Measuring the Fiscal Gap in Rural Counties: What is the capacity of rural governments to support economic growth?

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Primary Research Question(s)

- The paper attempted to measure the relative fiscal stress in rural communities based on the gap that exists between the available revenue of the community when compared to the ability to provide government services determined by community specific social and demographic factors. In particular, a goal was to reveal how Iowa counties faired over recent business cycles and whether there was a role for redistributive polices in smoothing county spending.

- Unfortunately, the model that was used largely failed to prove our hypothesis that a fiscal gap was persistent in Iowa counties even when controlling for socio-demographic features. However, we feel the approach is still sound but in the case of Iowa, a significant change in policy that had the state playing a larger role in mental health funding, obscured the results. We still feel that the research question was valid.

Data & Methodology

Data

- Iowa Department of Management, Local Budgets, "County GAAP Financial Report."(https://www.iowaonline.state.ia.us/localbudgets/default.aspx?cmd=gotopublicsite)
- Mydata.iowa.gov, "County Population in Iowa by Year." (https://mydata.iowa.gov/Community-Demographics/County-Population-in-Iowa-by-Year/qtnr-zsrc)
- U.S. Department of Agriculture, Economic Research Service, "Atlas of Rural and Small-Town America." (https://www.ers.usda.gov/topics/rural-economy-population/rural-classifications/)

Methodology

- We used the Zhao and Weiner (2015) municipal gap method for measuring fiscal disparities across rural communities. Specifically, this measures non-education public service provision in terms of revenue adequacy and service level. This methodology considers socioeconomic and demographic characteristics that identifies if a community has a higher cost of providing government services. It is the lack of revenue adequacy or higher costs (or both) that is identified through this methodology.
- The model begins by identifying revenue capacity calculated using a standard "representative tax system." This measures capacity as the ability to raise revenue from all sources they are authorized to tax (regardless if they choose not to tax that particular base). It is calculated by levying a standard uniform tax rate against that tax base. The rate is determined by ensuring that the statewide rate is sufficient to raise enough revenue to cover existing expenditures.
- We identified intergovernmental transfers (both state and federal) and examine whether these are sufficient to ameliorate the identified fiscal stress.
- Finally, expected expenditures are calculated as the average level of spending based on a municipality's underlying socioeconomic and physical characteristics. The purpose of this is to remove the variation in expenditures due to choices of local officials who may favor specific government programs.

Results, Policy, & COVID-19 Implications

- On the positive side, our work allows potential fiscal gaps to be measured based on specific economic, demographic and fiscal criteria at the county level. This allows for an understanding of how a counties specific characteristics perform over the business cycle.

- A second implication is the role of the state in providing either fiscal relief over the cycle or being responsible for funding pro-cyclical government programs. In Iowa's case the shift to state funding of mental health programs likely reduced significant fiscal stress on county governments.

- COVID-19 implications: The significant influx of Federal dollars through ARPA and related programs is a clear source of future research. Both the heterogeneity of the level of funding along with relative local autonomy to spend the money will likely influence future fiscal and economic outcomes.

- Finally, a caution is whether the county or county level government is the correct unit of analysis. Ideally, you would like all government expenditures in the geography accounted for.

Iowa County Government ARPA Distributions

County_name	Amount Received from ARPA	County Spending (2021)	Federal Funding as a Percentage of County Spending (2021)
Adair County	$1,389,192.00	$6,028,261.00	23.04%
Adams County	$699,646.00	$10,064,557.00	6.95%
Allamakee County	$2,658,539.00	$13,880,589.00	19.15%
Appanoose County	$2,413,605.00	$23,605,509.00	10.22%
Audubon County	$1,067,534.00	$9,941,533.00	10.74%
Boone County	$5,095,647.00	$28,758,028.00	17.72%
Buchanan County	$4,112,996.00	$8,137,859.00	50.54%
Buena Vista County	$3,810,955.00	$29,795,919.00	12.79%
Butler County	$2,804,606.00	$8,035,842.00	34.90%
Calhoun County	$1,877,896.00	$14,548,518.00	12.91%
Carroll County	$3,916,815.00	$10,188,830.00	38.44%
Cass County	$2,493,243.00	$6,486,740.00	38.44%
Cedar County	$3,618,076.00	$16,771,951.00	21.57%
Cerro Gordo County	$8,245,415.00	$17,566,390.00	46.94%
Cherokee County	$2,182,267.00	$13,125,041.00	16.63%
Chickasaw County	$2,317,845.00	$6,671,869.00	34.74%
Clarke County	$1,824,869.00	$9,359,024.00	19.50%
Clay County	$3,110,920.00	$15,279,334.00	20.36%
Clayton County	$3,408,688.00	$15,511,792.00	21.97%
Clinton County	$9,018,289.00	$28,260,965.00	31.91%
Crawford County	$3,267,088.00	$17,610,885.00	18.55%
Davis County	$1,748,144.00	$9,981,065.00	17.51%
Decatur County	$1,528,655.00	$4,411,682.00	34.65%
Delaware County	$3,304,187.00	$15,870,143.00	20.82%
Des Moines County	$7,568,883.00	$24,244,562.00	31.22%
Dickinson County	$3,352,164.00	$26,479,175.00	12.66%
Emmet County	$1,788,546.00	$9,211,758.00	19.42%
Fayette County	$3,816,782.00	$22,112,362.00	17.26%
Floyd County	$3,038,275.00	$8,249,630.00	36.83%
Franklin County	$1,955,979.00	$6,807,239.00	28.73%
Fremont County	$1,351,898.00	$5,936,054.00	22.77%
Greene County	$1,726,390.00	$7,681,930.00	22.47%
Hamilton County	$2,869,482.00	$10,275,289.00	27.93%
Hancock County	$2,064,753.00	$16,634,014.00	12.41%
Hardin County	$3,272,138.00	$15,773,093.00	20.75%
Henry County	$3,875,831.00	$18,693,030.00	20.73%
Howard County	$1,778,834.00	$6,366,550.00	27.94%
Humboldt County	$1,856,529.00	$12,216,542.00	15.20%
Ida County	$1,332,475.00	$3,024,428.00	44.06%
Iowa County	$3,143,552.00	$20,012,787.00	15.71%
Jackson County	$3,775,798.00	$7,769,451.00	48.60%

County_name	Amount Received from ARPA	County Spending (2021)	Federal Funding as a Percentage of County Spending (2021)
Jefferson County	$3,553,589.00	$16,085,590.00	22.09%
Keokuk County	$1,990,165.00	$11,121,112.00	17.90%
Kossuth County	$2,877,252.00	$9,446,759.00	30.46%
Lee County	$6,537,478.00	$20,421,757.00	32.01%
Louisa County	$2,143,419.00	$12,699,842.00	16.88%
Lucas County	$1,670,449.00	$7,009,982.00	23.83%
Lyon County	$2,283,271.00	$17,485,558.00	13.06%
Mahaska County	$4,291,695.00	$16,993,461.00	25.25%
Marion County	$6,459,005.00	$30,866,956.00	20.93%
Marshall County	$7,646,967.00	$23,644,475.00	32.34%
Mitchell County	$2,056,206.00	$18,119,389.00	11.35%
Monona County	$1,673,363.00	$18,240,826.00	9.17%
Monroe County	$1,496,994.00	$8,610,099.00	17.39%
Montgomery County	$1,926,261.00	$13,533,990.00	14.23%
Muscatine County	$8,286,982.00	$27,673,715.00	29.95%
O'Brien County	$2,671,359.00	$13,937,127.00	19.17%
Osceola County	$1,157,272.00	$9,537,320.00	12.13%
Page County	$2,934,358.00	$17,798,745.00	16.49%
Palo Alto County	$1,726,001.00	$11,598,646.00	14.88%
Pocahontas County	$1,285,663.00	$7,246,916.00	17.74%
Poweshiek County	$3,594,185.00	$14,338,529.00	25.07%
Ringgold County	$950,602.00	$4,387,892.00	21.66%
Sac County	$1,888,190.00	$13,630,319.00	13.85%
Shelby County	$2,224,805.00	$11,874,138.00	18.74%
Sioux County	$6,770,175.00	$20,687,099.00	32.73%
Tama County	$3,273,692.00	$22,989,197.00	14.24%
Taylor County	$1,188,932.00	$10,174,589.00	11.69%
Union County	$2,377,671.00	$12,572,815.00	18.91%
Van Buren County	$1,368,214.00	$8,039,326.00	17.02%
Wapello County	$6,792,318.00	$17,903,310.00	37.94%
Wayne County	$1,251,089.00	$4,806,702.00	26.03%
Webster County	$6,973,931.00	$18,664,152.00	37.37%
Winnebago County	$2,011,143.00	$11,412,508.00	17.62%
Winneshiek County	$3,883,017.00	$21,766,442.00	17.84%
Worth County	$1,433,673.00	$6,812,569.00	21.04%
Wright County	$2,440,021.00	$8,294,930.00	29.42%