manufacturing, equipment repair, and transportation, account for the largest share of losses, totaling $1.49 million. These include approximately $76,838 for sub-county general governments, $38,798 for special districts, $63,444 for counties, $515,425 for the state, and $795,295 for the federal government.
- Induced effects, reflecting reductions in household spending and resulting tax collections from lower labor income, total an estimated $503,703. Of this amount, about $26,303 is lost to sub-county general governments, $13,274 to special districts, $21,715 to counties, $175,987 to the state, and $266,424 to the federal government.

Overall, combined effects reduce tax revenues by approximately $119,919 for sub-county general governments, $60,689 for sub-county special districts, $99,067 for counties, $850,620 for the state, and $1.51 million for the federal government.

Table 6. Estimated Tax Revenue Reduction by Level of Government

Impact	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct	($16,778.64)	($8,617.09)	($13,907.92)	($159,207.57)	($452,876.43)	($651,387.65)
Indirect	($76,837.58)	($38,798.36)	($63,443.98)	($515,425.04)	($795,295.46)	($1,489,800.41)
Induced	($26,303.21)	($13,273.61)	($21,715.36)	($175,987.17)	($266,424.06)	($503,703.42)
Total	($119,919.43)	($60,689.06)	($99,067.26)	($850,619.78)	($1,514,595.94)	($2,644,891.48)

Note: Dollar values are expressed in 2026 dollars

Top 20 Industries by Simulated Output Losses from Reduced Poultry Production Capacity

Table 7 presents the top 20 industries by simulated output losses resulting from potential reductions in poultry production due to damaged or destroyed poultry houses. Losses are expressed in millions of 2026 dollars and are disaggregated into direct, indirect, and induced effects. While the initial shock originates in poultry production, the results illustrate how losses propagate through supply chains and household spending, affecting a wide range of sectors across the regional economy.

- Poultry and Egg Production experiences by far the largest total output loss, estimated at $31.37 million. This loss is driven overwhelmingly by direct output losses of $26.83 million, reflecting the immediate impact of poultry mortality on primary production. Indirect losses of $4.53 million further amplify the shock through upstream and downstream supply chains, while induced effects are minimal ($0.01 million), indicating limited household spending effects originating directly within this sector. This pattern underscores the acute vulnerability of primary poultry operations to large-scale mortality events.
- Other Animal Food Manufacturing is the second most affected industry, with a total potential loss of $3.19 million, driven almost entirely by indirect effects ($3.19 million) and negligible induced losses. This reflects reduced demand for poultry feed and related inputs as poultry production contracts, highlighting the dependence of feed manufacturing on the health of the poultry sector.
- Several wholesale and distribution industries experience substantial indirect losses due to disruptions in poultry-related supply chains. Wholesale – Other Nondurable Goods Merchant Wholesalers could incur losses of $2.79 million, while Wholesale – Grocery and Related Product Wholesalers face losses of $0.44 million. Additional wholesale sectors,

including Drugs and Druggists' Sundries ($0.22 million) and Petroleum and Petroleum Products ($0.16 million), also register notable losses, illustrating how shocks in agricultural production can ripple through broader commercial and industrial distribution networks.

- The transportation sector is significantly affected, particularly Truck Transportation, which is projected to lose $0.99 million, primarily through indirect effects. Rail Transportation follows with losses of $0.20 million. The larger impact on trucking reflects its dominant role in regional poultry, feed, and input logistics compared to rail.
- Within agriculture, Grain Farming is projected to lose $0.94 million, while Support Activities for Agriculture and Forestry could experience losses of $0.37 million. These impacts stem from reduced demand for feed grains, agricultural services, and related inputs as poultry operations scale back production.
- Several industries are affected primarily through induced effects, reflecting reductions in household income and local spending rather than direct or supply-chain exposure. Owner-Occupied Housing shows induced losses of $0.42 million, while Other Real Estate experiences combined indirect and induced losses totaling $0.37 million. These results indicate that economic stress in the poultry sector can translate into weaker housing-related economic activity.
- Healthcare and professional services also experience induced losses, albeit at smaller magnitudes. Veterinary Services face total losses of $0.36 million, driven largely by indirect effects tied to reduced poultry operations. Hospitals ($0.27 million) and Offices of Physicians ($0.15 million) experience purely induced losses, reflecting reduced household demand for healthcare services as incomes decline.

- Monetary Authorities and Depository Credit Intermediation experience losses of $0.33 million, while Insurance Carriers ($0.25 million) and Insurance Agencies and Brokerages ($0.22 million) also register meaningful impacts. In addition, Management of Companies and Enterprises incurs losses of $0.27 million, reflecting reduced administrative and corporate service activity across affected industries. Electric Power Transmission and Distribution shows losses of $0.25 million, indicating lower energy demand associated with reduced industrial and commercial activity.

Overall, the top 20 industries demonstrate that while primary poultry production bears the majority of total losses, the indirect and induced effects are widely distributed across agriculture, transportation, wholesale trade, utilities, real estate, healthcare, and financial services. These findings underscore the highly interconnected nature of the regional economy, where a mortality shock in a single agricultural sector can propagate through supply chains and household spending, magnifying the overall economic impact well beyond the farm gate.

Table 7. Top 20 Industries by Simulated Output Losses Resulting from Potential Poultry Output Losses

Industries		Direct Output	Indirect Output	Induced Output	Total Output
1	Poultry and egg production	($26,828,940.00)	($4,534,519.78)	($8,241.60)	($31,371,701.38)
2	Other animal food manufacturing	$0.00	($3,186,173.57)	($1,604.81)	($3,187,778.37)
3	Wholesale - Other nondurable goods merchant wholesalers	$0.00	($2,744,911.84)	($44,967.16)	($2,789,879.00)
4	Truck transportation	$0.00	($942,484.75)	($45,975.27)	($988,460.02)
5	Grain farming	$0.00	($938,503.83)	($1,930.21)	($940,434.05)
6	Wholesale - Grocery and related product wholesalers	$0.00	($404,023.94)	($32,363.25)	($436,387.19)
7	Owner-occupied housing	$0.00	$0.00	($424,687.41)	($424,687.41)
8	Support activities for agriculture and forestry	$0.00	($366,225.85)	($336.10)	($366,561.95)
9	Other real estate	$0.00	($237,321.82)	($128,925.74)	($366,247.56)
10	Veterinary services	$0.00	($356,097.09)	($7,157.88)	($363,254.97)
11	Monetary authorities and depository credit intermediation	$0.00	($212,041.06)	($114,807.02)	($326,848.08)
12	Management of companies and enterprises	$0.00	($206,187.13)	($65,016.70)	($271,203.83)
13	Hospitals	$0.00	$0.00	($265,054.61)	($265,054.61)
14	Electric power transmission and distribution	$0.00	($175,153.89)	($72,829.49)	($247,983.38)
15	Insurance carriers, except direct life	$0.00	($156,656.32)	($89,673.49)	($246,329.80)
16	Insurance agencies, brokerages, and related activities	$0.00	($168,323.58)	($50,845.71)	($219,169.29)
17	Wholesale - Drugs and druggists' sundries	$0.00	($182,568.08)	($32,712.63)	($215,280.70)
18	Rail transportation	$0.00	($196,396.84)	($3,194.04)	($199,590.88)
19	Wholesale - Petroleum and petroleum products	$0.00	($134,909.71)	($25,274.10)	($160,183.82)
20	Offices of physicians	$0.00	$0.00	($150,622.02)	($150,622.02)

Note: Dollar values are expressed in 2026 dollars

3. Economic Impacts of Poultry House Reconstruction and Repair

Since we use a flow-based Input-Output (I-O) model that tracks economic activity across industries, it does not directly measure the negative effects of structural damages. Instead, the model captures the positive economic impacts associated with reconstruction and repair activities when these are modeled as new spending or output. This approach allows for an estimation of how repair investments stimulate economic activity in construction, materials supply, transportation, and other interconnected sectors, providing a more complete view of the broader economic consequences of the structural damages from the winter storm.

To estimate the positive economic impact of poultry house reconstruction and repair, we consider three damage scenarios for poultry houses: low (approximately 25% affected), moderate (approximately 50% affected), and severe (approximately 75% affected), with destroyed poultry houses assumed to be 100% affected. This scenario-based approach enables a nuanced analysis of how varying levels of structural damage translate into economic activity across related industries.

Impact Overview

The total estimated economic impacts of poultry house reconstruction and repair range from $292.9 million under a 25% damage scenario to $343.5 million under a 75% damage scenario (Table 8). Breaking this down by scenario:

- 25% damage scenario: Reconstruction and repair activities support approximately 1,450 jobs, generate $94.8 million in labor income, and contribute $137.5 million in value added, producing a total output of $292.9 million.
- 50% damage scenario: Economic activity rises to roughly 1,575 jobs, $103.0 million in labor income, and $149.3 million in value added, with total output reaching $318.2 million.

- 75% damage scenario: The most severe scenario supports 1,700 jobs, $111.2 million in labor income, and $161.2 million in value added, resulting in a total output of $343.5 million.

Overall, these results demonstrate that reconstruction and repair not only restore damaged poultry facilities but also act as a significant economic stimulus, generating employment, income, and value across multiple sectors of the Arkansas economy. The magnitude of these impacts increases with the level of structural damage, highlighting the broad economic significance of repair and rebuilding efforts.

Table 8. Economic Impacts of Poultry House Reconstruction and Repair

25% Damage Scenario				
Impact	Employment	Labor Income	Value Added	Output
Direct	925.68	$62,150,449.67	$73,956,673.21	$172,334,250.00
Indirect	224.02	$16,781,756.78	$31,526,397.73	$65,755,284.32
Induced	300.51	$15,878,605.35	$31,982,487.83	$54,829,164.03
Total	1,450.21	$94,810,811.80	$137,465,558.77	$292,918,698.34
50% Damage Scenario				
Impact	Employment	Labor Income	Value Added	Output
Direct	1,005.52	$67,511,294.14	$80,335,874.41	$187,199,100.00
Indirect	243.34	$18,229,282.72	$34,245,736.30	$71,427,067.13
Induced	326.43	$17,248,229.13	$34,741,166.87	$59,558,504.24
Total	1,575.30	$102,988,805.99	$149,322,777.59	$318,184,671.38
75% Damage Scenario				
Impact	Employment	Labor Income	Value Added	Output
Direct	1,085.37	$72,872,138.62	$86,715,075.61	$202,063,950.00
Indirect	262.67	$19,676,808.65	$36,965,074.88	$77,098,849.95
Induced	352.35	$18,617,852.91	$37,499,845.92	$64,287,844.46
Total	1,700.39	$111,166,800.18	$161,179,996.40	$343,450,644.41

Note: Dollar values are expressed in 2026 dollars

Tax Revenue Impacts by Level of Government

The total estimated tax revenue generated by poultry house reconstruction and repair ranges from $29.8 million under a 25% damage scenario to $34.9 million under a 75% damage scenario (Table 9). Although these tax impacts are already reflected in the total economic impacts reported for each scenario in Table 8, breaking down the contributions by level of government illustrates how reconstruction and repair activities directly support federal, state, and local budgets. Impacts by damage scenario are as follows:

- 25% damage scenario: Total tax revenue reaches approximately $29.8 million, with the federal government collecting $20.1 million, the state $7.4 million, the county $0.79 million, and sub-county general and special districts combined $1.5 million.
- 50% damage scenario: Total tax revenue increases to $32.3 million, with federal revenue rising to $21.9 million, state revenue to $8.0 million, county revenue to $0.86 million, and sub-county general and special districts combined to $1.6 million.
- 75% damage scenario: Under the most severe scenario, total tax revenue reaches $34.9 million, with $23.6 million for the federal government, $8.7 million for the state, $0.93 million for the county, and sub-county general and special districts combined to $1.7 million.

Overall, these results highlight that reconstruction and repair activities generate substantial fiscal benefits across all levels of government, complementing the broader economic stimulus created by employment, income, and output growth.

Table 9. Tax Revenue Impacts of Poultry House Reconstruction and Repair

25% Damage Scenario						
Impact	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct	$164,790.90	$89,708.57	$138,510.43	$2,103,078.44	$12,143,905.15	$14,639,993.48
Indirect	$404,543.06	$204,173.04	$333,991.55	$2,682,915.61	$4,053,190.35	$7,678,813.60
Induced	$388,743.22	$196,174.15	$320,937.76	$2,600,859.23	$3,936,441.10	$7,443,155.46
Total	$958,077.17	$490,055.76	$793,439.73	$7,386,853.28	$20,133,536.59	$29,761,962.53
50% Damage Scenario						
Impact	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct	$179,005.09	$97,446.46	$150,457.77	$2,284,481.41	$13,191,388.91	$15,902,779.64
Indirect	$439,437.29	$221,784.17	$362,800.30	$2,914,332.98	$4,402,802.02	$8,341,156.77
Induced	$422,274.62	$213,095.34	$348,620.54	$2,825,198.74	$4,275,982.47	$8,085,171.71
Total	$1,040,717.00	$532,325.97	$861,878.61	$8,024,013.14	$21,870,173.40	$32,329,108.12
75% Damage Scenario						
Impact	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct	$193,219.28	$105,184.36	$162,405.12	$2,465,884.39	$14,238,872.67	$17,165,565.81
Indirect	$474,331.53	$239,395.30	$391,609.05	$3,145,750.35	$4,752,413.70	$9,003,499.93
Induced	$455,806.03	$230,016.52	$376,303.32	$3,049,538.26	$4,615,523.83	$8,727,187.96
Total	$1,123,356.83	$574,596.18	$930,317.49	$8,661,172.99	$23,606,810.21	$34,896,253.70

Note: Dollar values are expressed in 2026 dollars

Top 20 Industries Benefiting from Poultry House Reconstruction and Repair

The reconstruction and repair of poultry houses generate substantial economic activity across a wide range of industries. Across the 25%, 50%, and 75% damage scenarios, the same core industries consistently rank among the top 20 beneficiaries. Construction, wholesale trade, real estate, healthcare, financial services, transportation, manufacturing, and professional services capture the majority of the direct, indirect, and induced effects.

Key observations from the estimates are as follows:

- Construction of new commercial structures, including farm structures, accounts for by far the largest direct output in every scenario. Direct output increases from $172.3 million in the 25 percent scenario to $187.2 million in the 50 percent scenario and $202.1 million in the 75 percent scenario, reflecting the capital-intensive nature of rebuilding poultry houses.
- Wholesale trade sectors, particularly other durable goods merchant wholesalers, machinery and equipment wholesalers, and household appliance wholesalers, benefit primarily through indirect effects. Total output for other durable goods wholesalers rises from $6.48 million to $7.59 million across the 25 to 75 percent scenarios.
- Owner-occupied housing captures substantial induced effects generated by increased household income. Induced output ranges from $6.27 million in the 25 percent scenario to $7.35 million in the 75 percent scenario.
- Truck transportation supports the delivery of materials and equipment, with total output increasing from $5.24 million to $6.14 million across scenarios.
- Other real estate and management of companies and enterprises also receive notable indirect and induced gains. Total output for other real estate increases from $4.60 million to $5.40 million, while management of companies rises from $3.10 million to $3.63 million.

- Healthcare industries benefit primarily through induced household spending. Hospital output grows from $3.92 million to $4.59 million, and offices of physicians increase from $2.23 million to $2.61 million as damage severity rises.
- Financial services, including monetary authorities and depository credit intermediation and insurance carriers, experience increased activity through indirect and induced channels. Total output for monetary authorities increases from $2.85 million to $3.34 million, while insurance carriers rise from $1.79 million to $2.10 million.
- Restaurants and food services gain from induced consumer spending. Limited-service restaurants increase from $1.89 million to $2.21 million, and full-service restaurants rise from $1.67 million to $1.95 million across scenarios.
- Manufacturing industries tied to construction inputs, including ready-mix concrete and other concrete products, benefit through indirect demand. Ready-mix concrete manufacturing increases from $2.56 million to $3.00 million across scenarios.
- Professional and technical services, such as architectural, engineering, and related services, generate between $1.81 million and $2.12 million in total output, reflecting planning and design requirements associated with reconstruction.

Overall, the results demonstrate that poultry house reconstruction and repair generate broad-based economic benefits that extend well beyond agricultural production. Construction-related industries dominate direct impacts, while wholesale trade, real estate, healthcare, financial services, professional services, and household-oriented industries capture substantial indirect and induced effects. The consistent ranking of these industries across all damage scenarios indicates a stable and diversified economic stimulus pattern as reconstruction spending increases.

Table 10. Top 20 Industries Benefiting from Poultry House Reconstruction and Repair (25% Damage Scenario)

	Industries	Direct Output	Indirect Output	Induced Output	Total Output
1	Construction of new commercial structures, including farm structures	$172,334,250.00	$0.00	$0.00	$172,334,250.00
2	Wholesale - Other durable goods merchant wholesalers	$0.00	$6,176,678.51	$300,050.55	$6,476,729.06
3	Owner-occupied housing	$0.00	$0.00	$6,267,081.86	$6,267,081.86
4	Truck transportation	$0.00	$4,556,875.26	$679,498.42	$5,236,373.69
5	Other real estate	$0.00	$2,697,288.14	$1,904,573.50	$4,601,861.64
6	Hospitals	$0.00	$0.00	$3,915,499.10	$3,915,499.10
7	Management of companies and enterprises	$0.00	$2,135,570.96	$960,637.82	$3,096,208.78
8	Wholesale - Machinery, equipment, and supplies	$0.00	$2,796,255.44	$117,618.10	$2,913,873.54
9	Monetary authorities and depository credit intermediation	$0.00	$1,153,379.28	$1,699,457.56	$2,852,836.84
10	Commercial and industrial machinery and equipment rental and leasing	$0.00	$2,745,757.84	$106,125.55	$2,851,883.40
11	Wholesale - Household appliances and electrical and electronic goods	$0.00	$2,430,910.02	$292,032.26	$2,722,942.28
12	Ready-mix concrete manufacturing	$0.00	$2,544,647.19	$17,487.92	$2,562,135.11
13	Electric power transmission and distribution	$0.00	$1,233,397.70	$1,078,046.33	$2,311,444.04
14	Offices of physicians	$0.00	$0.00	$2,225,594.49	$2,225,594.49
15	Wholesale - Petroleum and petroleum products	$0.00	$1,601,019.31	$373,814.41	$1,974,833.72
16	Limited-service restaurants	$0.00	$91,387.27	$1,797,482.31	$1,888,869.58
17	Architectural, engineering, and related services	$0.00	$1,731,777.19	$79,886.81	$1,811,664.00
18	Insurance carriers, except direct life	$0.00	$461,366.81	$1,326,147.55	$1,787,514.36
19	Other concrete product manufacturing	$0.00	$1,687,886.49	$4,662.21	$1,692,548.70
20	Full-service restaurants	$0.00	$191,813.96	$1,473,627.14	$1,665,441.10

Note: Dollar values are expressed in 2026 dollars

Table 11. Top 20 Industries Benefiting from Poultry House Reconstruction and Repair (50% Damage Scenario)

	Industries	Direct Output	Indirect Output	Induced Output	Total Output
1	Construction of new commercial structures, including farm structures	$187,199,100.00	$0.00	$0.00	$187,199,100.00
2	Wholesale - Other durable goods merchant wholesalers	$0.00	$6,709,453.62	$325,931.69	$7,035,385.31
3	Owner-occupied housing	$0.00	$0.00	$6,807,654.79	$6,807,654.79
4	Truck transportation	$0.00	$4,949,932.75	$738,109.19	$5,688,041.94
5	Other real estate	$0.00	$2,929,945.22	$2,068,854.25	$4,998,799.47
6	Hospitals	$0.00	$0.00	$4,253,234.09	$4,253,234.09
7	Management of companies and enterprises	$0.00	$2,319,776.61	$1,043,498.52	$3,363,275.13
8	Wholesale - Machinery, equipment, and supplies	$0.00	$3,037,449.03	$127,763.36	$3,165,212.39
9	Monetary authorities and depository credit intermediation	$0.00	$1,252,865.08	$1,846,045.84	$3,098,910.92
10	Commercial and industrial machinery and equipment rental and leasing	$0.00	$2,982,595.72	$115,279.51	$3,097,875.23
11	Wholesale - Household appliances and electrical and electronic goods	$0.00	$2,640,590.41	$317,221.78	$2,957,812.18
12	Ready-mix concrete manufacturing	$0.00	$2,764,138.09	$18,996.35	$2,783,134.44
13	Electric power transmission and distribution	$0.00	$1,339,785.56	$1,171,034.21	$2,510,819.78
14	Offices of physicians	$0.00	$0.00	$2,417,565.20	$2,417,565.20
15	Wholesale - Petroleum and petroleum products	$0.00	$1,739,116.71	$406,058.12	$2,145,174.83
16	Limited-service restaurants	$0.00	$99,269.96	$1,952,525.81	$2,051,795.77
17	Architectural, engineering, and related services	$0.00	$1,881,153.23	$86,777.52	$1,967,930.75
18	Insurance carriers, except direct life	$0.00	$501,162.43	$1,440,535.63	$1,941,698.06
19	Other concrete product manufacturing	$0.00	$1,833,476.70	$5,064.35	$1,838,541.05
20	Full-service restaurants	$0.00	$208,359.05	$1,600,736.21	$1,809,095.26

Note: Dollar values are expressed in 2026 dollars

Table 12. Top 20 Industries Benefiting from Poultry House Reconstruction and Repair (75% Damage Scenario)

Industries		Direct Output	Indirect Output	Induced Output	Total Output
1	Construction of new commercial structures, including farm structures	$202,063,950.00	$0.00	$0.00	$202,063,950.00
2	Wholesale - Other durable goods merchant wholesalers	$0.00	$7,242,228.73	$351,812.83	$7,594,041.56
3	Owner-occupied housing	$0.00	$0.00	$7,348,227.73	$7,348,227.73
4	Truck transportation	$0.00	$5,342,990.24	$796,719.95	$6,139,710.19
5	Other real estate	$0.00	$3,162,602.30	$2,233,134.99	$5,395,737.30
6	Hospitals	$0.00	$0.00	$4,590,969.09	$4,590,969.09
7	Management of companies and enterprises	$0.00	$2,503,982.26	$1,126,359.22	$3,630,341.48
8	Wholesale - Machinery, equipment, and supplies	$0.00	$3,278,642.63	$137,908.62	$3,416,551.25
9	Monetary authorities and depository credit intermediation	$0.00	$1,352,350.88	$1,992,634.12	$3,344,984.99
10	Commercial and industrial machinery and equipment rental and leasing	$0.00	$3,219,433.60	$124,433.47	$3,343,867.07
11	Wholesale - Household appliances and electrical and electronic goods	$0.00	$2,850,270.80	$342,411.29	$3,192,682.09
12	Ready-mix concrete manufacturing	$0.00	$2,983,628.99	$20,504.79	$3,004,133.78
13	Electric power transmission and distribution	$0.00	$1,446,173.42	$1,264,022.10	$2,710,195.52
14	Offices of physicians	$0.00	$0.00	$2,609,535.91	$2,609,535.91
15	Wholesale - Petroleum and petroleum products	$0.00	$1,877,214.11	$438,301.83	$2,315,515.94
16	Limited-service restaurants	$0.00	$107,152.66	$2,107,569.30	$2,214,721.96
17	Architectural, engineering, and related services	$0.00	$2,030,529.27	$93,668.23	$2,124,197.50
18	Insurance carriers, except direct life	$0.00	$540,958.05	$1,554,923.71	$2,095,881.77
19	Other concrete product manufacturing	$0.00	$1,979,066.90	$5,466.50	$1,984,533.40
20	Full-service restaurants	$0.00	$224,904.14	$1,727,845.28	$1,952,749.42

Note: Dollar values are expressed in 2026 dollars

Model Assumptions and Limitations

This analysis relies on IMPLAN, an input-output modeling framework, and is therefore subject to several assumptions and methodological constraints (Clouse, 2020). As a static model, IMPLAN assumes fixed production relationships and does not account for technological change, input substitution, supply constraints, or price adjustments following a shock. Similarly, it assumes that changes in output generate proportional effects throughout the economy based on historical purchasing patterns. In reality, businesses and households may adapt their behavior in ways that dampen or amplify actual impacts. Consequently, the results represent short-term economic effects rather than long-term structural adjustments.

The findings rely on the accuracy of reported bird mortality and facility damage, which were self-reported by poultry integrators. Any inaccuracies or omissions in these reports could directly influence the magnitude of the estimated impacts. Because integrators did not provide regional or county-level information on damaged farms, the analysis used the statewide Arkansas IMPLAN model rather than a region-specific framework. As a result, while the estimates capture aggregate state-level effects, they do not account for the geographic concentration of damages, which may be substantial in counties with high poultry production intensity.

Finally, IMPLAN measures economic activity within the defined geographic region and may not fully capture interregional supply chain adjustments or spillover effects beyond Arkansas. For these reasons, the results should be interpreted as preliminary estimates of short-term economic impacts associated with poultry mortality and facility damage, rather than precise forecasts of long-term economic outcomes.

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