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**Financial Trends in Kentucky's Full Service Jails
FY07 to FY19**

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Abstract

Research on jail finances in the United States, in general, and Kentucky, specifically, has been lacking. This capstone describes trends in jail finances in Kentucky. It also examines the legal requirement to house certain state inmates in county jails and the financial burden of this requirement on counties. Uniform Financial Information Reports (UFIRs) data from 58 counties in Kentucky was used to descriptively analyze financial trends in full service jails from fiscal years 2007 to 2019. This data was combined with Kentucky Department of Corrections jail population data from fiscal years 2012 to 2019 to compare financial trends with the changes in the jail population. The analysis suggests the state has not funded jails proportionally to the state inmate population, and counties are transferring in about five to six percent of total revenue away from other purposes into the jail fund.

Executive Summary

Kentucky's jail population has been increasing over the past decade, while much of the United States has focused on reducing incarceration levels. Research on jails has remained scarce, while many researchers focused on prisons. One of the reasons research is lacking for jails is that they are typically operated by local governments, which creates large variations across jurisdictions. This decentralization makes national studies much more difficult. Research on jail finances has been especially lacking but is an important topic to study to understand the extent that jails burden county finances. Kentucky is a critical state to study because certain state inmates are required by law to be housed in county jails. This relationship is important to study to determine if the state pays its fair share for state inmates or if it is shifting costs onto counties.

This capstone seeks to answer the following questions: How have jail finances in Kentucky changed over time? To what extent have counties been burdened with the cost of Kentucky's state inmate population? I collected data for 58 counties with full service jails using Uniform Financial Information Reports (UFIRs) and Kentucky Department of Corrections "Weekly Jail Reports." I conducted a descriptive analysis of Kentucky's full service jails to determine how jail funding and costs have changed over time in relation to the jail population.

My analysis suggests that the state is not paying its fair share of jail costs in relation to the level they fill jails with state inmates. From FY12 to FY19, the proportion of state funding remained below the proportion of state inmates in jails every year. Additionally, counties have been burdened with jail costs, transferring in 5 to 6 percent of total revenue away from other funds and into the jail fund. Jail costs also increased over the period from FY07 to FY19, and, in the most recent year, counties were spending about one in five dollars on jails. My capstone creates a solid starting point for future research to be conducted on jail finances in Kentucky.

Introduction

Kentucky's jail population has substantially increased in the past two decades, by 76 percent from 2000 to 2015 (Vera Institute of Justice, 2019). This increase has had a substantial effect on county finances. From 2007 to 2018, local government spending on corrections in Kentucky increased by 49 percent, while total local government spending increased only by 26 percent (U.S. Census Bureau, 2019, 2020). As the jail population has grown, counties have spent more of their budget on jail costs. Many counties in Kentucky struggle financially due to their lack of revenue options, and increasing jail costs could create an enormous strain on their budgets. Kentucky is unique because its inmate population continued to surge despite efforts nationwide to reduce incarceration. Additionally, the state relies heavily on county jails to house state inmates.

Jail finances are important to study because the cost of jails burden counties and potentially crowds out funding for other programs. Counties have many legal obligations to provide certain services, which becomes difficult if they spend a large portion of their budget on jails. Second, there is a legal requirement on counties to house certain state inmates. The fairness of this relationship needs to be researched to determine if counties are on the losing end. Lastly, an adequate funding system is necessary to maintain inmates' basic rights and provide rehabilitative services. For Kentucky to ever start to reduce its inmate population, it needs to provide the services necessary to rehabilitate inmates to become productive citizens. Overcrowding and a lack of funding for rehabilitative programs will not prepare inmates for release and thus continue cycles of incarceration.

There is little research on jail finance in Kentucky or the United States overall. This paper will build the groundwork for future research on jail finances by creating an understanding of the

current trends in jail finance in Kentucky. This research seeks to answer the following questions: How have jail finances in Kentucky changed over time? To what extent have counties been burdened with the cost of Kentucky's state inmate population?

Background

One of the main functions of counties in Kentucky is to house county inmates. Kentucky law states that county governments must provide the incarceration for prisoners arrested and those sentenced or held by courts in the county (Legislative Research Commission, 2020). Kentucky is unique in that they elect a jailer in every county. Counties can either operate a jail or contract with other county jails. Kentucky currently has 80 jails open: 73 full service¹, four regional², and three life safety jails³ (KY DOC, "2019 Annual Report").

Jails traditionally house short-term inmates, including those newly arrested, pretrial detention, those awaiting transfer to a state or federal facility, and convicted misdemeanors (sentence of 1 year or less). Jails across the country have also been utilized temporarily to help with overcrowding in state or federal prisons. In 1992, Kentucky began requiring Class D felons, who are usually held in state prisons, to be housed in county jails. The statute was later expanded to include Class C community and minimum custody felons for no more than five years (Legislative Research Commission, 2016). Class D felonies carry a sentence of one to five years, and Class C felonies carry a sentence of five to ten years (KRS 532.060).

Full service jails meet the standard to house state inmates (Class D and C) and receive a per diem rate for doing so. In FY21, the state pays counties \$31.34 per day for housing and

¹ Full service jails comply with the extra standards on top of the health and life safety standards of the Jail Standards Commission and therefore are allowed to house state inmates.

² Regional jails can be created by two or more counties. They are only allowed to house state inmates for one year.

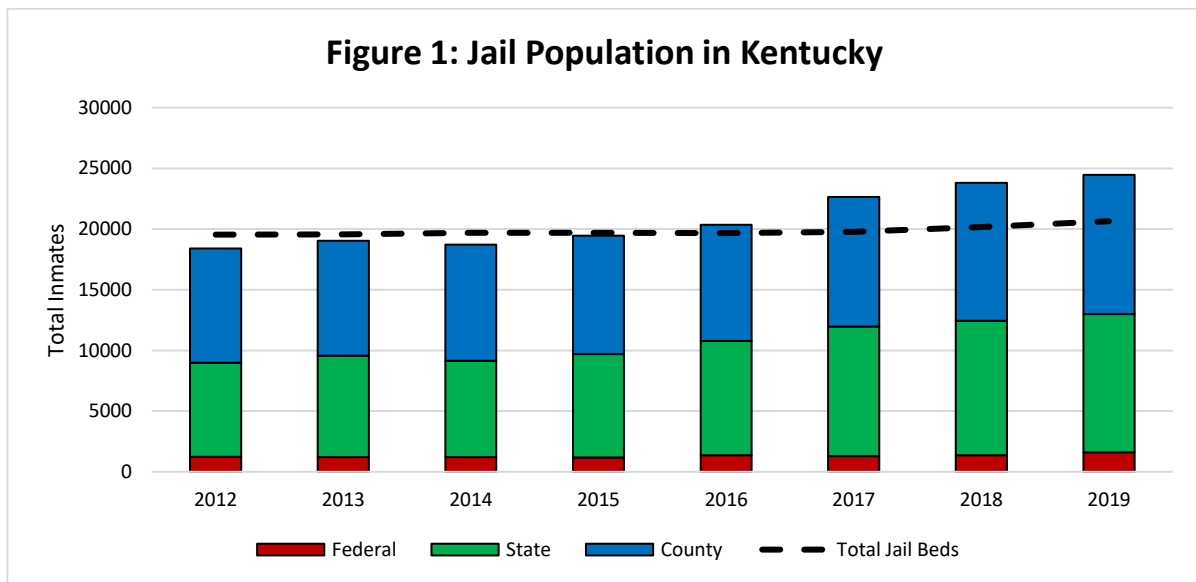
³ Life safety jails comply with the health and life safety standards of the Jail Standards Commission but do not comply with the extra standards required to house state inmates.

medical costs. This rate has not been increased since 2007 (Legislative Research Commission, 2016). Inmates who are awaiting trial for felony charges are considered county inmates and are not classified as state inmates until they are convicted; thus, the county does not receive a per diem rate for the pretrial period. The cost to house state inmates in state facilities was on average \$77.26 per day in FY20, when excluding department overhead (KY DOC, 2020). In FY13, the state paid a per diem rate of \$37.99 to house minimum security inmates in a private prison (KY DOC, 2013). Housing state inmates in county jails has remained a cheaper option for the state to house state inmates compared to state facilities or private prisons

The state provides additional funding to counties through bed allotment payments, inmate labor, catastrophic medical claims, and cost savings from the implementation of House Bill 463 earmarked for the Local Correctional Assistance Fund (KY DOC, 2019). The bed allotment payments are based on a formula set out in KRS 441.206 for all county jails, and the minimum amount a county can receive is \$24,000. The purpose of these payments is to help cover the costs of persons charged with or convicted of violations of state law (Legislative Research Commission, 2009). Catastrophic medical claims are reimbursements for state inmates whose medical claims exceed \$1,000 (Legislative Research Commission, 2020). House Bill 463 was passed in 2011 and directed a portion of corrections dollars saved from implementing evidence-based policies (which help reduce the expected growth in the prison population) into the Local Correction Assistance Fund.

Kentucky's inmate population has surged in the past decade, trickling down to jails because of the requirements placed on counties to house state inmates. As the United States overall decreased its prison population by 8.5 percent from 2008 to 2018, Kentucky increased its prison population by 11.2 percent (Kang-Brown et al., 2019). In addition to the Class D and

Class C inmates mandated to serve their sentence in jail, the surge in the prison population has resulted in a backlog of state inmates waiting to be classified post-conviction. These inmates are considered to be in controlled intake until they are classified and their placement is determined. A report from the Legislative Research Commission (2016) discussed this problem, “from August 2011 to September 2016, the number of controlled intake inmates doubled, from approximately 1,500 inmates to 3,000, which has strained local jail resources.” The reliance on county jails to house state inmates is evident in the trends of the jail population from 2012 to 2019, shown in figure 1 below.



Note: Jail population calculated using Kentucky Department of Correction’s “Weekly Jail Reports”. Based on the first week in January of each year. Includes all county jails in Kentucky that house state inmates.

Literature Review

Over the past decade, researchers have studied trends in the prison system in the United States while largely ignoring jails. The social effects of prisons have garnered lots of research, including on race, class, recidivism, treatment, and post-incarceration outcomes. Additionally, the increased costs to state governments and the federal government to keep up with the growth of the prison population have been well documented. In 2010, corrections was the third highest

spending category in most states behind Medicaid and education (National Research Council, 2014). As corrections spending overwhelmed state budgets, prison costs gained attention.

For example, a Vera Institute of Justice study by Henrichson and Delaney (2012) researched prisons' costs in 40 states based on costs within their corrections budgets and costs outside it. They wanted to determine the actual costs of prisons. States may have costs paid by other agencies, for example, centralized costs for employee benefits. They also discuss limitations to cost per inmate figures, including the effect of overcrowding. When the inmate population exceeds operational capacity, the cost per inmate will be lower. This observation is important to consider when also looking at jail costs.

Prison costs were also studied in Kentucky in 2009 by the Legislative Research Commission. They found the average number of prisoners increased by 49 percent from 2000 to 2009, while the total annual costs increased by more than 53 percent (2009). They include the costs associated with housing state prisoners in county jails. However, they only studied the state's costs and excluded the county costs associated with these inmates. One recommendation of the study was that the General Assembly might want to consider paying counties a per diem rate for incarcerating persons before being convicted of felony offenses. However, this recommendation also noted that the state allotment may “merit reconsideration”.

In more recent years, jails have begun to receive some attention but not nearly to the level of prisons. Copp and Bales (2018) argue that jails have been missing from the conversation because of “the complex and dynamic nature of jail functions and populations as compared to the relatively uniform state and federal prison systems”. The literature on jail finance is especially scarce for this reason. States operate prisons, while local governments operate jails in most

states. A large number of jurisdictions and variation within each make it difficult to draw conclusions about jail finances nationwide.

Henrichson, Rinaldi, and Delaney (2015) replicated the 2012 Vera Institute study of prison costs for jails. They wanted to measure the costs of jails nationally, including costs within and outside the corrections budgets for local governments. They surveyed 35 jails in 18 states and found most jail costs come from personnel, and the most significant cost driver for jails is the inmate population. A limitation of this study is the scope. Not even half of the states were represented, and the sample size was small. They did have one Kentucky jail represented, Louisville Metro, and found only 0.4% of their costs were outside their corrections budget. This finding is helpful for developing the research design of this paper to focus primarily on the jail funds of counties without having to look extensively at outside costs.

Jail finances are an important topic to study because of the impact it has on local governments. In 2017, one in 17 county dollars was spent on jails nationally (The Pew Charitable Trusts, 2021). Jails are a large burden on local government finances, especially those of small rural counties. Pew Charitable Trusts found rural counties (under 50,000 population) had the lowest crime rate but spent the second most on jails per resident, only behind localities with a population over 1 million (2021). Rural counties have not been able to reduce their inmate population, largely because they do not have the resources for incarceration alternatives (Copp and Bales, 2009). Without reducing their inmate population, it is difficult for counties to reduce their costs. This is important to consider when studying Kentucky because it is comprised of primarily rural counties.

Hence, there are large gaps in information about jail finance. Jails are operated differently in each state, making a national study difficult. Kentucky's jails are unique because they hold

large numbers of state inmates and have experienced population growth over the past decade. An analysis of Kentucky's jails is necessary to examine how jail funding and costs have changed over time. Additionally, there is a lack of public information on how jails are funded and how much of the burden is placed on counties.

Research Design

To answer my research questions, I will use county-level administrative data. The Department for Local Government (DLG) provides Uniform Financial Information Reports (UFIRs) for all Kentucky counties except Fayette and Jefferson. I will narrow the counties to only those with a full service jail – jails that hold state inmates, currently 73 counties. Fayette County and Jefferson County have full service jails, but they will be excluded because they operate differently than all other counties. Fayette County is an urban-county government with its city, Lexington, and Jefferson County is a consolidated local government with its city, Louisville. Raw financial data, including receipts and disbursements, are available on DLG's website for fiscal years 2007 to 2020. I will use data from FY07 to FY19, with FY20 data excluded because the COVID-19 pandemic had a large impact on county jails in 2020.

Counties whose jails changed classification or were missing UFIRs data within the time period are excluded. The following counties are excluded based on this parameter: Barren, Breckinridge, Butler, Harlan, Jackson, Martin, McCreary, Monroe, Russell, and Todd. Additionally, counties that house a large percentage of federal inmates were excluded because this analysis focuses on the state and county relationship. Counties that have contracts to house federal inmates are often better funded and rely more heavily on federal funding. I will exclude all counties with a federal inmate population over 30 percent for any years. The following counties fall within that parameter and are excluded: Boone, Carter, Grayson, Henderson, and

Oldham. A total of 58 full service jails are included in the analysis. For more details on which counties were included and which were excluded, see Appendix 1.

I cleaned the UFIRs data at the county level using the accounting codes provided in DLG's budget manual. I narrowed the data to the jail fund and used major and minor codes to classify the data into different revenue and expenditure categories. I grouped revenue into the following variables: intergovernmental (which is further divided into state funding and federal funding), charges for services, interest earned, miscellaneous, and surplus, borrowing, and transfers (which is further narrowed down to transfers in). I also created a variable for county sourced revenue which is all revenue excluding state and federal receipts. I grouped expenditures into the following variables: administration, capital outlay, contracted services, debt service, employee benefits, other charges, personnel, and supplies and materials. I also created a variable for medical costs, which are found across multiple categories stated above. See Appendix 2 for a link to DLG's budget manual and notes on how data was classified.

There are many limitations to the UFIRs data. Although all counties use the budget manual as a guide for classifying receipts and expenditures, there are often errors in reporting. Counties place entries under the wrong codes accidentally, which I worked to remedy while cleaning the data. I used previous years' data and similar entries by other counties to make judgments about where entries that were in the wrong place should go. One advantage of my analysis is that I analyzed larger categories, so errors at the account code level would not have as large of an effect. Oftentimes, counties misplace entries in similar account codes, which are grouped together in the category used for the analysis.

Another error in UFIRs data that occasionally occurs is counties failing to report the actual receipts or costs. Rather than removing these counties from the analysis, I used the adopted budget data. Appendix 2 notes when this was done.

I also include jail population data from the Kentucky Department of Correction's "Weekly Jail" reports. These reports are available on a weekly basis from the calendar year 2011 to the present. They will be used to create the variables of total beds, total population, state inmates, federal inmates, and county inmates for each county. I average data from the first date available in the fiscal year (June) and the last date available in the fiscal year (July) for FY12 to FY19.

There are also limitations to the jail population data. The most significant limitation is the lack of data available on the Department of Correction's website before 2011. Ideally, the jail inmate data would have spanned the same time period as the UFIRs data. Secondly, jail data are available weekly rather than yearly. I chose to average the first and last week of the fiscal year, but this is not a perfect method because it does not show the variation across weeks or may miss a large change in population within the year. Data on how many days each type of inmates spent in jail would give a more accurate reflection of the inmate population, but these data are not available. The last limitation is that there are no data on the composition of the county inmate population other than the total amount. It would be beneficial to know how many pretrial inmates for felony crimes there are. Despite these limitations, the jail inmate data available provides important information for understanding county finances.

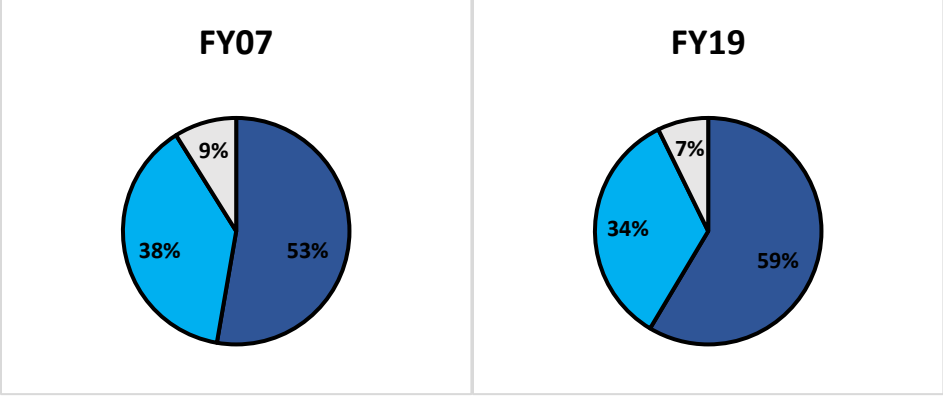
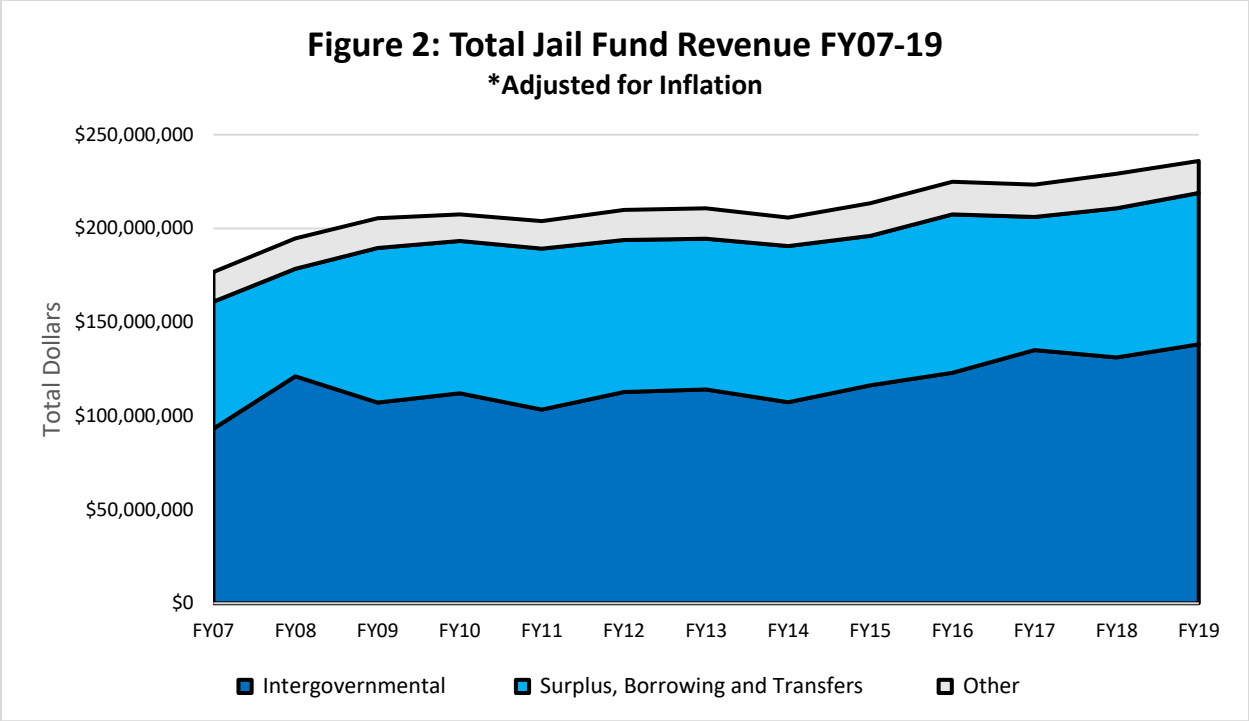
The method of analysis to answer my research questions is a descriptive analysis of the financial data. This is an appropriate analysis because this project seeks to create the groundwork for future research on jail finances. Additionally, funding sources and costs in relation to the

inmate population will be analyzed to help understand the extent of the burden placed on counties to house state inmates.

Findings

Jail Revenue Trends

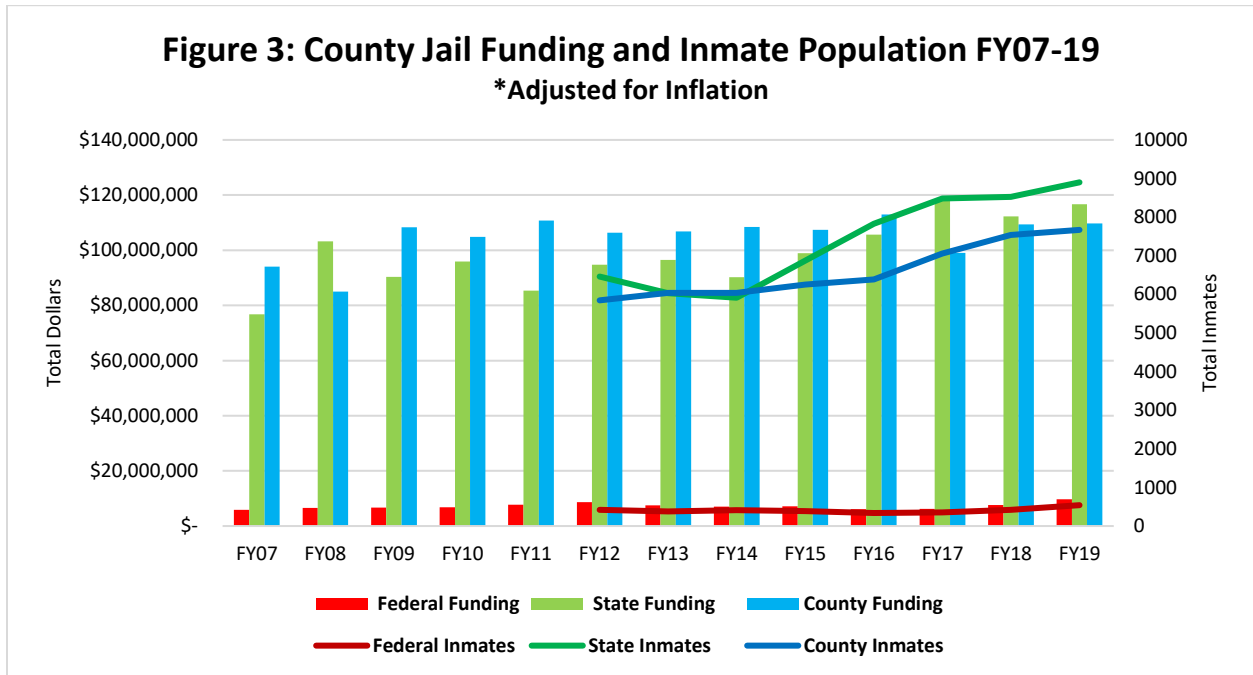
In FY07, the total jail fund revenue for the 58 counties examined was \$142.9 million. In FY19, this number had grown to \$236.0 million, a \$93 million increase from 12 years before. For all years examined, intergovernmental revenues made up over 50 percent of the total jail fund revenue. The proportion of intergovernmental revenue has increased from 53 percent in FY07 to 59 percent in FY19. However, there are fluctuations across the years. Intergovernmental revenue includes state and federal funding but also transfers from other counties and other governmental entities. State revenue makes up the majority of intergovernmental revenue, at over 80 percent each year. The second largest revenue category for each year was surplus, borrowing, and transfers, ranging from 29 to 42 percent of the total jail fund revenue. Additional revenue sources include charges for services, miscellaneous revenue, and interest earned. Figure 2 shows the total jail fund revenue for all counties in the analysis.



Note: Other includes charges for services, miscellaneous revenues, and interest earned.

Jail revenue was then divided into funding sources: state, federal, and county. County funding was the largest funding source for most years. However, starting in FY17, state funding began outpacing county funding. This increase coincided with an increase in the state inmate population housed in county jails. State inmates made up the largest proportion of the jail population for all years except FY13 and FY14 when the state and county inmate populations were fairly similar at 48 and 49 percent, respectively. Federal funding made up very little of jail

funding, coinciding with the small federal inmate population. Figure 3 shows these trends using the total of all counties in the analysis.



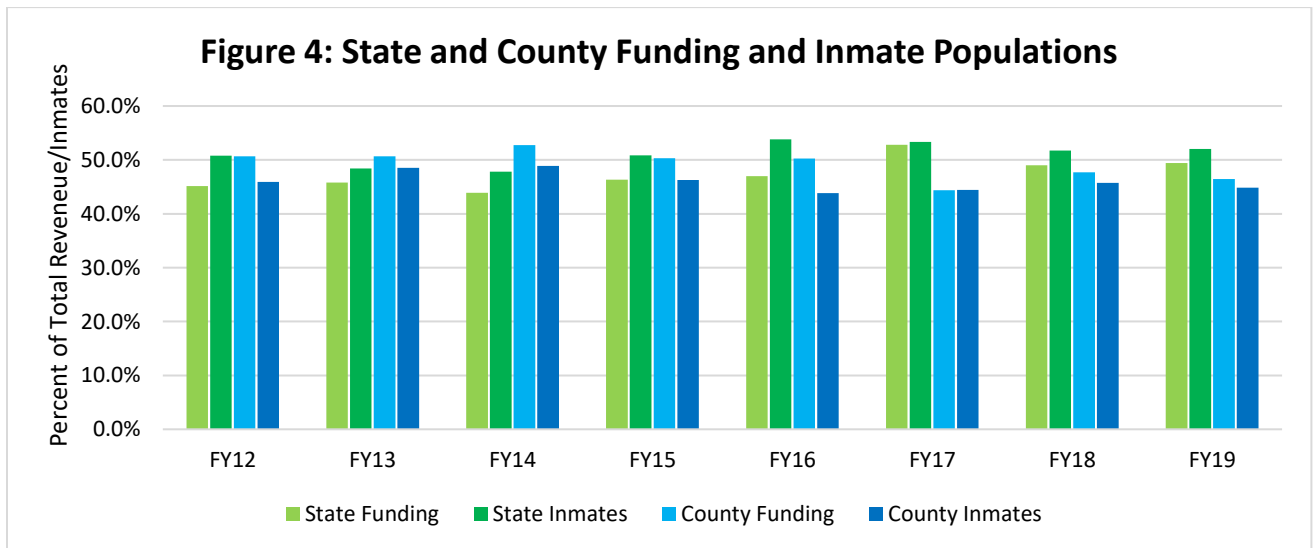
State Funding

Further analysis into state and county funding compared to their proportion of the inmate population in jails demonstrates a striking difference. State funding consistently falls below the proportion of state inmates in county jails. Assuming that all inmates cost the same, the proportion of funding should be equal to the proportion of inmates. An argument can be made that state inmates likely cost more than county inmates because they are incarcerated for more serious offenses, for a longer time, and some require restricted custody. Without knowing the difference in costs between state and county inmates, I assume that state inmates should at least equal the cost of county inmates.

The gap between funding and inmates was highest in FY16 at 6.8 percent and lowest in FY17 at 0.5 percent. After hitting a low in FY17, the gap increased back to over 2 percent in

FY18 and FY19. These findings are shown in Figure 4. This gap is important because if the state was paying its fair share of jail costs based on its proportion of state inmates, funding and inmates should at least be equal.

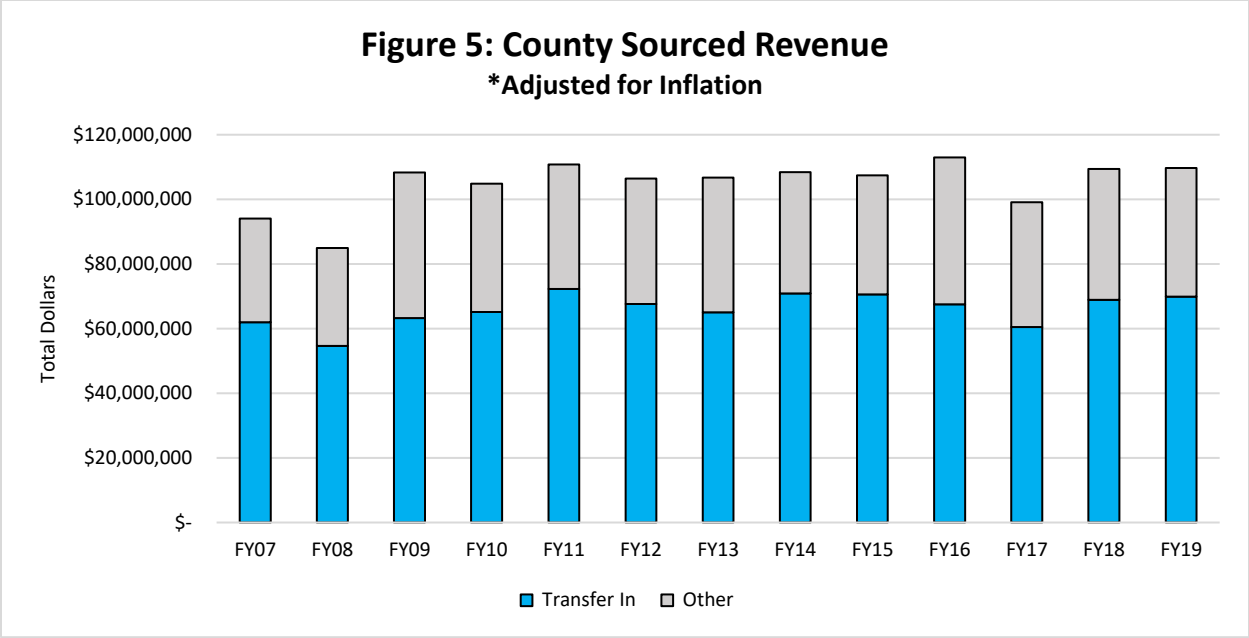
The state’s portion should, in theory, be higher as many county inmates are pretrial detention inmates for felonies. These inmates are considered county inmates until they are convicted, and the state does not pay a per diem while inmates are awaiting trial. However, the bed allotment payments are supposed to help provide funding for these inmates. Data are unavailable to determine how many inmates fall within this category, so the actual state contribution that would amount to a fair share is unknown. However, it should be higher than the state proportion of total inmates because of the classification of pretrial felonies as county inmates and the likely higher cost of state inmates. County funding was a higher proportion of jail revenue than county inmates every year except FY17 when funding and inmates were both 44.4 percent. These findings demonstrate that the state is not paying its fair share for jails while counties are paying more in relation to their proportion of the inmate population.



The disparity holds when looking at the county level rather than totals. There is considerable variation across counties in their proportion of state funding and state inmates. Refer to the box plots in Appendix 3 to see the variation across counties. The maximum level of state funding found across all years was Casey County in FY19, at 90 percent. The minimum level found was Graves County in FY16, at 8 percent. The maximum level of state inmates found across all years was Fulton County in FY14, at 97 percent. The minimum level of state inmates found was Bell County in FY15, at 2 percent. Consistent with the prior finding, the median share of state inmates in county jails was higher than the median state funding proportion every year. There is a clear pattern of the state not paying its fair share of jail costs.

County Funding

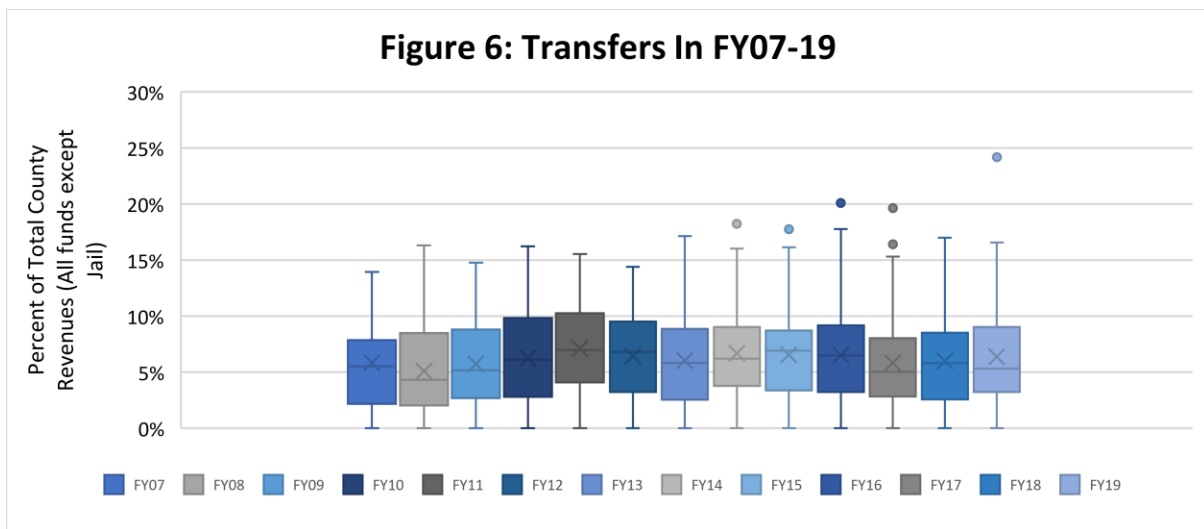
Further analysis into county funding for jails aims to understand the burden that jails place on Kentucky's counties. County funding refers to money sourced by the county and not from the state or federal government. Transfers in – money transferred in from other county funds into the jail fund – made up around 60 percent of county funding for the years examined, ranging from 58 to 66 percent. Other revenue sources include charges for services, borrowing, housing inmates for other counties (classified under county inmates), and miscellaneous. Figure 5 shows trends in transfers in as a portion of county funding.



Additionally, it is important to understand how much money counties are diverting away from other county functions to pay for jails. I calculated the percent of total county revenue (excluding the jail fund) transferred into the jail fund each year and found that around 5 to 6 percent of total county revenue is transferred into the jail fund. This calculation demonstrates the burden on county finances to help fund jails because this funding would otherwise be spent on other services or programs.

I also looked at the variation across counties, as shown in Figure 6 below. My findings were similar to above, although the median percent of county revenue transferred ranged from 4 to 7 percent across years. When looking across counties, there is a significant variation. Multiple counties had no transfers in (ranged from 2 to 8 counties each year), meaning their jail fund was self-sufficient. Only one county, Casey County, had no transfers in for the entire period (FY07-19). Casey County’s jail was comprised of about 80 percent of state inmates from FY12 through FY19, and I earlier noted that 90 percent of their jail revenue was from state funding in FY19. This may point to why Casey County has not used other funds, but further research is required.

Another striking finding from looking at transfers in across counties is that some counties transferred in much larger percentages of their revenue. In FY19, Boyd County transferred in 24 percent of its total revenue into the jail fund. This county is an outlier, but it is still important to note because it demonstrates that some counties have a much higher burden on their finances to maintain their jails. From FY13 through FY19, between two to three counties were over 15 percent each year. That is money that could be diverted towards other vital county services such as roads, water, sewage, law enforcement, economic development, and 911 services.



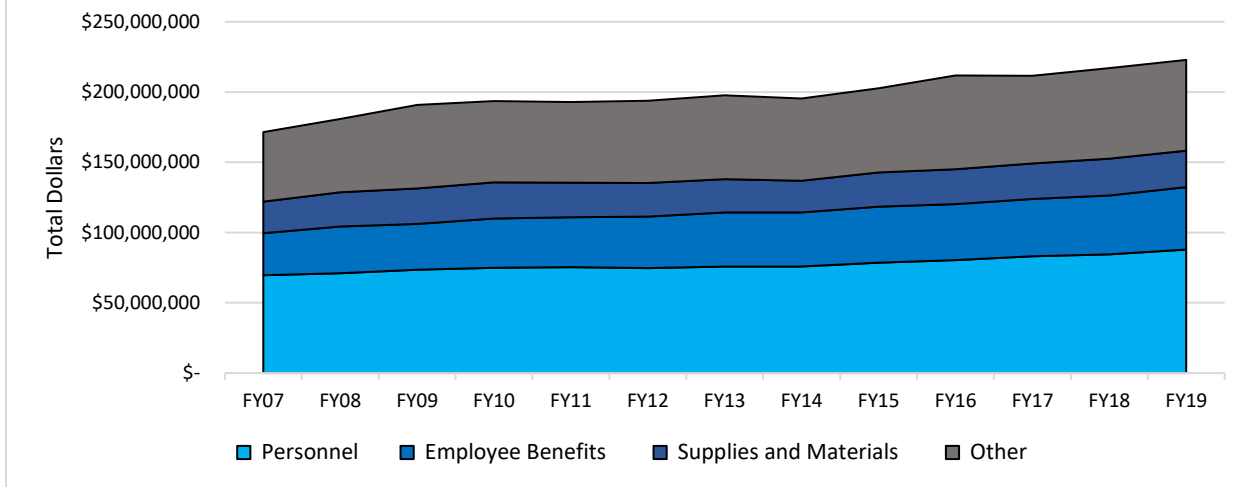
Note: The boxes represent the interquartile range from Q1 to Q3. The whiskers show the minimum and maximum. The lines within the boxes denote the median (Q2) and the “X”s are the averages.

Jail Expenditure Trends

In FY07, total jail expenditures for the 58 counties examined were \$138.7 million compared to \$222.8 in FY19, an \$84 million increase. I found the largest cost categories for jails over the time period were personnel, employee benefits, and supplies and materials (in that order). This breakdown is shown in Figure 7 below. Other jail costs include administration, capital outlay, contracted services, debt service, and other charges.

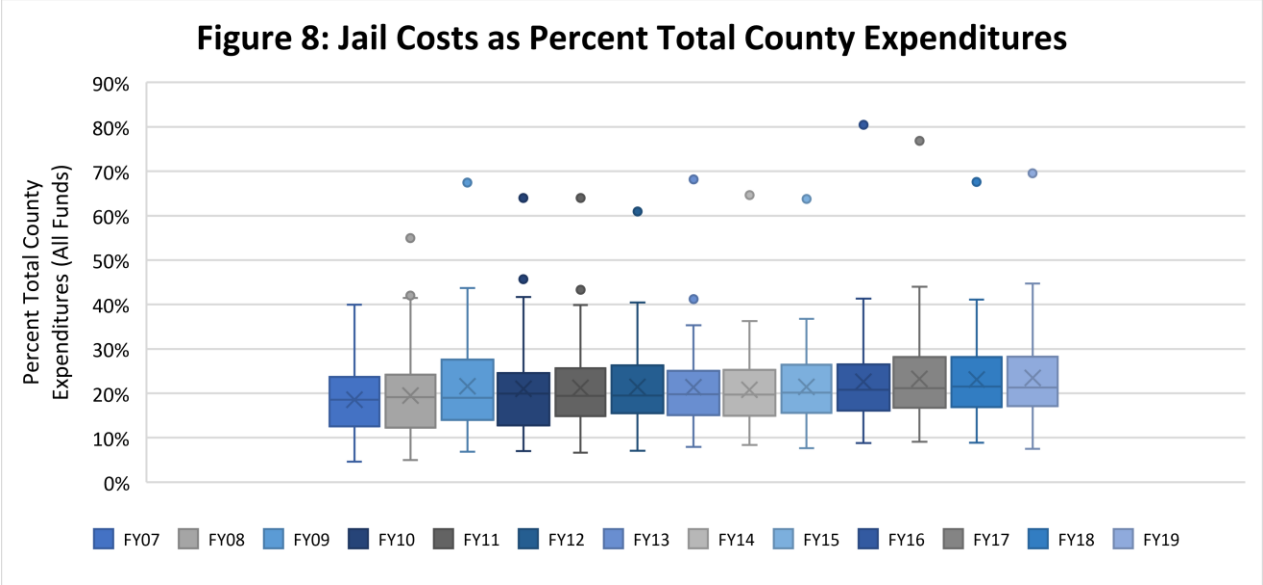
Figure 7: Jail Cost Categories FY07-19

***Adjusted for Inflation**



Note: Other includes administration, capital outlay, contracted services, debt service, and other charges.

I also examined the percent of total county costs (all funds) that are jail costs. In FY07, the median county jail costs as a percent of total county costs was 18.5 percent. In FY19, the median was 21.3 percent, a 2.8 percent increase. Figure 8 shows this upward trend in jail costs. This increase demonstrates that jail costs have grown faster than overall county costs. Fulton County had the highest percentage of jail costs and is marked as an outlier every year except FY07. In FY07, Grant County had the highest percentage of jail costs at 40 percent.

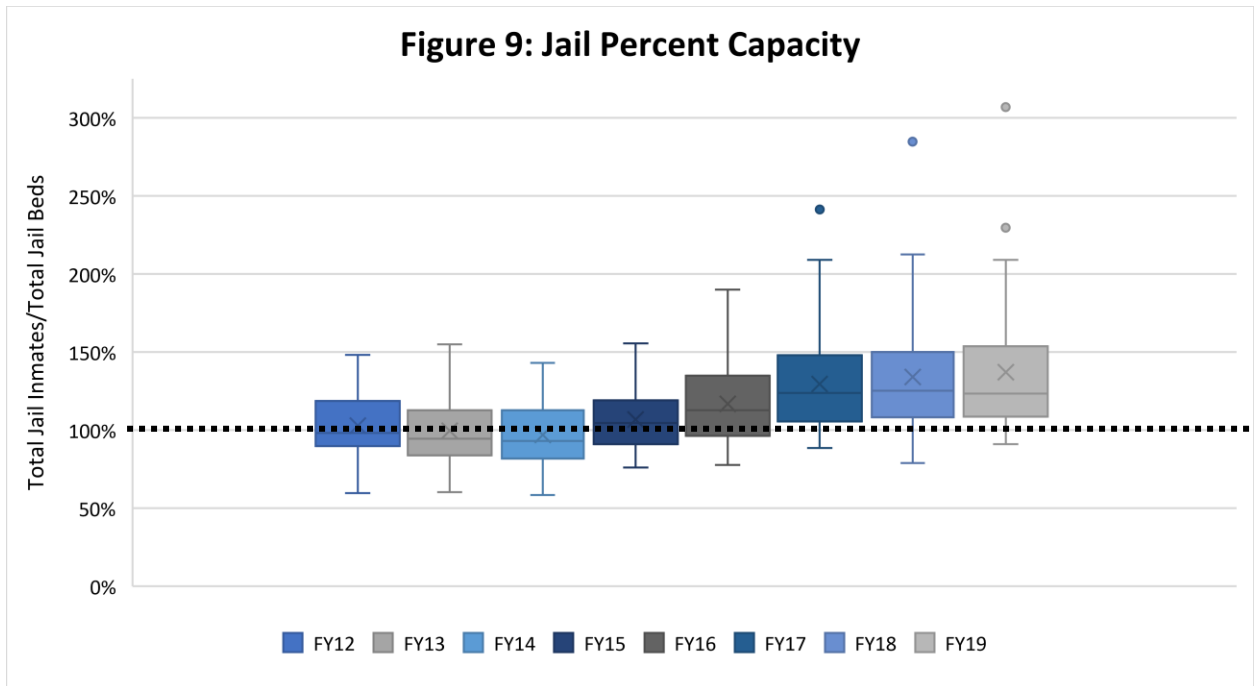


These findings are important for two reasons. First, the median county in this analysis is spending around 21 percent of its total budget on jails in the most recent years. This amount represents a large portion of county budgets, reinforcing how important it is to study jails in Kentucky. One statistic mentioned earlier in the literature review was that one in 17 county dollars were spent on jails nationally in 2017 (The Pew Charitable Trusts, 2021). My findings show that the counties in this analysis spent about one in five dollars on jails. One potential reason why the counties in this analysis spend a larger proportion of their dollars on jails is that Class D and some Class C felons are housed in jails rather than prisons, creating a larger jail population and more extended stays for inmates.

Secondly, these findings are important because they demonstrate that jail costs are increasing in these counties faster than their overall budgets. If their total expenditures were increasing proportional to jail costs, there would be no change over time in the percent of county expenditures spent on jails. However, that is not the case. Jail costs are increasing faster than other county expenditures. A simple theory for why this could be occurring is that the inmate population is increasing, but there are likely other variables that are affecting jail costs.

Jail Costs Per Inmate

Before examining jail costs per inmate, it is important to first look at jail capacity. When jails are overcrowded, the average cost per inmate decreases. As jails become overcrowded, their fixed costs remain the same, but their variable costs should increase. For example, adding an inmate does not increase the debt service if the jail does not expand, but it does increase the cost of food. Kentucky’s jails have been severely overcrowded for many years, which is shown in Figure 9. There is a clear upward trend of jails becoming more overcrowded each year. In FY19, Bell County was 300 percent above capacity. This county is an outlier in FY17 and FY18 as well. Three other counties were above 200 percent in FY19: Leslie (209%), Letcher (230%), and Madison (209%).



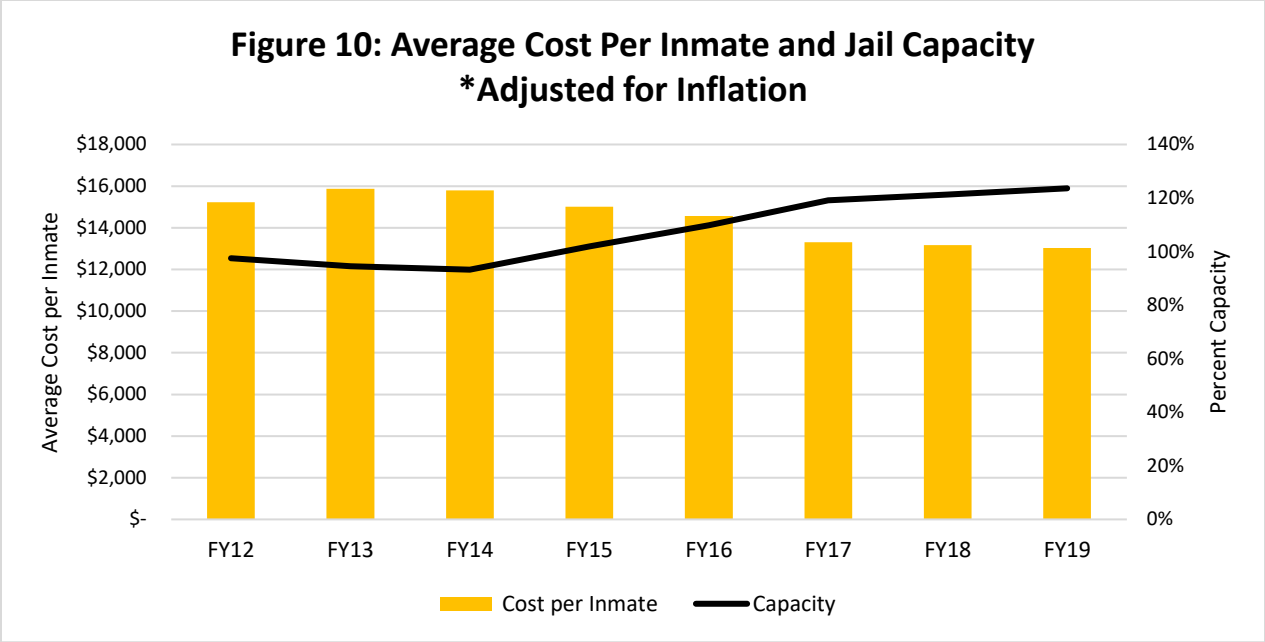
Note: Dotted line shows 100 percent capacity.

Overcrowding in Kentucky jails should be more thoroughly researched because of its impact on inmates, but this research focuses on the effect it has on finances. Figure 10 shows the average cost per inmate and the total percent capacity for all of the jails in the analysis. The

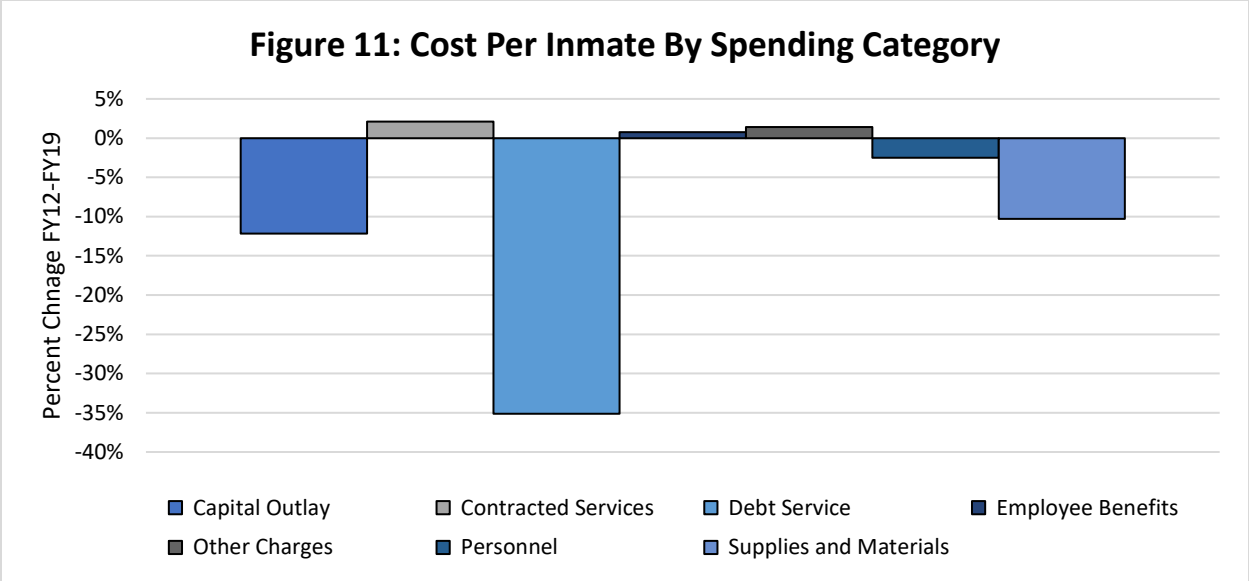
graph shows an inverted relationship between average cost per inmate and percent jail capacity, as expected. Starting in FY15, the average cost per inmate decreased, and it also was the first year the total inmate population was above 100 percent capacity. From FY15 to FY17, the average cost per inmate decreased by \$1,146, and the total percent capacity increased by 17 percent.

FY18 and FY19 are interesting years to examine because the percent capacity increased and the average cost per inmate increased before adjusting for inflation. During these years, there were large increases in beds; 250 beds were added in FY18 and 258 beds in FY19. The addition of beds likely added costs which could explain the increase in cost per inmate, even though the percent capacity still increased. If jails expand to help reduce overcrowding, then the average cost per inmate will ultimately increase. For jails to effectively decrease costs, they would have to lower the inmate population while also decreasing the operating capacity.

The highest average total cost per inmate was in FY14, when the average was \$14,618 per year, amounting to \$40.05 per day. The lowest year was FY17, at \$12,759 per year and \$34.96 per day. In FY19, the average cost was \$13,055, which amounts to \$35.68 per day. The percent capacity for FY19 was 124 percent. Looking individually at counties, I found the median across counties for FY19 was \$35.69 a day, which aligns with what I found for the total. The minimum was Madison County at \$24.29 a day, and it was at 209 percent capacity. The maximum was Union County at \$76.32 a day, and it was at 128 percent capacity. Percent capacity plays an important role in the average costs per inmate.



I calculated the percent change from FY12 to FY19 of costs per inmate for each spending category. This exercise allows me to examine which costs have increased or decreased per inmate and test the theory about fixed and variable costs. Figure 11 shows these findings. One finding was that capital outlay and debt service had the largest percent change per inmate from FY12 to FY19, with a 12 and 35 percent decrease, respectively. This finding was expected because they are fixed costs that do not change with added inmates when jails do not expand capacity. Contracted services, employee benefits, and other charges all had a small percentage increase in cost per inmate from FY12 to FY19. Personnel costs per inmate decreased by two percent, which is likely due to personnel being fixed-step costs. Employee benefits increased (+1%) despite personnel costs decreasing, likely because of the increase that all fields are experiencing in terms of retirement and insurance costs.



A surprising finding was that supplies and materials decreased per inmate by 10 percent. This drop amounts to a decrease of \$173 per inmate per year. Supplies and materials should be variable costs for the most part. This category includes food, custodial supplies, office supplies, personal hygiene, prisoner clothing, and uniforms. I looked deeper into this category because it would be concerning if costs directly associated with inmates’ needs had been drastically cut.

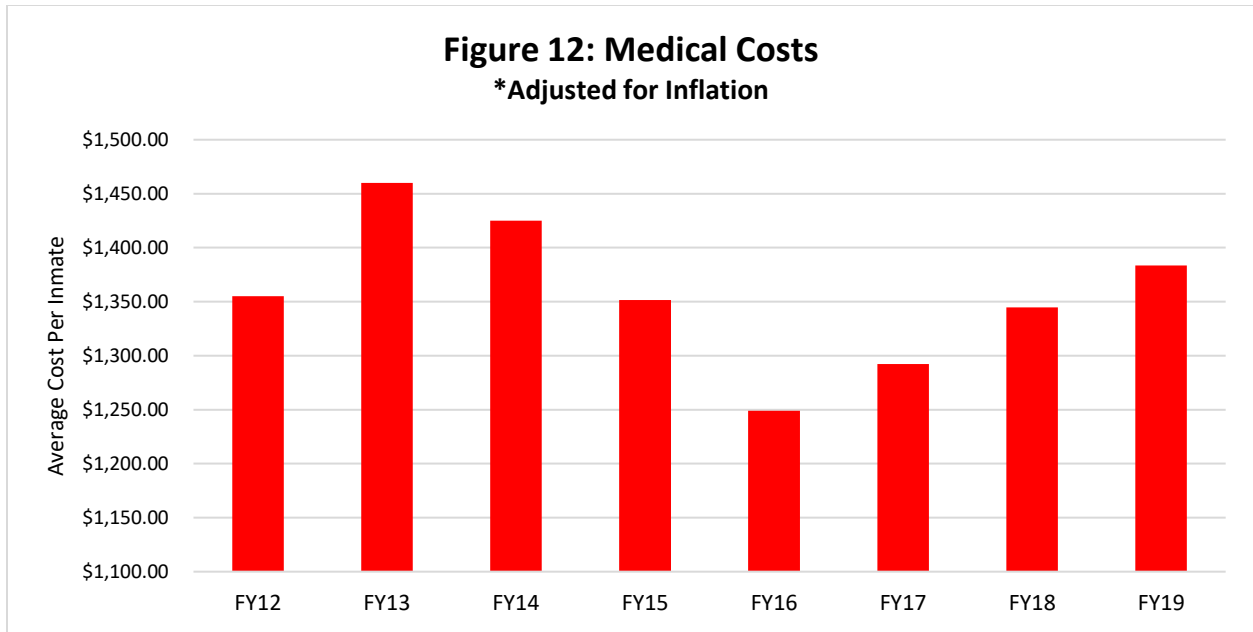
Food costs make up the largest percentage of supplies and materials. In FY12, food made up 70 percent of this category, and in FY19 it was 74 percent. Although food costs increased, the average cost per inmate of food costs decreased by five percent. Therefore, food costs did not increase at the proportional rate of the inmate population. This situation does not necessarily mean that counties were providing less food per inmate as the population increased. One theory for why this may be is that, as the inmate population increased, counties were able to build economies of scale and food costs slightly decreased per inmate. Another possibility is that counties may have changed their distributor. Five percent is not a huge decrease, so there are many possibilities for why this relationship exists and further research is necessary.

Other costs that had a negative percent change from FY12 to FY19 per inmate include custodial supplies (-31%), food preparation and serving supplies (-49%), gasoline (-30%), law enforcement supplies (-70%), office supplies (-22%), petroleum products (-56%), and uniforms (-25%). None of these costs would be expected to increase at the same rate as the inmate population. Two costs that increased per inmate were personal hygiene (+16%) and prisoner clothing (+5%). Both of these costs are variable and are a direct cost related to the number of inmates. With this context, the decrease in supplies and materials overall is less troubling.

Medical Costs

The final analysis I conducted related to jail expenditures was medical costs. Figure 12 shows the trend of medical costs per inmate from FY12 to FY19. This graph shows an up and down trend in medical costs per inmate, but they have had an upward trend since FY16. In FY12, counties spent \$15,462,061.90 on medical costs which amounted to \$1,214.76 per inmate. This amount was 8.9 percent of total jail costs for that year. In FY19, counties spent \$23,673,326.83 on medical costs which amounted to \$1,383.52 per inmate, or 10.6 percent of total jail costs. The percent change in average cost per inmate on medical was 14 percent from FY12 to FY19. Referring back to Figure 11, this increase is much larger than any of the individual cost categories.

One theory for why medical costs are increasing substantially per inmate is that medical costs, in general, have grown. Another theory is that the inmate population in Kentucky is aging and vulnerable to health conditions, contributing to higher medical costs. Further research is necessary to determine what is driving the increase in medical costs in Kentucky.



The Burden of State Inmates on County Jails

Based on all of the trends discussed above, the state government is not paying its fair share of jail costs in Kentucky. The state does not proportionally fund jails compared to the proportion it fills them. The per diem rate has not increased since 2007. Despite a state mandate to house Class D and Class C inmates in county jails, counties cannot negotiate higher per diem rates in the way private prisons do. In FY19, the average cost per inmate was \$35.68 per day, \$4.34 more than the per diem rate the state pays. Additionally, the state pays \$0 in per diem payments for the pretrial period when future state inmates are considered “county inmates”. While the state does provide other funding sources, those funds do not rise to the level necessary to pay for their proportion of jail inmates.

The state is currently saving costs by not funding jails adequately, which has serious consequences in terms of county finances and the well-being of inmates. It will take a greater level of funding for the state just to match the average cost per inmate, which is already low

because of overcrowding. If jails were to expand to decrease overcrowding, the average cost per inmate would be much higher and require even greater funding levels.

The lack of adequate funding from the state coincides with a greater portion of county funds paying for a smaller proportion of jail inmates. Around five to six percent of county dollars are transferred away from other county functions each year to pay for jail costs. For some counties, this burden is much greater. With greater state funding levels, counties could spend more money on other services and programs.

Future Research

This capstone creates opportunities for several future research questions. The analysis could be replicated to examine the jails with large numbers of federal inmates to see how federal inmates impact their finances. Some future research projects relating to state inmates include examining variation across counties and an analysis that distinguishes pretrial inmates for felonies as a percent of the county inmates to more accurately calculate the burden state inmates have on counties pretrial and post-trial.

Additional research could also be conducted to examine the burden on counties, including an analysis of the variation in transfers in across counties. This is necessary to understand why some counties' jail funds are self-sufficient while others require large amounts of county funds to supplement the jail fund. Further analysis should also be conducted to understand what transfers in to the jail fund takes money away from.

In terms of costs, additional research is necessary to calculate the marginal costs of inmates based on fixed, variable, and fixed step costs. Future research should also focus on how much individual inmates cost to determine which characteristics of inmates are correlated with

higher costs. This could also be used to determine if state inmates cost equal, greater, or less than county inmates.

Lastly, research should be conducted on food costs and medical costs. Food costs should be studied to determine why there was a decrease in cost per inmate on food during the time period. Medical costs are also important to study because there was a large increase in medical costs during the time period. This research is even more vital for the future because of the COVID-19 pandemic. Many jails have had outbreaks of COVID-19, which has current and future implications for medical costs. The long-term effects of COVID-19 are still unknown but could potentially increase health problems for inmates in the future. This is something that should be monitored and makes it more vital to understand what is already driving medical costs up.

Conclusion

As the jail population has grown in Kentucky and more state inmates have been housed in jails, state funding has increased as a proportion of jail revenues. However, state funding has not risen to the level at which state inmates make up the jail population. The state per diem has not increased since 2007 despite rising costs. The average cost per inmate has decreased due to overcrowding, and yet the state's per diem rate is still \$4 below this level. The lack of adequate funding from the state leaves counties paying a higher proportion of jail costs than their inmates make up the inmate population. Counties currently transfer in about five to six percent of their total revenue into the jail fund, taking away from other county programs.

The easiest solution for the state to increase its funding is to increase the per diem rate. The exact amount is not clear from this research. A \$4.34 per diem increase would match the FY19 average cost per inmate. However, if the inmate population does not decrease and jails

work to expand their capacity to reduce overcrowding, higher funding levels will be necessary. Additionally, if the inmate population begins to decline, the average cost per inmate will likely increase due to reduced economies of scale. Either way, the average cost will increase, which suggests the per diem rate should be even higher.

My recommendation is that the state should increase the per diem rate and invest more money into jails now so that Kentucky can begin reducing the inmate population in the long term. If jails are better funded, they can provide more evidence-based programs to help rehabilitate inmates to become productive citizens when they leave jail. This approach will lead to less recidivism and help break incarceration cycles, which will eventually decrease the inmate population. This strategy would not only save counties money in the long term but also the state.

This research provides many opportunities for future research examining what is driving the trends found in this analysis. Understanding the impact jails have on county finances is vital for looking at the larger effect incarceration has on local governments. Kentucky's jails need particular attention as the inmate population has remained high. Research will be especially pertinent in the next couple of years for understanding how COVID-19 may impact jail finances through future medical costs.

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Appendix 1: Counties

Excluded Counties

| County | Reason for Exclusion |
|---------------|----------------------------------|
| Barren | Data missing FY10. |
| Boone | Over 30% federal inmates. |
| Breckinridge | Data missing FY12. |
| Butler | Data missing FY17. |
| Carter | Over 30% federal inmates. |
| Fayette | Does not report UFIRs. |
| Grayson | Over 30% federal inmates. |
| Harlan | Data missing FY13. |
| Henderson | Over 30% federal inmates. |
| Jackson | Not a full service jail FY07-10. |
| Jefferson | Does not report UFIRs. |
| Oldham | Over 30% federal inmates. |
| Martin | Not a full service jail FY11-19. |
| McCreary | Not a full service jail FY13-19. |
| Monroe | Not a full service jail FY16-19. |
| Russell | Not a full service jail FY07-10. |
| Todd | Not a full service jail FY07-10. |

Percent Federal Inmates (Counties excluded for being over 30%)

| County | FY12 | FY13 | FY14 | FY15 | FY16 | FY17 | FY18 | FY19 |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Boone | 36% | 23% | 35% | 34% | 26% | 33% | 27% | 32% |
| Carter | 40% | 34% | 0% | 29% | 26% | 37% | 26% | 34% |
| Grayson | 65% | 59% | 61% | 61% | 62% | 68% | 62% | 62% |
| Henderson | 33% | 33% | 31% | 30% | 31% | 36% | 39% | 44% |
| Oldham | 46% | 36% | 35% | 14% | 18% | 24% | 19% | 28% |

Included Counties in Analysis (58)

| | | | | | |
|----------|------------|-----------|-----------|------------|----------|
| Adair | Casey | Graves | Letcher | Montgomery | Simpson |
| Allen | Christian | Greenup | Lewis | Muhlenberg | Taylor |
| Ballard | Clark | Hardin | Lincoln | Nelson | Union |
| Bell | Clay | Hart | Logan | Pike | Warren |
| Boyd | Crittenden | Hopkins | Madison | Powell | Wayne |
| Boyle | Daviess | Jessamine | Marion | Pulaski | Webster |
| Bullitt | Floyd | Kenton | Marshall | Rockcastle | Whitley |
| Calloway | Franklin | Larue | Mason | Rowan | Woodford |
| Campbell | Fulton | Laurel | McCracken | Scott | |
| Carroll | Grant | Leslie | Meade | Shelby | |

Appendix 2: UFIRs Notes

Data Source: Kentucky Department of Local Government

http://kydlgweb.ky.gov/Counties/16_CountyHome.cfm

Budget Manual Link:

<http://kydlgweb.ky.gov/Documents/Counties/BudgetManualRevised2017.pdf>

(Accounting codes start on page 95)

Revenue

- All taxes were classified as transfers since taxes cannot be levied specially for jails and are usually in the general fund. This did not occur often.
- Federal funding included account codes: 4502, 4503, 4504, 4542, 4559
- State funding included account codes: 4506, 4508, 4510, 4511, 4514, 4527, 4532, 4533, 4534, 4535, 4537, 4538, 4555, 4557, 4563, 4563, 4567

Expenditures

- Medical costs included minor account codes: 137, 321, 328, 343, 363, 386, 387, 511, 517, 547, 549, 550, 559

Budget Original Data Used/Actuals Missing

- Crittenden County revenues and expenditures FY13, FY14, and FY18
- Pike County revenues FY16
- Campbell County expenditures FY16
- Floyd County revenues and expenditures FY17
- Boyd County revenues and expenditures FY19

Appendix 3: State Funding and Inmates in Jails



Note: The boxes represent the interquartile range from Q1 to Q3. The whiskers show the minimum and maximum. The lines within the boxes denote the median (Q2) and the “X”s are the averages.