

Citywide vs. Neighborhood-specific Crime Rates: Do they Matter for the City of Jackson?

Gregory N. Price, Ph.D.; Amechi S. Bowser; Gregory Opara-Nadi, Ph.D.

Overview

This issue of *The MURC Digest* provides a consideration of measuring crime and an analysis of neighborhood-level crime in the city of Jackson based on Computer Analysis of Crime Statistics (COMSTAT) data available for the years 2004 – 2005. Recently, the Office of the Mayor of the city of Jackson has decided to cease reporting, and making available to the public, COMSTAT data disaggregated at the neighborhood-level. Such a decision has significant policy implications, as it presupposes that the availability of disaggregated crime data is of no value. It is our hope that the analysis provided here shows the value of timely and publicly available neighborhood-level crime data. Like politics, all crime is local and ultimately the welfare of the inhabitants of a city is linked mostly to the quality of life in particular neighborhoods.

Cities contain people. People reside in neighborhoods. This insight informs an analytical framework of public economics whereby individual welfare is determined by sorting into neighborhoods that which reflects the ideal mix of public goods, amenities, and social interactions that optimize their well being.¹ As such, whereas changes in the welfare indicators of a city can be suggestive of how individual welfare is changing in a city, neighborhood-level changes in welfare are more suggestive. Heterogeneity in neighborhood well-being undermines the information value of citywide measures of well-

being if there are huge disparities in well-being among neighborhoods. Only in a world in which neighborhoods were perfectly homogeneous would a single-index measure of well-being make sense, as each neighborhood in the index would be indistinguishable from any other, all with similar index weights.

Crime is one such indicator of individual welfare.

Increases in the crime rate are indicative of an erosion of welfare, as crime imposes costs on individuals and institutions in the form of losses to property, life and in the form of additional costly law enforcement measures. The converse is true when the crime rate falls. To the extent, however, that neighborhoods reflect optimizing choices by individuals, changes in the crime rate at the city level need not



provide relevant or sufficient information about individual welfare in neighborhoods. This raises a fundamental question of whether or not, as a measure, a citywide crime rate has any substantial information value that can be used as input into public policy decisions.

The crime rate of a neighborhood is also important for understanding the complex factors that affect the well-being of individuals who reside in neighborhoods. Crime is an important part of the social ecology of a neighborhood, and appears to be associated, both spatially with nearby neighborhoods and among individuals within neighborhoods, with

dilapidated housing, infant mortality, low birth weight, and other factors detrimental to individual well-being (Sampson 2003, 2004). In this context, neighborhood crime rates are a proxy — or a canary in the mine — that provide useful information about overall neighborhood well-being.

There is no fixed relationship between the crime rate in the city and that in a particular neighborhood. In this context, law enforcement policy based on city-level changes in crime rates need not optimize the welfare of individuals who reside in neighborhoods. If criminals are also optimizers, they will select neighborhoods where the probability of criminal success is relatively high, possibly offsetting the effects of aggressive citywide law enforcement, and crime and welfare in particular neighborhoods can decrease while for the city as a whole, the typical resident is better off.

From a strict egalitarian welfarist perspective, where the welfare of all of a city's residents is equally valued, a law enforcement policy that ignores



neighborhood-level crime rates may not optimize individual welfare, if at the neighborhood level, crime rates bear no strict proportional relationship to the city-level crime rate. From a political economy perspective, ignoring neighborhood-level crime rates also suggests that the welfare of residents in particular neighborhoods (e.g., black, poor, low-income) may not be of particular interest to law enforcement authorities.

Neighborhood Crime in Jackson

Tables 1 - 2 report on the crime rate across 54 Jackson neighborhoods between 2004 and 2005 based on COMSTAT data.² Table 1 reports on the first quarter, and Table 2 reports on the second quarter. We rank, in ascending order, each neighborhood according to their improvement with respect to the percentage change in the quarterly crime rate. Each table also reports the quarterly crime rate for each neighborhood. The neighborhood classifications are based on census data at the block and tract levels, and are named according to prominent streets, local institutions

such as hospitals or colleges/universities, and existing traditional neighborhood names.

The quarterly crime rates are an approximate measure of how safe a particular neighborhood is with respect to an individual being victimized by crime. By this measure, at the end of the first quarter of 2004, Northpointe was the safest neighborhood, and Downtown was the least safe. At the end of the first quarter of 2005, the Plantation Drive neighborhood was the safest, and Downtown was the least safe. With respect to the second quarter in 2004, the Plantation Drive neighborhood was the safest and Downtown was the least safe. At the end of the second quarter of 2005, Northpointe was the safest neighborhood, and Downtown was the least safe.

With respect to changes in the quarterly crime rate between 2004–2005, the Northpointe neighborhood experienced the biggest decrease in the first quarter and is ranked number one in this category. The Hawkins Field neighborhood experienced the biggest increase in crime over this

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Gregory N. Price, Ph.D.: Executive Editor

Pamela McCoy: Editor

Sabrina Howard: Graphic Artist

period and is ranked last among Jackson neighborhoods in this category. Overall, out of 54 neighborhoods, 40 experienced decreases in the crime rate over the first quarter, with 15 neighborhoods experiencing an increase in the crime rate. For the second quarter, the Virden Addition neighborhood experienced the biggest decrease in crime over 2004–2005, and is ranked number one. The Jackson Country Club neighborhood experienced the biggest increase in crime over this period, and is ranked last. Overall, out of 54 neighborhoods, 29 saw decreases in the crime rate over the second quarter, with 25 neighborhoods experiencing an increase in the crime rate.

Rankings of neighborhoods in the top ten for crime rates across the two quarters are remarkably stable, with the Downtown, Terry Road – Battlefield Park, and Farish Street neighborhoods always in the top five. Downtown also had the distinction of being the most crime-ridden neighborhood across both quarters of 2005. The stability of these neighborhoods in the top five suggests that relative to all other Jackson neighborhoods, these three are particularly prone to crime warranting special law enforcement interventions. The Farish Street and Terry Road – Battlefield Park neighborhoods are also some of the poorest in Jackson, suggesting that the underlying causal factors of crime are socioeconomic in nature.

The data on crime rates in Tables 1 - 2 suggest that neighborhoods in the city of Jackson are heterogeneous with respect to the processes generating crime. If so, the

information value of a city-wide crime rate would be limited. Of course, if the processes generating crime are similar in every neighborhood, a citywide crime rate would convey perfect information to citizens, regardless of the neighborhood in which they reside. Formally, this raises the issue of whether or not a citywide crime rate is a so-called “Sufficient Statistic” conveying all information about citywide crime.³

A Kruskal-Wallis test (Kruskal and Wallis, 1952) on 2004 crimes at the census tract level in Jackson suggests that crime rates in each neighborhood are generated from different probability distributions.⁴ This suggests that a citywide crime rate does not reflect the likelihood of an individual being victimized by crime in any neighborhood, as each has its own process generating crime. The rejection of similar probability distributions for crime rates across neighborhoods also undermines the information value of a citywide crime rate. As the underlying neighborhood crime rates are not generated from identical and independent distributions, adding the crime rates across neighborhoods to get an aggregate city-wide rate results in a biased measure of crime.

As the Kruskal-Wallis test rejects the idea that all neighborhoods in the city of Jackson have similar processes generating crime, an implication is that a citywide crime rate has limited information value with regard to describing the level of crime in the city – it is not a Sufficient Statistic. Apparently, neighborhood-level crime in Jackson is too heterogeneous for a citywide crime rate to convey accurate information about the actual crime rate faced by a citizen who finds

himself randomly situated in one of the 65 neighborhoods in the city. If a single-index citywide crime rate is desirable, an improved alternative would be a weighted sum crime index with each neighborhood’s share of citywide crime as the weight. The current, simple, unweighted citywide crime rate assumes each neighborhood in Jackson is identical with respect to the process generating crime – which does not withstand formal statistical scrutiny.

Implications for the Political Economy of Neighborhood Welfare

A simple citywide crime index, being a biased measure of crime in a city where neighborhoods are heterogeneous with respect to crime, can also obscure policy issues of law enforcement provision. As a public good, law enforcement resources are scarce, and if provided optimally, should be allocated on the basis of sound cost-benefit considerations. The benefits are most clearly recognizable and identifiable—reductions in the citywide crime rate. However, if the information value of the citywide crime index is poor, the provision of



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TABLE 1

Neighborhood	1st Qtr 2004 Crime Rate	1st Qtr 2004 Rank	1st Qtr 2005 Crime Rate	1st Qtr 2005 Rank	% Change	% Change Rank	Population (2000 Census)
Northpointe	226.4	53rd	45.3	54th	-79.99%	1	2,208
Northtown Apts.	1647.3	17th	484.5	46th	-70.59%	2	1,032
Tougaloo	2011.3	8th	603.4	45th	-70.00%	3	2,486
Callaway-Presto Lane	406.5	50th	135.5	53rd	-66.67%	4	738
Plantation Drive	395	51st	151.9	52nd	-61.54%	5	3,291
Jackson Country Club	725.9	42nd	298.9	50th	-58.82%	6	2,342
County Line Road/Ridgewood Road	2977.2	7th	1313.5	18th	-55.88%	7	1,142
Ellis Avenue-Lynch Street-Hemmingway Circle-Alta Vista	1830.8	10th	811.1	36th	-55.70%	8	4,315
Lochwood Apts.	3571.4	3rd	1601	8th	-52.66%	9	812
Eastbrooke-Eastover	1699.6	16th	958	29th	-43.63%	10	3,236
Metro Center	3262.2	5th	1882.1	5th	-42.31%	11	797
South Jackson/Byram-East of I-55	1195.2	29th	704.9	41st	-41.02%	12	3,263
Woodlea-Woodhaven-North Colony	406.9	49th	250.4	51st	-38.46%	13	3,195
Alta Woods	1821.5	11th	1142.3	23rd	-37.29%	14	3,239
Woody Drive/Treehaven Drive-Terry Road	1585.6	21st	1004.2	28th	-36.67%	15	1,892
Shady Lane/McFadden Road-Wingfield-Dorgan Street	1492.3	22nd	954.4	30th	-36.04%	16	5,763
Viriden Addition	1431.1	24th	919.7	32nd	-35.73%	17	6,415
Downtown	9728.5	1st	6259.4	1st	-35.66%	18	1,326
Washington Addition-Highway 80	3516.8	4th	2385.3	4th	-32.17%	19	3,270
Subdivision #2	1163.8	30th	794.8	38th	-31.71%	20	3,523
Dixon Road-South Drive	1621.6	20th	1114.9	24th	-31.25%	21	2,960
Northgate-Valley North-Norwood	440.4	48th	302.8	49th	-31.24%	22	3,633
Savanna Street	1092.9	33rd	762	39th	-30.28%	23	2,745
Rollingwood-McLeod-Sedgwick Drive	1150.3	31st	816.3	35th	-29.03%	24	2,695
Farish Street	3859.3	2nd	2837.7	3rd	-26.47%	25	881
Georgetown	1786.1	12th	1363.1	15th	-23.68%	26	4,255
Queens-Magnolia Terrace-Country Club Drive	1020.9	36th	825.7	34th	-19.12%	27	6,661
Northwest Jackson-Richwood-Lakeover	1727.7	15th	1400.1	14th	-18.96%	28	3,357
Signature Square-Highway 18-Maddox Road	1768.8	13th	1461.2	11th	-17.39%	29	3,901
Briarwood-Colonial Heights	1877.5	9th	1578.2	9th	-15.94%	30	3,675
Broadmoor	1054.9	35th	921.4	31st	-12.66%	31	7,489
Terry Road-Greenwood Avenue-Rebelwood Apts.	1441.2	23rd	1304.4	16th	-7.69%	32	1,804
Cooper Road-Woodville Heights-Oak Forest	922.4	40th	858.8	33rd	-6.90%	33	3,144
Deer Park-JSU	1622.5	19th	1528.9	10th	-5.77%	34	3,205
Terry Road-Battlefield Park	3176.4	6th	3023.3	2nd	-4.82%	35	2,613
West Central Jackson	1326.9	26th	1263.7	19th	-4.76%	36	4,748
Fondren-Woodland Hills-UMC	1309.7	27th	1261.8	20th	-3.66%	37	6,261
Hanging Moss-Beaverbrook-Meadowlane-Witsell Road	626.5	44th	606.9	44th	-3.13%	38	5,108
Autumn Woods-North Hill Square	1743.9	14th	1694.1	6th	-2.86%	39	2,007
Mid-Town-Millsaps-North End	1422.2	25th	1451.8	12th	-2.08%	40	3,375
Belhaven	1634.5	18th	1653	7th	1.13%	41	5,384
Robinson Road-Westland Plaza	1066.4	34th	1096	25th	2.78%	42	3,376
Presidential Hills	673.8	43rd	698.8	42nd	3.71%	43	4,007
Bel Air-Shady Oaks-Christian Brotherhood-Medical Mall	969.9	39th	1009.2	27th	4.05%	44	7,630
Cedar Hills-Western Hills-Brookhollow	312.5	52nd	337.5	48th	8.00%	45	8,001
Capitol Street-Zoo	1240.5	28th	1407	13th	13.42%	46	6,610
Sheffield-Jackson Academy-E. Northside Drive	1127.8	32nd	1328.3	17th	17.78%	47	3,990
Woody Drive/Woodside Drive	861.4	41st	1018	26th	18.18%	48	3,831
Boling Street-Bullard Street	993.8	37th	1183.2	22nd	19.06%	49	2,113
The Lodge	986.6	38th	1198	21st	21.43%	50	1,419
Leavell Woods-Terry Road-Cooper Road	519.4	45th	641.6	43rd	23.52%	51	3,273
McClure Road-Rainey Road	498.6	46th	747.9	40th	50.00%	52	2,808
Hawkins Field	453.9	47th	806.9	37th	77.77%	53	1,983
Byram	145.5	54th	378.2	47th	159.93%	54	6,875

efficient and cost-effective law enforcement could be compromised. To the extent that a simple unweighted citywide crime index obscures the level of crime in particular neighborhoods, a citywide

crime rate utilized as an indicator of how effective law enforcement resources have been could result in the underprovision of law enforcement in particular neighborhoods. If individuals in

particular neighborhoods observe for example, the simple citywide crime rate falling, whereas it is increasing in their neighborhood, they can mistakenly be led to believe that crime is also falling in their

TABLE 2

Neighborhood	2nd Qtr 2004 Crime Rate	2nd Qtr 2004 Rank	2nd Qtr 2005 Crime Rate	2nd Qtr 2005 Rank	% Change	% Change Rank	Population (2000 Census)
Virden Addition	1371.8	25th	514.4	48th	-62.50%	1	6,415
Bel Air-Shady Oaks-Christian Brotherhood-Medical Mall	1716.9	13th	747.1	43rd	-56.49%	2	7,630
Eastbrooke-Eastover	1699.6	15th	896.2	36th	-47.27%	3	3,236
Signature Square-Highway 18-Maddox Road	1768.8	12th	948.5	34th	-46.38%	4	3,901
Mid-Town-Millsaps-North End	1481.5	21st	829.6	37th	-44.00%	5	3,375
West Central Jackson	1979.8	10th	1179.4	24th	-40.43%	6	4,748
Woody Drive/Woodside Drive	1252.9	29th	809.2	40th	-35.41%	7	3,831
Subdivision #2	1135.4	32nd	766.4	42nd	-32.50%	8	3,523
Hanging Moss-Beaverbrook-Meadowlane-Witsell Road	743.9	46th	509	50th	-31.58%	9	5,108
Belhaven	2173.1	8th	1523	17th	-29.92%	10	5,384
Savanna Street	1712.2	14th	1202.2	23rd	-29.79%	11	2,745
Tougaloo	1488.3	20th	1045.9	32nd	-29.73%	12	2,486
Hawkins Field	958.1	41st	706	44th	-26.31%	13	1,983
Washington Addition-Highway 80	3272.2	5th	2477.1	7th	-24.30%	14	3,270
Metro Center	2258.5	7th	1756.6	11th	-22.22%	15	797
South Jackson/Byram-East of I-55	1685.6	16th	1317.8	21st	-21.82%	16	3,263
Broadmoor	1041.5	35th	814.5	39th	-21.80%	17	7,489
Autumn Woods-North Hill Square	3139	6th	2491.3	6th	-20.63%	18	2,007
Northpointe	226.4	51st	181.2	54th	-19.96%	19	2,208
Northgate-Valley North-Norwood	853.3	44th	688.1	45th	-19.36%	20	3,633
Rollingwood-McLeod-Sedgwick Drive	1224.5	30th	1001.9	33rd	-18.18%	21	2,695
Dixon Road-South Drive	1385.1	23rd	1148.6	26th	-17.07%	22	2,960
Lochwood Apts	3325.1	4th	2832.5	5th	-14.81%	23	812
Downtown	8069.4	1st	7013.6	1st	-13.08%	24	1,326
Robinson Road-Westland Plaza	1273.7	28th	1125.6	27th	-11.63%	25	3,376
Shady Lane/McFadden Road-Wingfield-Dorgan Street	1301.4	27th	1388.2	20th	-6.67%	26	5,763
Terry Road-Greenwood Avenue-Rebelwood Apts.	1829.3	11th	1718.4	13th	-6.06%	27	1,804
Terry Road-Battlefield Park	3444.3	3rd	3559.1	3rd	-3.33%	28	2,613
Presidential Hills	948.3	42nd	923.4	35th	-2.63%	29	4,007
Ellis Avenue-Lynch Street-Hemmingway Circle-Alta Vista	1066	34th	1066	31st	0%	30	4,315
Georgetown	1668.6	17th	1692.1	14th	0.05%	31	4,255
Queens-Magnolia Terrace-Country Club Drive	750.6	45th	795.7	41st	6.01%	32	6,661
Woodlea-Woodhaven-North Colony	1032.9	36th	1095.5	29th	6.06%	33	3,195
Northwest Jackson-Richwood-Lakeover	1400.1	22nd	1489.4	18th	6.38%	34	3,357
Northtown Apts.	1162.8	31st	1259.7	22nd	8.33%	35	1,032
Cooper Road-Woodville Heights-Oak Forest	986	39th	1081.4	30th	9.68%	36	3,144
McClure Road-Rainey Road	1068.4	33rd	1175.2	25th	10.00%	37	2,808
Sheffield-Jackson Academy-E. Northside Drive	977.4	40th	1102.8	28th	12.83%	38	3,990
Deer Park-JSU	1372.9	24th	1591.3	16th	15.91%	39	3,205
Alta Woods	1574.6	18th	1852.4	10th	17.64%	40	3,239
County Line Road/Ridgewood Road	4278.3	2nd	5166.4	2nd	20.76%	41	1,142
Cedar Hills-Western Hills-Brookhollow	275	50th	337.5	52nd	22.73%	42	8,001
Fondren-Woodland Hills-UMC	1325.7	26th	1661.7	15th	25.35%	43	6,261
Leavell Woods-Terry Road-Cooper Road	641.6	47th	824.9	38th	28.57%	44	3,273
Boling Street-Bullard Street	473.3	48th	615.2	46th	29.98%	45	2,113
Callaway-Presto Lane	406.5	49th	542	47th	33.33%	46	738
Farish Street	2156.6	9th	3064.7	4th	42.11%	47	881
Briarwood-Colonial Heights	1551	19th	2231.3	8th	43.90%	48	3,675
Capitol Street-Zoo	998.5	37th	1467.5	19th	46.97%	49	6,610
Woody Drive/Treehaven Drive-Terry Road	898.5	43rd	1744.2	12th	94.12%	50	1,892
The Lodge	986.6	38th	2184.6	9th	121.43%	51	1,419
Byram	130.9	52nd	349.1	51st	166.69%	52	6,875
Plantation Drive	60.8	54th	212.7	53rd	249.84%	53	3,291
Jackson Country Club	128.1	53rd	512.4	49th	300.00%	54	2,342

neighborhood. The belief that neighborhood crime is falling could then translate into residents of the neighborhood demanding less provision of law enforcement services (e.g., officer patrols),

resulting in an even higher crime rate which reduces neighborhood welfare even further.

The stability of some of the poorest Jackson neighborhoods in the top five of crime rankings

suggests that law enforcement policy in Jackson is subject to a particular “Political Economy” which provides motivation for the use of a simple unweighted citywide crime rate.⁵ If some hypothetical



social planner were attempting to optimize a social welfare function in which the crime rate was an argument, a Rawlsian egalitarian approach would assign equal weight—and therefore value, to all neighborhoods in Jackson.⁶ A sensible solution to the social planner's problem would be a city in which crime rates were equalized across all neighborhoods. Departures from this social welfare idea, which we observe empirically in Tables 1 - 2, suggest that egalitarian social welfare principles are not governing law enforcement policy in Jackson. The use of a simple unweighted citywide crime index would certainly obscure the fact that all neighborhoods in Jackson are not valued equally.

As some the poorest neighborhoods maintained constant membership in the top five crime-rate neighborhoods across the two quarters of 2004–2005, an implication is that the welfare of individuals who reside in these neighborhoods is not as valued as

other neighborhoods.⁷ Of course, crime rates could persist for reasons other than indifference to the welfare of neighborhoods on behalf of law enforcement authorities — Downtown is after all the central headquarters of the Jackson Police Department. To the extent that the poorest Jackson neighborhoods are subject to a particular ecology of crime that we cannot observe or measure, the high crime rates simply reflect this. Nonetheless, the observation of high neighborhood crime rates is an indicator of neighborhood welfare and well-being. In this context, observing high neighborhood crime informs a social planning problem — some welfare-improving intervention that would reduce crime in a neighborhood.

Of course, the hypothetical social planner does not exist, and it is appealed to as an analytical device that justifies and motivates optimal policy interventions in the real world — in this case law enforcement — to improve the well-

being of individuals in neighborhoods. To observe outcomes in the real world that depart from the solutions that would result from a hypothetical social planner concerned with Rawlsian egalitarian outcomes suggests that actual societal welfare concerns are based on criteria other than those required for social and private market efficiency. In the case of Jackson, the persistence of high crime rates across some of the poorest neighborhoods suggests that the welfare of the poorest residents is not valued to the same extent as that of residents in not so poor neighborhoods.

The observed variation in crime rates across Jackson neighborhoods in Tables 1 – 2 are significant enough to raise questions about the political economy of law enforcement in the city of Jackson. As law enforcement is a public good/service, its provision across Jackson neighborhoods ought not be sensitive to a neighborhood's demographic characteristics—as the

data in Tables 1 – 2 suggest. The apparent sensitivity of the crime rates to neighborhood characteristics suggests a vulgar political economy of law enforcement provision whereby certain residents — the poor, the black, and renters — are deemed not worthy of the benefits of law enforcement. If a simple citywide crime index is to be utilized as an indicator of the success of law enforcement in Jackson, the apparent vulgar political economy of law enforcement could be exacerbated, as a simple index only obscures what actual crime rates are in particular neighborhoods, and the city in general.

Conclusions and Policy Implications

The choice between reporting and making publicly available neighborhood vs. citywide crime rates in the city of Jackson has become a policy issue recently. Our research shows that the case for making available neighborhood-specific crime rates is compelling. A simple, unweighted, citywide crime rate presupposes that all neighborhoods in the city of Jackson are identical with respect to the processes generating crime. We find that this presupposition has no formal statistical support. As such, a simple, unweighted, citywide crime rate is a biased measure of crime in the city, and if used as an input into law enforcement provision decisions, could lead to inefficient policing of neighborhoods in Jackson.

To ignore the shortcomings of a simple unweighted crime rate raises questions of Political Economy — is the welfare of all Jackson

neighborhoods valued equally with respect to law enforcement provision? Our analysis of neighborhood crime rates, coupled with the use of simple unweighted crime rates suggests that the answer to this question is no. Some of the poorest neighborhoods in Jackson consistently show up in the top five highest crime rate neighborhoods — at least over the first two quarters of 2004–2005 — and this would be obscured in a simple, unweighted, citywide crime rate. Recent decisions to cease the publication and public availability of neighborhood-specific crime rates suggest a desire to obscure such neighborhood-specific crime rates, perhaps as a result of indifference to the welfare of some of Jackson's most downtrodden neighborhoods.

From a scientific perspective, we conclude that the production and public availability of neighborhood-specific crime rates are essential. There is far too much heterogeneity among Jackson neighborhoods to justify a simple unweighted crime rate. An official policy to produce and make available a citywide rate only has no formal scientific justification, and to adopt such as policy suggests the existence of a vulgar Political Economy in which the provision and allocation of law enforcement resources in the city of Jackson is conditioned on race and other sociodemographic characteristics. It is our hope that the analysis provided here can inform law enforcement policy as to the choice of how to adequately measure and report crime in the city of Jackson.



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ENDNOTES

¹ See Samuelson (1954) for an introduction to the theory and analytical framework of public good expenditures. Tiebout (1956) extends the approach of Samuelson to the case of neighborhood sorting by individuals.

² COMSTAT data were obtained by the Mississippi Urban Research Center from the city of Jackson Police Department in 2005. The set of neighborhoods includes Byram. Although Byram is not a Jackson neighborhood, it can be viewed by one as it is proximate to the city, and has been in recent years a candidate for annexation by the city of Jackson.

³ For the theory underlying sufficient statistics, see (Greene, 2003, and Stuart and Ord, 1987). Intuitively, a sample statistic is sufficient if one knows that each observation is generated from independent probability distributions that are determined by some unknown parameter—e.g., the mean or median. If the probability distributions are not independent, then any statistic computed across the distributions does not convey useful information about the parameter of interest.

⁴ A Kruskal-Wallis test is a nonparametric test for whether or not k sample moments—in our case, neighborhood crime rates—are from a similar probability distribution. The test statistic is: $H = [12/N(N+1)] \sum_{i=1}^k (r_i^2/n_i) - 3(N+1)$ where $N = \sum n_i$ is the number of neighborhood

(n_i) observations in rank-order, and r_i is the rank sum. In general, H is approximately distributed as a chi-square distribution with $N - 1$ degrees of freedom. Our test is based on 166 city of Jackson census tracts as reported in the 2000 census. For each tract, all crime reported in the city of Jackson COMSTAT data was matched to the address of the reported crime. The Kruskal-Wallis test statistic is significant at the .01 level, suggesting that the crime rates in each Jackson neighborhood are not similar, and generated by different probability distributions.

⁵ By political economy we mean that in addition to resources being allocated by market forces, resources are also allocated on the basis of nonmarket factors such as race, wealth, and institutions that invoke rules for resource allocation on the basis of nonmarket factors such as race and wealth.

⁶ Rawls' (1971) idea of social welfare and justice posits that a society is no better off than its worst-off member. This idea generates a social welfare function to be optimized whereby the solution generates equal welfare for all individuals.

⁷ The same claim can be made for the neighborhoods (Capital Street-Zoo and Leavell Woods-Terry Road-Cooper Road) that experienced increases in the crime rate across the first two quarters in 2004–2005.



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