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QUANTITATIVE EVALUATION ON INDIGENT CRIMINAL DEFENSE FUNDING

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ABSTRACT

This article takes a quantitative approach to build upon McKinney and Shao's (2008) qualitative contribution concerning resource allocation of indigent criminal defense programs. By comparing public funds of multiple societies over time, we are able to add important knowledge surrounding property rights valuations using a new concept called GDP Indexed Purchasing Power Parity. The findings of this study show that GDP-PPP provides for better indigent criminal defense analysis than per capita figures.

Keywords: Indigent Defense, Economic Values, Public Funds, Criminal Policy

1. INTRODUCTION

The purpose of this paper is to extend the knowledge concerning valuation of indigent defense programs as presented in McKinney and Shao (2008). Using qualitative methods, McKinney and Shao compared different societies through literature to determine how "...basic freedoms to participate within established societies including free will consumption of products and services..." are valued. The conclusion reached was that "Most indigent defense programs are nonexistent during oppressive government establishments. But, as a society moves towards a free market economy, property protection becomes an essential element of this new free market economy and causes a paradigm shift within a society's government."

Property rights protection includes access to basic legal representation to protect individual interests against erroneous society allegations and ensure that proper legal procedures and proceedings are followed. While basic rights are essential to free market economies, "...Society wealth and a greater return on investments of public funds can dramatically shift a society's value of basic shared rights..."

The contribution of this paper will be a method to analyse financial information concerning indigent defense programs in multiple societies. The new method was termed GDP Indexed Purchasing Power Parity.

2. LITERATURE DISCUSSION

The original paper by McKinney and Shao (2008) provides a detailed analysis of literature surrounding indigent criminal defense ("ICD"). In addition, Smith and DeFrances (1996) note that, over three quarters of U.S. inmates charged with State and municipal offenses had depended on publicly funded ICD programs. Within the United States, ICD programs are crucial components of the criminal justice system (DeFrances & Litras, 2000). Brown (2004) notes ICD programs need adequate funding to operate fairly. However, many public officials have not committed to fully supporting these programs. McKinney and Shao (2008) mentioned that some decisions associated with public funds may be based on economic strategies focusing on returns on investments and benefit recoupment for the greatest number of individuals. Thus, resource allocation and budgets are greatly constrained by actual expenditures which require ICD providers to selectively determine amounts each accused indigent individual will receive (Brown, 2004; McKinney & Shao, 2008). In turn, disparity among individuals may result from decisions about resource allocation and scarcity.

To illustrate these inequities and resource allocation, DeFrances (2001) used variants of per capita statistics to evaluate selective U.S. States. DeFrances notes Alaska outspent Missouri by fourteen ($14) dollars per capita. While per capita provides a basis of discussion, there are critical flaws concerning this analysis. For example: each State economy can vary drastically in relationship to other States in terms of per capita income, Gross Domestic Product ("GDP"), and purchasing power. These flaws become more definitive when comparing international ICD programs. For a comparative analysis, McKinney and Shao

(2008) proposed that a review of temporal uses and allocation of financial resources could be a relative base to understand how societies valued basic shared rights.

To further examine these values, economic models and theories may be engaged. Elements of the Purchasing Power Parity ("PPP"), the Law of One Price, may be used to convert financial information into a separate numeric expression for each society (Fisher & Park, 1991; In & Sugema, 1995; Pedroni, 2001; Taylor & Taylor, 2004). By comparing these single expressions, supposed exchange rates become invisible, thus allowing for easy comparison and data transportability. Taylor and Taylor (2004) noted that John Maynard Keynes (1923) cited a problem with PPP was PPP failed to reasonable account for taxes and fees on importation and exportation of products and services. Unlike most goods and services within many economic studies, ICD programs are self-contained: Neither importing nor exporting with consumption limited to an area by geography or jurisdiction. Therefore, this argument is moot.

With PPP, each society has different values, and in some cases, no substitutive goods exist (Taylor & Taylor, 2004). With ICD, the measurement is the macro values a society places on rights as expressed in economic units. Fisher (2001) mentioned values are determined by the ability to purchase goods and services. As such, currency exchange is necessary only when trade is intended. With ICD programs trade is unnecessary. Hypothetically, exchange rates on ICD programs would not be necessary for comparison. Pedroni (2001) and In and Sugema (1995) reported post-Bretton Woods use of PPP has been difficult to correlate as exchange rates are floating in constant flux. Thus, calculations should be contained to one society prior to analysis. Dryden, Reut, and Slater (1987) used concepts of purchasing power parity to compare financial information without transforming information by market exchange rates. The concept was to evaluate items in relation to GDP. In relation to GDP, many comparisons use per capita figures. As previously mentioned, problems exist with these comparisons. Kravis, Heston, and Summers (1987) noted per capita figures can be subject to tremendous errors. Therefore, some other common unit for evaluation is essential for evaluating ICD.

3. HYPOTHESIS

The hypothesis is GDP Indexed Purchasing Power Parity ("GDP-PPP") provides a better platform for ICD analysis than per capita estimates.

While per capita estimates do provide general financial and economic assumptions of portability and comparability, ICD programs dramatically vary among jurisdictional boundaries. Examples of significant differences include a sentence of execution, population density, property rights, ability of individuals to participate in government, and individual economic opportunities. Because ICD programs are contained within a society, GDP-PPP offers a more realistic comparison of a society's contribution to protecting individual basic rights. GDP-PPP becomes a better measure when significant differences among societies exist.

4. METHODOLOGY AND SCOPE

This paper uses quantitative methods to evaluate the values that certain societies place on basic rights supported by indigent defense programs. For analysis, specific information (e.g., population, expenditures, and income) for each society will be obtained from respective public records and organisational reports. In some cases, organisational representatives may be contacted to clarify information and to obtain additional insight into program perimeters. Representatives can provide additional assurances concerning information validity and reliability. Information will be statistically analysed to determine how each society compares and differs. Past quantitative analysis on indigent criminal defense programs (see DeFrances, 2001; DeFrances & Litras, 2000) has focused comparing budgets, population and per capita statistics. While per capita statistics provides a basis for analysis, analysis beyond a common currency has not been done. Additionally, budgets can be modified altered or not funded. Therefore, this paper will illustrate a new method of information conversion, GDP-PPP, which bridges uncommon currencies. Through GDP-PPP, variables surrounding purchasing power will be minimized. For example, the price of a bread loaf is different in California, China, Kenya, and South

Africa. However, converting financial information into a single relative value unit similar to a Consumer Price Index (CPI) or purchasing power parity (PPP) calculation allows for such comparisons to be made.

Therefore, applying GDP-PPP related calculations become the basis of comparison for this paper.

5. ANALYSIS AND RESULTS

According to the preliminary analysis found in Table 1, GDP-PPP provides a more comprehensive means for comparison. This is best illustrated by comparing ICD expenditures within the United States.

TABLE 1: U.S. STATE AVERAGES

AVERAGE State	Fiscal Year	GDP (in Millions)	Population	ICD Expenditure	Per Capita GDP	Per Capita ICD	GDP-PPP
California	FY 01-06	$1,490,407	35,394,550	$588,707,582	$42,108	$16.63	3.9500
Colorado	FY 05	$213,326	4,662,734	$47,473,830	$45,751	$10.18	2.2254
Connecticut	FY 00-06	$177,397	3,456,868	$35,405,366	$51,317	$10.24	1.9958
Georgia	FY 05	$359,694	9,093,958	$94,227,081	$39,553	$10.36	2.6196
Hawaii	FY 05	$54,863	1,264,468	$10,530,386	$43,388	$8.33	1.9194
Iowa	FY 00-06	$104,455	2,940,275	$22,670,160	$35,526	$7.71	2.1703
Kentucky	FY 05	$138,542	4,165,958	$31,498,410	$33,256	$7.56	2.2736
Missouri	FY 00-06	$197,284	5,712,700	$30,185,670	$34,534	$5.28	1.5301
Ohio	FY 00-06	$407,643	11,421,478	$99,005,885	$35,691	$8.67	2.4287
Texas	FY 01-06	$887,271	22,285,498	$127,056,432	$39,814	$5.70	1.4320
El Paso County	FY 01-04	$18,558	693,265	$4,745,778	$26,769	$6.85	2.5573
Vermont	FY 05	$22,745	619,282	$9,019,910	$36,728	$14.57	3.9657
West Virginia	FY 02-06	$50,044	1,803,154	$28,425,207	$27,754	$15.76	5.6800
Wisconsin	FY 00-05	$193,697	5,458,131	$67,241,873	$35,488	$12.32	3.4715

Calculations: GDP-PPP: Calculation is ICD/GDP x 10,000
Sources: GDP – Bureau of Economic Analysis, U.S. Dept. of Commerce;
Population – Population Division, U.S. Census Bureau

For example, ranking selected per capita indigent defense budgets in highest to lowest order are $16.63 for California; $15.76 for West Virginia; $12.32 for Wisconsin; $10.24 for Connecticut; $8.67 for Ohio; $6.85 for El Paso County, Texas; $5.70 for Texas; and $5.28 for Missouri. This indicates that Missouri and Texas provide the least amount of support for indigent defense programs. El Paso County contributes an additional $1.15 per capita than Texas to support ICD programs. Thus, these per capita conclusions are logical, verifiable, and reliable. Ranking the same selected societies using GDP-PPP from highest to lowest dramatically alters these conclusions. West Virginia is 5.6800; California is 3.9500; Wisconsin is 3.4715; El Paso County is 2.5573; Ohio is 2.4287; Connecticut is 1.9958; Missouri is 1.5301; and Texas is 1.4320. Connecticut has moved near the bottom of the list while El Paso has move up. Table 2 illustrates the differences in ranking per capita and GDP-PPP.

TABLE 2: PER CAPITA RANK AND GDP-PPP RANK

California	$16.63	West Virginia	5.6800
West Virginia	$15.76	California	3.9500
Wisconsin	$12.32	Wisconsin	3.4715
Connecticut	$10.24	El Paso County	2.5573
Ohio	$8.67	Ohio	2.4287
Iowa	$7.71	Iowa	2.1703
El Paso County	$6.85	Connecticut	1.9958
Texas	$5.70	Missouri	1.5301
Missouri	$5.28	Texas	1.4320

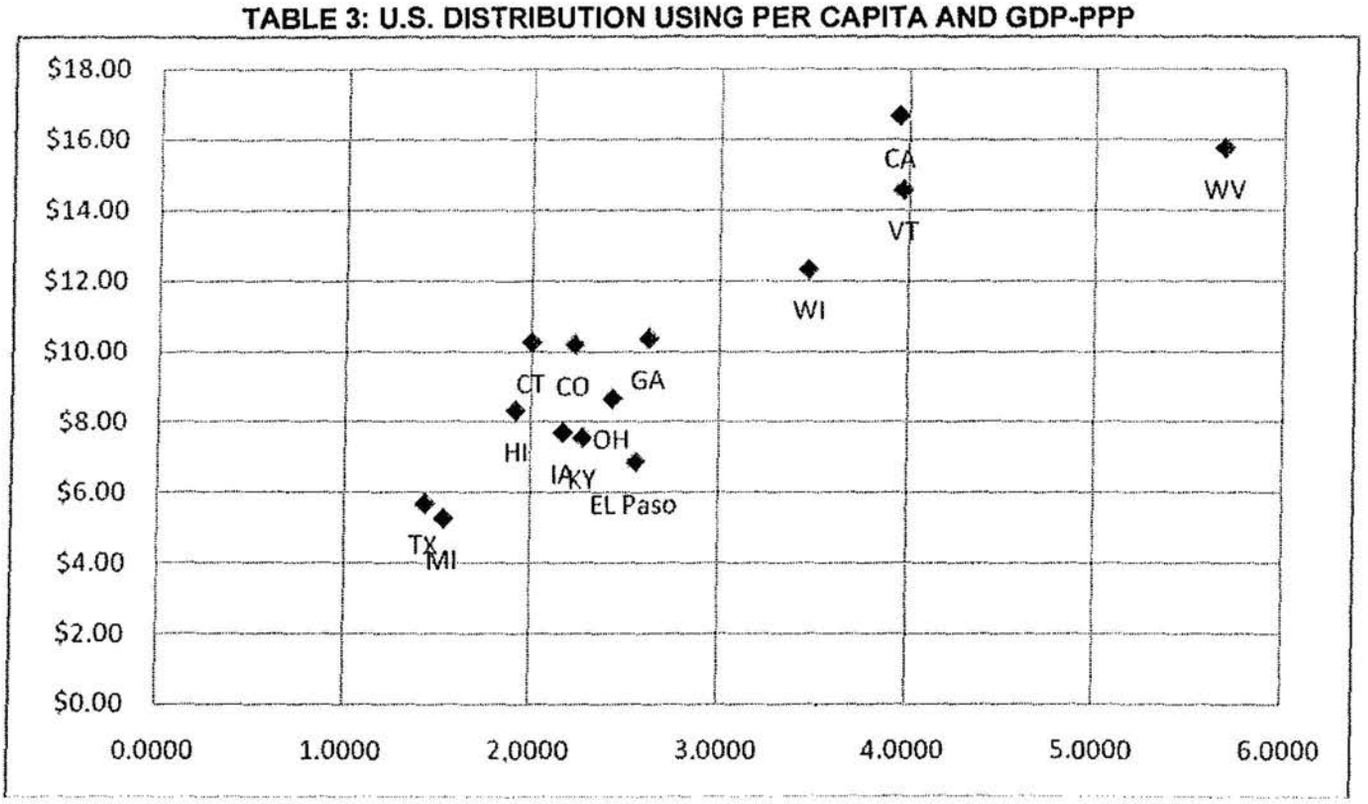
Rank order is directly attributed to the variances of purchasing power within each society. Instead of using per capita to measure micro differences, GDP-PPP measures macro differences that may be used to convert per capita figures. This concept may be illustrated by comparing Texas and El Paso County. The GDP-PPP difference was 1.1253 which indicates that El Paso contributed 78.5% more than Texas. To match El Paso contributions, Texas would need to spend $10.18 per capita. Using GDP-PPP vast differences are expressed in relative value units.

From these calculations, comparisons can be made concerning the macro values of basic shared rights that a society is willing to support. The following formula will convert GDP-PPP to local currency:

(1) SUBJECT / BASE * BASE PER CAPITA IDC

Another way to depict differences in per capita and GDP-PPP is presenting information within a scatter plot graph where the per capita becomes the y-axis and GDP-PPP the x-axis. Using this analysis which represents about twenty-five percent of U.S. states, most societies center around Ohio: Between $6 and $11 and 1.800 to 2.750. However, this does not explain why West Virginia and California are the points furthest away. Results may be different if the remaining states and other U.S. societies were added.

TABLE 3: U.S. DISTRIBUTION USING PER CAPITA AND GDP-PPP



To further illustrate the application of GDP-PPP, Table 4 presents financial information on several international ICD programs. Since information is presented in local currencies, per capita ICD cannot be directly analysed, as these currencies are not expressed in common units. This inability to directly compare per capita ICD of several currencies can be applied to common currency jurisdictions (i.e., Table 1) as differences exist within these societies. Therefore, converting financial information into a common relevant unit by means of GDP-PPP is necessary for a more reliable analysis.

TABLE 4: INTERNATIONAL AVERAGES

AVERAGE Country	Fiscal Year	GDP (In Billions)	Population	ICD Expenditures	Per Capita GDP	Per Capita ICD	GDP-PPP
Argentina	FY 07	812.46	39,356,000	117,760,965	2,064.38	2.99	1.4494
Austria*	FY 06	257.30	8,263,000	17,700,000	31,138.21	2.14	0.6879
Belgium*	FY 06	317.121	10,585,000	29,959,.47	29,959.47	4.08	1.3603
Bolivia	FY 00-06	24,363.00	9,026,000	5,962,101	269,920.23	0.66	0.0024
Brazil	FY 03-05	1,130.28	186,480,532	383,130,655	606.11	2.11	3.4782
Canada *	FY 00-06	1,184.33	31,883,484	581,589,714	37,145.56	18.24	4.9105
Chile	FY 02-06	54,324.44	15,993,800	19,110,969	3,396,593.81	1.19	0.0035
Columbia	FY 01-06	223,087.33	42,120,996	51,791,908,333	5,296,345.08	1,229.60	3.3216
Costa Rica	FY 01-06	1,628.02	3,927,289	4,512,000	414,540.41	1.15	0.0277
Dominican Republic	FY 05-06	276.03	7,280,000	70,445,531	37,916.62	9.68	2.5521
England & Wales	FY 01-05	889.03	52,758,920	1,064,400,000	16,850.80	20.17	11.9726
Finland*	FY 06	167.041	5,266,000	55,105,000	31,720.66	10.46	3.2989
France*	FY 06	1,808.84	61,353,000	303,000,000	29,482.44	4.94	1.6751
Germany*	FY 06	2,321.50	82,293,000	557,000,000	28,210.18	6.77	2.3993
Greece*	FY 06	213.99	11,123,000	1,700,000	19,238,07	0.15	0.0794
Honduras	FY 00-06	121,.59	6,892,143	53,794,151	17,642.26	7.81	4.4241
Ireland*	FY 06	177.286	4,240,000	63,600,000	41,812.74	15.00	3.5874
Italy*	FY 06	1,479.98	58,435,000	86,562,704	25,326.96	1.48	0.5849
Japan	FY 07	515,475.20	127,757,000	20,000,000,000	4,034,809.83	156.55	0.3880
Luxembourg*	FY 06	33.852	473,000	2,949,983	71,568.71	6.24	0.8714
Netherlands*	FY 01	426.01	16,017,445	262,000,000	26,596.56	16.36	6.1501
Netherlands*	FY 06	539.93	16,346,000	344,666,748	33,031.26	21.09	6.3836
Portugal*	FY 06	155.45	10,570,000	35,829,192	14,706.34	3.39	2.3049
South Africa	FY 00-02	950.55	45,572,422	270,333,333	20,857.94	5.93	2.8440
Spain*	FY 06	982.30	44,068,000	167,331,526	22,290.62	3.80	1.7035
Sweden	FY 00-06	2,415.17	8,970,391	618,584,857	269,237.99	68.96	2.5612
Venezuela	FY 05-06	350,113.50	25,455,320	50,359,255,333	13,754,040.41	1,978.34	1.4384

Source: International Monetary Fund, World Economic Outlook Database, October 2008 (Reported in local currencies)
Notes: England & Wales uses GVA obtained by Office of National Statistics

- Includes civil aid

Table 5 integrates elements of both Table 1 and Table 4 to illustrate resources spent on ICD programs.

TABLE 5: SOCIETIES RANKED BY GDP-PPP EXPRESSED IN LOCAL CURRENCIES

Society	GDP-PPP	USD-Ohio	Euro-Germany
England & Wales	11.9726	$42.74	33.78 €
Netherlands (06)	6.3836	$22.79	18.01 €
Netherlands (01)	6.1501	$21.95	17.35 €
West Virginia	5.9385	$21.20	16.76 €
Canada	4.9105	$17.53	13.86 €
Honduras	4.4241	$15.79	12.48 €
Vermont	3.9657	$14.16	11.19 €
California	3.9500	$14.10	11.15 €
Ireland	3.5874	$12.81	10.12 €
Brazil	3.4782	$12.42	9.81 €
Wisconsin	3.4715	$12.39	9.80 €
Columbia	3.3216	$11.86	9.37 €
Finland	3.2989	$11.78	9.31 €
South Africa	2.8440	$10.15	8.02 €
Georgia (USA)	2.6196	$9.35	7.39 €
Sweden	2.5612	$9.14	7.23 €
El Paso County	2.5573	$9.13	7.22 €
Dominican Republic	2.5521	$9.11	7.20 €
Ohio	2.4287	$8.67	6.85 €
Germany	2.3993	$8.57	6.77 €
Portugal	2.3049	$8.23	6.50 €
Kentucky	2.2736	$8.12	6.42 €
Colorado	2.2254	$7.94	6.28 €
Iowa	2.1703	$7.75	6.12 €
Connecticut	1.9958	$7.12	5.63 €
Hawaii	1.9194	$6.85	5.42 €
Spain	1.7035	$6.08	4.81 €
France	1.6751	$5.98	4.73 €
Missouri	1.5301	$5.46	4.32 €
Argentina	1.4494	$5.17	4.09 €
Venezuela	1.4384	$5.13	4.06 €
Texas	1.4320	$5.11	4.04 €
Belgium	1.3603	$4.86	3.84 €
Luxembourg	0.8714	$3.11	2.46 €
Austria	0.6879	$2.46	1.94 €
Italy	0.5849	$2.09	1.65 €
Japan	0.3880	$1.39	1.09 €
Greece	0.0794	$0.28	0.22 €
Costa Rica	0.0277	$0.10	0.08 €
Chile	0.0035	$0.01	0.01 €
Bolivia	0.0024	$0.01	0.01 €

McKinney and Shao (2008) noted Lord Carter asserted that England and Wales spend more on ICD than any other nation. While Lord Carter expressed his statement in per capita spending, Table 5 supports his assertion that England and Wales do attribute more to ICD programs. However, translating GDP-PPP to local currencies would provide practical examples.

Since Ohio appears to be a central point (see Table 3), Ohio becomes the base for translating GDP-PPP into U.S. dollars. This is denoted as USD-Ohio. The average USD-Ohio was $9.49. To provide another example, Germany was selected based on ranking near the center of GDP-PPP societies. The average Euro-Germany was 7.50€. While mapping the societies that coupled civil legal aid with ICD programs, a geographic pattern within Europe was noted: Western and north-western societies appear to contribute significantly more resources towards these programs while eastern societies significantly contribute less. While some public funds for civil legal aid are available in the U.S., the administration of civil legal aid is separate from ICD programs.

GDP-PPP converted into USD-Ohio and Euro-Germany provides an enhanced view of how other societies attribute resources to IDC programs. The benefit of GDP-PPP is the simplicity of using a limited number of calculations and estimates. With more estimates and calculations, greater opportunities for errors exist. Exchange rates and standard of living adjustments are not necessary for conversion. Thus, GDP-PPP can demonstrate costs of other ICD programs from a central standpoint as seen in both conversions.

While GDP-PPP results are an improvement over per capita results, GDP-PPP suffers from the same pitfalls as GDP. For example: underground economies, owner consumed production (i.e., farming, textiles), and unpaid labor are not reflected within GDP estimates. Likewise, rapid inflation and shifts in government paradigms can alter GDP. While these variables can cause deviations within GDP estimates, these are normally acceptable and minimal deviations.

6. CONCLUSION

Considering the noted differences between presented per capita and GDP-PPP data, GDP-PPP analysis provides a better platform for measuring a society values surrounding funding of basic rights. Because GDP-PPP allows comparisons across currencies and incomes, global funding comparisons of basic rights protected by ICD programs can be undertaken. As illustrated, using GDP-PPP can provide a basis for conversion into local currencies to better illustrate and compare society expenditures.

GDP-PPP establishes a simple measurement that comprehensively covers self-contained programs such as ICD programs. To expand these findings, future research can add societies not presented and expand the temporal boundaries of societies presented. While this research cannot explain differences among societies, we can offer some variables that may be integrated within the existing literature. Since ICD programs are legal aid for the poor, the wealth of a society can significantly determine how funds are distributed.

Political influences can contribute to what is considered a criminal offense and which individuals would be eligible for legal aid. Therefore, evaluation of case load statistics (e.g., death penalty cases) would provide a deeper understanding of the criminal offenses being committed against a society and how the society treats those offenses. The societies (see Table 4) supporting civil legal aid with ICD programs appear to take a more holistic approach towards treating an individual. However, individual program evaluations would be necessary to determine to what extent an individual's economic situation is treated. Geographic differences may influence political differences which may account for some patterns in GDP-PPP as noted in funding among certain E.U. societies.

Finally, GDP-PPP may be used to compare other governmental programs to facilitate and further understand financial choices among societies. We believe additional research will only strengthen our conclusion that GDP-PPP is a better financial tool for comparisons among societies than per capita comparisons.

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