Rural & Farm Finance Policy Analysis Center
University of Missouri

# How much can appraised farm values differ across appraisers?

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## Research Goal

➢To evaluate the variability of appraised farmland values across appraisers and its causes.

➢First study to document the impact of subjective appraisers' judgments on appraised farmland values.



By How Much Can Appraised Farm Values Differ Across Appraisers?

*in basic facts considered by CGAs to form their expert opinions on the value of a farm, such as tillable acres and productivity indexes, are non-trivial.*

By Alejandro Plastina, Wendong Zhang, and Wendiam Sawadgo

Alejandro Plastina is an Associate Professor and Extension Economist, Iowa State University. Wendong Zhang is an Assistant Professor and Extension Economist, Cornell University. Wendiam Sawadgo is an Assistant Professor and Extension Economist, Auburn University.

Acknowledgement

We are grateful to Marshall McDaniel (Iowa State University), James Jensen, and Sarah Carlson (Practical Farmers of Iowa) for their feedback on preliminary data analyses. Funded by Iowa Nutrient Research Center Grant # 2018-06.

Abstract

*We compared 54 appraisal reports, completed by nine Certified General Appraisers (CGAs) for three Iowa farms at two points in time (2019 and 2020), to evaluate the variability of appraised values and its causes. Our findings confirm that, despite the norms and regulations that CGAs abide by, the appraisal process is subjective in nature, and appraised values can differ by as much as 20% of their average appraised values. Furthermore, observed discrepancies*

INTRODUCTION

Rural property appraisals are used to inform the value of rural property to interested parties in multiple situations, including loan determinations, litigations, partition cases, financial and estate planning, condemnation, and right-of-way disputes. An appraisal is a systematic process of classifying and evaluating the characteristics of an asset in order to make a well-reasoned judgment of its value (Murray et al., 1983). The appraisal process typically involves collecting relevant data, inspecting the asset in person, and organizing and analyzing data to arrive at a value opinion (ASFMRA 2021). Appraisers must follow certain established procedures to complete an appraisal.

In 1989, U.S. Congress established a real estate appraiser regulatory system involving the federal government, the states, and the Appraisal Foundation and authorized federal bank regulators to require appraisals for real estate loans made by federally regulated financial institutions. Currently, federal law requires that any real estate loan for $250,000 or more must be supported by an appraisal by a Certified Appraiser. The Foundation's Appraiser Qualifications Board sets the minimum Real Property Appraiser Qualification Criteria, and the Appraisal Standards Board develops the Uniform Standards of Professional Appraisal Practice (USPAP). The USPAP is the generally recognized set of ethical and performance standards for the appraisal profession in the United States. Furthermore, each U.S. state has a real estate appraiser regulatory agency that is responsible for licensing and certifying real estate appraisers and supervising their appraisal-related activities (The Appraisal Foundation, 2023).

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ASFMRA 2024 JOURNAL

https://www.asfmra.org/resources/asfmra-journal/2024journal

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## Research Team

- PI: A. Plastina, University of Missouri-Columbia (ex-ISU)^
- Co-PIs: Wendong Zhang, Cornell University (ex-ISU)
  Marshall McDaniel, ISU
- R. Asst.: Wendiam Sawadgo, Auburn University (ex-ISU)
- Collaborators:
  - Jim Jensen, ASFMRA (ex-ISU),
  - Sarah Carlson, Practical Farmers of Iowa

Funded by Iowa Nutrient Research Center Grant, ISU

^ISU=Iowa State University

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## Methodology

- We hired 9 Certified General Appraisers (CGAs)
- To appraise 3 farms in Washington County, Iowa
- At 2 points in time: April 1, 2019, and April 1, 2020
- Landowners received compensation & authorized FSA to share 156-EZ reports, field maps, CRP contracts with CGAs
- We compared 54 appraisal reports, ranging from about 30 pages to 50 pages in length each.

[ISU Institutional Review Board Study 18-366-00]

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## The 9 Appraisers

- All Certified General Appraisers (CGAs)
- Randomly selected from membership list of CGAs in the Iowa Chapter of ASFMRA, across multiple competing real estate companies
- Transmittal letter stated:

"Treat as developing a selling price."

Appraisal effective date: April 1st

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## The 3 farms

| Characteristics | Farm A | Farm B | Farm C |
|---|---|---|---|
| Size (in acres) | 113.4 | 78.6 | 69.6 |
| Tillable Area (in acres) | 104.7 | 72.9 | 65.7 |
| Avg. CSR2 (in points) | 87.2 | 57.8 | 57.3 |

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## Farm A: 2019 Appraisals, $ per farm

| Appraiser ID | Sales Comparison Approach | Income Approach | Cost Approach | Final Opinion of Value |
|---|---|---|---|---|
| ID 1 | 1,179,255 | 1,152,389 | n/a | **1,165,000** |
| ID 2 | 1,091,000 | 1,110,000 | 1,060,000 | **1,091,000** |
| ID 3 | 1,062,000 | 1,094,000 | n/a | **1,070,000** |
| ID 4 | 1,112,000 | 1,095,000 | 1,102,000 | **1,110,000** |
| ID 5 | 1,164,500 | 1,208,100 | 1,158,800 | **1,178,600** |
| ID 6 | 1,250,000 | 1,245,000 | 1,250,000 | **1,250,000** |
| ID 7 | 1,205,659 | 1,263,200 | n/a | **1,206,000** |
| ID 8 | 1,097,500 | 1,086,500 | 1,098,000 | **1,097,500** |
| ID 9 | 1,055,925 | 1,108,792 | 1,056,122 | **1,055,925** |

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## Farm A: 2019 Summary Statistics of Appraised Values

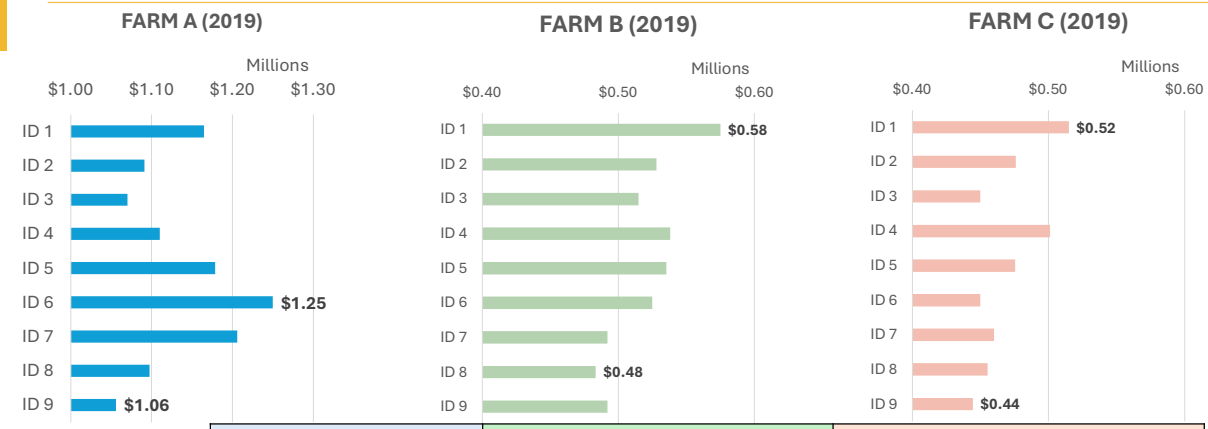
| | Sales Comparison Approach | Income Approach | Cost Approach | Final Opinion of Value |
|---|---|---|---|---|
| Mean ($ per farm) | 1,135,315 | 1,151,442 | 1,120,820 | **1,136,003** |
| Range ($ per farm) | 194,075 | 176,700 | 193,878 | **194,075** |
| Range Percent (%)* | 17.1% | 15.3% | 17.3% | **17.1%** |
| CoeffVar (%)^ | 5.9% | 6.0% | 6.5% | **5.9%** |
| StDev ($ per farm) | 67,545 | 69,546 | 73,335 | **66,617** |

^CoeffVar (%) = StDev / Mean *100 %

*Range Percent (%) = Range / Mean *100 %

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## Final Opinion Values for all Farms by all Appraisers, 2019




| | FARM A (2019) | FARM B (2019) | FARM C (2019) |
|---|---|---|---|
| Mean | $1,136,003 | $520,463 | $469,744 |
| Range | $194,075 | $91,500 | $70,500 |
| Range/Mean | 17.1% | 17.6% | 15.0% |
| StDev/Mean | 5.9% | 5.5% | 5.2% |

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# Final Opinion Values for all Farms by all Appraisers, 2020




| | FARM A (2020) | FARM B (2020) | FARM C (2020) |
|---|---|---|---|
| Mean | $1,189,300 | $523,597 | $477,286 |
| Range | $193,000 | $92,000 | $95,075 |
| Range/Mean | 16.2% | 17.6% | 19.9% |
| StdDev/Mean | 4.5% | 5.9% | 5.9% |

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# Comparison of Items in Appraisal Reports, Farm A (2019)

| Items in report | Appraiser | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ID 1 | ID 2 | ID 3 | ID 4 | ID 5 | ID 6 | ID 7 | ID 8 | ID 9 |
| Effective Date of Appraisal | 4/1/2019 | 4/1/2019 | 4/1/2019 | 4/1/2019 | 4/1/2019 | 4/1/2019 | 4/1/2019 | 4/1/2019 | 4/1/2019 |
| Property inspected | 6/13/2019 | n/a | 6/3/2019 | 5/1/2019 | 4/20/2019 | 4/16/2019 | 5/28/2019 | 5/14/2019 | 5/12/2019 |
| Report Signed | 6/24/2019 | 6/22/2019 | 6/13/2019 | 7/3/2019 | 7/10/2019 | 6/5/2019 | 6/5/2019 | 5/28/2019 | 5/30/2019 |
| Valuation Approaches | S, I | S, I, C | S, I | S, I, C | S, I, C | S, I, C | S, I | S, I, C | S, I, C |
| Comments to Value | FS, AI | FS, AI | FS | FS | FS, UOI | FS | FS | FS | FS |
| Followed USPAP | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Personal Inspection | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Sales Research & Report Preparation by Self? | No | As team (2) | Yes | Yes | Yes | Yes | Yes | Yes | Yes (with help of others to collect data). |
| Info used by Appraiser | AM, SM, P | AM, SM, P, LM | AM, SM | AM, SM, P | AM, SM, P | AM, SM, P | AM, SM, P | AM, SM, P | AM, SM |

Notes: S: Sales valuation approach; I: Income valuation approach; C: Cost valuation approach; FS: fee simple; AI: as is; AM: Aerial maps; SM: Soil maps; P: Pictures taken by appraiser; LM: LiDAR maps; n/a: not available. UOI: undivided ownership interest

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# Comparison, Farm A (2019) - continued

| Items in report | Appraiser | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ID 1 | ID 2 | ID 3 | ID 4 | ID 5 | ID 6 | ID 7 | ID 8 | ID 9 |
| Extraordinary assumptions | None | None | Date adjustment only | Acreage measurements used in the Addendum are approximate | Property in same condition on date inspected as on effective date | Date adjustment only | Property in same condition on date inspected as on effective date | Property in same condition on date inspected as on effective date | Date adjustment only |
| Hypothetical conditions | None | None | None | None | None | None | None | None | None |
| Exposure time (pre-valuation), in months | 3-6 | 1-3 | 1-4 | 6-9 | 3-6 | 2-4 | 3 | 6 | n/a |
| Marketing time (post-valuation), in months | 3-6 | 1-3 | n/a | 6-9 | n/a | 2-4 | 3 | 6 | 2 |
| Total net/taxable acres | 112.31 | 111.78 | 111.78 | 112.31 | 111.78 | 111.80 | 111.78 | 111.78 | 117.00 |
| Tillable acres | 92.61 | 111.60 | 106.73 | 107.00 | 106.73 | 106.30 | 106.73 | 103.53 | 106.73 |
| CSR2 rating on tillable acres | 88.5 | 87.2 | 86.1 | 85.9 | 86.7 | 86.9 | 89 | 84.5 | 85.9 CSR (previous version) |

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# Comparison, Farm A (2019) - continued

| Items in report | Appraiser | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ID 1 | ID 2 | ID 3 | ID 4 | ID 5 | ID 6 | ID 7 | ID 8 | ID 9 |
| Topography description | Rolling | Rolling, undulating | Gently sloping topography | Surface water drains to the open ditch in the middle from both sides | From nearly level to gently sloping to moderately sloping | Mostly level with a slight slope to the creek. The slopes range from 0% to 9% | Ranges from nearly level to rolling | From nearly level to gently rolling | Level to gently rolling with waterways |
| Number of Comparable Subjects and County | 3 Washington, 1 Johnson (All different from comps for B and C) | 2 Washington, 1 Keokuk (All different from comps for B and C) | 6 Washington (All different from comps for B and C) | 2 Washington, 3 Johnson (1 comp same as for B and C) | 3 Washington, 2 Keokuk (All different from comps for B and C) | 1 Washington, 3 Keokuk (1 comp same as for B and C) | 2 Washington, 3 Keokuk (All different from comps for B and C) | 5 Washington (Same comps for 3 farms) | 4 Washington (All different from comps for B and C) |
| Value adjustments to at least one of the comparable properties: | CSR2, Land mix adj. | CSR2, Land mix adj. | Farming ease-internal barriers | Improvements, Land quality | Flood Zone, CSR2, Other (time of sale), Farming ease-internal barriers, Location, Tillable adj., CRP adj. | Time of sale, Land quality, Motivation (adjoining) | Time of sale, Land mix adj., Efficiency | Time of sale, Improvements, Land quality | Time of sale, Location & access, Land quality, Tillable adj., Term adj. |

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## Comparison, Farm A (2019) - continued

| Items in report | Appraiser | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ID 1 | ID 2 | ID 3 | ID 4 | ID 5 | ID 6 | ID 7 | ID 8 | ID 9 |
| Estimated Gross Income per Acre | $30,188 | $30,953 | $27,000 | $32,170 | $30,381 | $29,523 | $32,077 | $31,981 | $34,389 |
| Estimated expenses as % of Gross Income | Real estate tax (11.9%) and insurance (0.3%) only. | Real estate tax (11.6%), insurance (0.5%), maintenance (0.5%), and management (5%) | Real estate tax only (13.5%) | Real estate tax (11.2%), insurance (0.6%), and maintenance (3.1%); no management expense | Real estate tax (11.8%), insurance (0.7%), maintenance (6%), and management (8%) | Real estate tax (12.1%), insurance (0.5%), maintenance (3.8%), and management (8%) | Real estate tax (11.2%), insurance (0.3%), maintenance (1.7%), and management (8%) | Real estate tax (11.2%), insurance (0.9%), maintenance (1.7%), and management (8%) | Real estate tax (10.4%), insurance (0.2%), and management (4%); no maintenance expense |
| Capitalization Rate | 2.30% | 2.30% | 2.10% | 2.50% | 1.80% | 1.79% | 2.00% | 2.30% | 2.65% |

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## Differences across Appraisal Reports by Appraiser Farm A, 2020 vs. 2019

| Items in report | Appraiser | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ID 1 | ID 2 | ID 3 | ID 4 | ID 5 | ID 6 | ID 7 | ID 8 | ID 9 |
| Effective Date of Appraisal | 4/1/2020 | 4/1/2020 | 4/1/2020 | 4/1/2020 | 4/1/2020 | 4/3/2020 | 4/1/2020 | 4/1/2020 | 4/1/2020 |
| Property inspected | 6/26/2020 | n/a | 6/3/2019 | 5/29/2020 | 4/30/2020 | 4/3/2020 | 5/12/2020 | 5/22/2020 | 4/17/2020 |
| Report Signed | 9/1/2020 | 6/12/2020 | 6/10/2020 | 6/4/2020 | 6/26/2020 | 5/8/2020 | 5/22/2020 | 6/3/2020 | 6/8/2020 |
| Sales Research & Report Preparation by Self? | Yes | As team (2) | Yes | Yes | Yes | Yes | Yes | Yes | Yes (with help of others to collect data) |
| Extraordinary assumptions | None | None | Date adjustment only | Acreage measurements used in the Addendum are approximate | Property in same condition on date inspected as on effective date | Date adjustment only | Property in same condition on date inspected as on effective date. Market not impacted significantly by COVID. | Property in same condition on date inspected as on effective date. No direct record searches.^ | Departure provision: did not include a comparison grid for comparable sales approach.* |

^ The Washington Co. Courthouse was shut down for a few months before the date of the appraisal and no direct search could be made of their records and data.
* Very few sales in the area, impossibility to access records due to Covid-19. Instead of using a comparison grid, the appraiser proved occurrence of sale and discussed adjustments in a narrative form.

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## Differences across Appraisal Reports by Appraiser Farm A, 2020 vs. 2019 (continued) [differences in red]

| Items in report | Appraiser | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ID 1 | ID 2 | ID 3 | ID 4 | ID 5 | ID 6 | ID 7 | ID 8 | ID 9 |
| Sales Research & Report Preparation by Self? | Yes | As team (2) | Yes | Yes | Yes | Yes | Yes | Yes | Yes (with help of others to collect data) |
| Exposure time (pre-valuation), in months | 3-6 | 1-3 | 1-4 | 6-12 | 6-12 | 2-4 | 3 | 6 | n/a |
| Marketing time (post-valuation), in months | 3-6 | 1-3 | n/a | 6-12 | n/a | 2-4 | 3 | 6 | 3 |
| Total net/taxable acres | 112.31 | 111.78 | 111.78 | 111.78 | 111.78 | 111.78 | 111.78 | 111.78 | 117 |
| Tillable acres | 92.61 | 101.42 | 106.73 | 106.47 | 106.11 | 106.28 | 106.73 | 103.53 | 106.73 |
| Number of Comparable Subjects and County | 1 Washington, 2 Johnson (All different from comps B and C) | 2 Washington, 3 Johnson (All different from comps for B and C) | 5 Washington (Same as comps for C, 1 different from comps for B) | 5 Washington (All different from comps for B and C) | 3 Washington, 2 Keokuk (All different from comps for B and C) | 3 Washington, 1 Keokuk (All different from comps for B and C) | 2 Washington, 3 Keokuk (All different comps from B and C) | 5 Washington (Same comps for 3 farms) | 4 Washington, no comparison grid (Same comps for 3 farms) |

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## Differences across Appraisal Reports by Appraiser Farm A, 2020 vs. 2019 (continued) [differences in red]

| Items in report | Appraiser | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ID 1 | ID 2 | ID 3 | ID 4 | ID 5 | ID 6 | ID 7 | ID 8 | ID 9 |
| Value adjustments: | CSR2, Land mix adj. | Time of sale, Land mix adj., Changing market conditions | Access to field, Farming ease-internal barriers, Drainage | Tract size, Improvements, Land quality | Flood Zone, CSR2, Farming ease-internal barriers, Tillable adj., Soil quality adj., CRP Adj | Land quality, Motivation (adjoining) | Time of sale, Land mix adj., Efficiency | Land quality | Not applicable |
| Estimated Gross Income per Acre | $30,188 | $28,398 | $32,154 | $29,845 | $30,207 | $29,333 | $33,004 | $32,691 | $32,806 |
| Estimated expenses as % of Gross Income | Real estate tax (12.6%), insurance (0.3%), no maintenance or management charge | Real estate tax (12.6%), insurance (0.5%), maintenance (0.5%), management (5%) | Real estate tax only (11.6%) | Real estate tax (12.4%), insurance (0.7%), and maintenance (2%); no management expense | Real estate tax (12.4%), insurance (0.7%), maintenance (6.6%), and management (8%) | Real estate tax (12.7%), insurance (0.5%), maintenance (3.8%), and management (8%) | Real estate tax (11.3%), insurance (0.3%), maintenance (1.7%), and management (8%) | Real estate tax (11.4%), insurance (0.9%), maintenance (1.7%), and management (8%) | Real estate tax (11.4%), insurance (0.2%), management (4%); no maintenance expense |
| Capitalization Rate | 2.30% | 2.20% | 2.30% | 2.20% | 1.80% | 1.82% | 2.10% | 2.17% | 2.75% |

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## Concluding Comments

- To the best of our knowledge, this is the **first study to compare real appraisals of farms across CGAs**.
- Our findings confirm that despite the norms and regulations that CGAs abide by, **the appraisal process is subjective in nature** and the appraised value of a farm in Iowa at a particular point in time can be very different across CGAs.
- The **observed discrepancies in basic facts** considered by CGAs throughout the appraisal process, such as tillable acres and productivity indexes, **were non-trivial**.
- Shopping around for appraisals might pay off?

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## Thank you for your time!

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