Reflections on criminality and demographic structure: a multi-national examination of the links between youth and national crime statistics

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Africa, Crime Statistics and the Contributions of Youth

This paper examines crime data from 22 countries and reflects on the socio-economic factors behind this data. Though its focus is primarily Africa, some countries outside of Africa are also considered. An informal observation of various African countries indicates that crime has increased dramatically. The common presence of fortified housing in urban areas and TV advertisements for paratrooper-like private security firms change the ambiance of many African cities. These cities now mirror the typical insecurity found in urban Europe and the United States. While only South Africa rivals or in some measures surpasses Europe and the United States in crime, many countries are now moving down the same road, and trends in globalization suggest the other countries may follow.[1]

While African nations have many cultural differences from nations in Europe, and from the U.S., national crime statistics, as available today, tend to ignore those differences. African statutes typically put crime in the categories of Africa's former colonial rulers. The figures that are most readily available come from Interpol in the form of standard annual tables. However, these figures are generally available only for the past six years for most African countries.[2] It should be said at the outset that for African and other poor nations, national statistics undoubtedly cover urban crime better than rural crime. In rural areas, traditional forms of justice may supplant government procedures and crime is comparatively infrequent. These statistics also tend to conceal the existence of different cultural attitudes toward criminality. This article will be comparing criminal statistics with various national socio-economic indicators that similarly conceal social and economic differences of some significance. As it turns out, this uniform cultural obtuseness is not an insuperable problem for comparative research.

Though legal scholars want to argue from principle and precedent, neither provides sure answers to questions about the effectiveness of sanctions and the causes of criminal behavior. It may be clear that people ought not to steal, but effective deterrence of theft requires creative and empirical methods. There are no simple alternatives to the use of statistics in a discovery or research phase, and while the use of statistics is open to the standard critiques, the statistics on

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[1] Some useful readings with extensive bibliography include: James K. Mitchell, Crucibles of Hazard: Mega-Cities and Disasters in Transition. New York: United Nations University Press, 1999 and Teresa P.R. Caldeira, City of Walls. Crime, Segregation, and Citizenship in Sao Paulo. Berkeley: University of California Press, 2000.

[2] The Interpol data are available on line for each country at, www.interpol.int/Public/Statistics/ICS/Default.asp.

national crime rates are far from useless and are likely to be reasonably accurate. Still, there is a need to use statistics carefully and comparative statistics even more carefully.

While there may be some underreporting of rural crime in less developed countries, this is unlikely to significantly change the overall national crime rates. More relevant than underreporting may be cultural differences about what constitutes a crime. This issue determines the selection of crimes on which this article is focused. This said, it should also be noted that reasonably accurate statistics can both suggest real relationships and disabuse one of countless "common sense" arguments about the causes of criminality. This paper does not discuss the socio-historical specificity of each country or the full role of geopolitics, dependency, colonialism and globalization. It is clear that full explanations of national crime rates would not be identical.[3] Therefore, this article will focus only on elucidating some commonalities in an attempt to explain part of current national crime rates.

To this end, the article undertakes a comparison of socio-economic and crime statistics for 22 countries (see following graphics and tables) split between Europe (France, Germany, Norway, Sweden, Switzerland, UK), the Middle East (Algeria, Mauritania, Syria, Yemen, Pakistan), Africa (Senegal, Mali, Niger, Tanzania, Botswana, Zimbabwe, South Africa), the Americas (the United States and El Salvador) plus Singapore and the Russian Federation.[4] This subset of the world's nations is representative of the world as a whole in many respects. The included countries were also selected because they have available crime statistics and stable and reasonably well organized governments.[5] A case can be made therefore that the analytic results may have broader relevance. However, it is not at all clear that crime statistics in a wealthy country like the US (where police corruption has frequently led to misrepresentation of crimes) are significantly better than in a poor country like Niger where there simply is not a large amount of crime, and what crime there is will be likely to be accurately reported.[6]

One proviso should be made that is important due to my desire to highlight the role of youth in the crime statistics: it is a virtual certainty that juvenile crime is underreported in the poorer nations of the globe. Official figures for juvenile crime thus simply cannot be relied on for global comparative purposes. This might seem a drastic limitation, but it turns out not to be critical. The reasons for this underreporting are not mysterious, they consist, in brief, of a disjuncture in many parts of the world between the modern (European / US) desire to label as criminals even young children and a traditional preference to leave the discipline of youth to

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[3] Slabbert, M. (1980). Repetitive cycles : analyses of socialisation and institutionalisation patterns and discussion of crime prevention, intervention and diversion strategies. Cape Town, Institute of Criminology University of Cape Town, discusses the general issue of social and institutional contexts of crime. Linda Green, Fear as a Way of Life: Mayan Widows in Rural Guatemala, Columbia University Press, 1999 provides a clear example of the political, cultural and historical causes of violence in Guatemala.

[4] Socio-economic statistics used in this paper have been drawn from tables available on–line from United nations or World Bank websites at, www.unstats.un.org/unsd/default.htm and www.worldbank.org/data/countrydata/countrydata.html.

[5] While I am aware of no comparable comparative studies at least one attempt has been made to address the relationship between economic variables and crime within a single African country, South Africa: Luiz, J. M. and South African Network for Economic Research. (2000). Temporal association, the dynamics of crime, and their economic determinants : a time series econometric model of South Africa. Potchefstroom, South African Network for Economic Research.

[6] Recent comparative research on urbanization in Niger and five other African countries (1999-2002) supports impressionistically the official low crime rates and comparatively low levels of urban violence in Niger. The official figures do not seem at all out of touch with reality.

families and the community rather than making it a matter for the formal justice system.[7] The European tradition has gone further in the direction of social and psychological dissection / analysis. This leads to a deeply felt need to label and classify everything from psychological states to types of behavior.[8] The potential danger, of course, is that the labels become self-perpetuating and causal factors in and of themselves. A "criminal" becomes treated as one, cannot find employment and soon can only associate with other "criminals," with statistically predictable results. Much has been written about labeling in the criminology literature, with its critics suggesting that this reduction of a human to a reified type is a, or even the most important, factor in explaining criminality itself.[9] Other common explanations for crime include the notion of genetic or gender predispositions to crime,[10] the individual responsibility[11] and failure of moral instruction theories,[12] as well as socio-economic explanations for statistical trends in crime rates.[13] This paper will focus on the latter approach.

Review of literature on crime in Africa and on criminology more generally

The United Nations Interregional Crime and Justice Institute (UNCRI) publishes edited volumes dealing with the comparative criminology of various regions. The edited volume on Africa sets out a number of interesting perspectives which may serve as a point of departure.[14] While hard core drugs[15] are a major concern in both their producing and consuming areas (Asia and Latin America on the one hand and Europe and North America on the other), within Africa the main drug of concern is marijuana[16] except for a few countries that have a significant role as transit centers (e.g. South Africa[17]). Thus, drug crime is not a good focus for comparison in the

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[7] Yves Brillon, Cahier No. 3. Crime, Justice and Culture in Black Africa. An Ethno-criminological Study. Centre International de Criminology Comparée, Montréal, Université de Montréal, 1985, p.63.

[8] While the literature on this is immense a starting point might be a book on factor analysis devoted to psychological testing such as, Paul Kline, An Easy guide to Factor Analysis. London and New York: Routledge, 1994.

[9] Apollo Rwomire, the contribution of the labeling theory to the understanding of oppression, conflict and violence in South Africa. IN United Nations Interregional Crime and Justice Research Institute, Criminology in Africa. Publication No. 47. Rome, 1992 Pp.153-164.

[10] The disproportionately larger numbers of men than women in prisons around the world attracts more current interest than the idea of genetic bases for criminality though this ancient view no doubt has its adherents.

[11] The most recent advocates follow the U.S. government's "Just say No to drugs" campaign but similar positions have been the basis of classic moral theories in most civilizations. Countless discussions of the "Just Say No" campaigns can be found, e.g. John Stossel, Just Say No. Government's War on Drugs Fails. ABCNews May 26 2003 on line at abcnews.go.com/onair/2020/stossel_drugs_020730.html.

[12] Advocates of sex education and religion in schools come to this same position from different points of view.

[13] A relevant example among many possible might be, Ralph E.S. Tanner. Three Studies in East African Criminology. Uppsala: Nordiska Afrikainstitutet Seelig, 1970.

[14] United Nations Interregional Crime and Justice Research Institute, Criminology in Africa. Publication No. 47. Rome, 1992.

[15] Here we refer primarily to opium and cocaine and their derivatives which due to their high demand and high price per pound traditionally form the basis of long distance trade in drugs between the poor and rich countries of the globe.

[16] Tolani Asuni, Drug trafficking and drug abuse in Africa. IN United Nations Interregional Crime and Justice Research Institute, Criminology in Africa. Publication No. 47. Rome, 1992 Pp.117-127.

[17] Leggett, T. and Institute for Security Studies (South Africa) (2002). Drugs and crime in South Africa : a study in three cities. Pretoria, Institute for Security Studies.

22 nation sample. The key socio-economic factors impacting crime that are discussed in the UNICRI volume include rural-urban migration,[18] social change / modernization,[19] poverty,[20] and social inequality.[21] Rural immigration will be discussed later in this article because it has a particular character in Africa. The other factors are more cross-culturally similar and so will be discussed in this section.

Poverty at the extreme end of the spectrum, where subsistence itself is at risk, has often given rise to petty theft.[22] This level of poverty no longer prevails in Europe or North America, but famine, war and drought have regularly appeared in Africa throughout the 20th century.[23] Nevertheless, none of the countries selected for examination in this article have had such pressing issues of poverty in the period considered.

Massive inequality is a significant issue in all the countries of this study. Even in the US social inequality rose dramatically in the last decades of the 20th century and the gap between the income of the elite and the common citizen has widened substantially with no sign of abatement.[24] Many elites in poor countries live on parity with their peers in developed countries and yet are surrounded by fellow nationals who have access to less than a fraction of a percent of their level of income. Despite the massive and growing disparities in developed countries the disparities of poor countries are even more glaring - to the point that many elites in poor countries have serious psychological difficulties acknowledging, let alone believing, that the poor of their country should be given equal consideration. This becomes quite apparent when

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Schönteich, M., A. Louw, et al. (2001). Crime in South Africa : a country and cities profile. Pretoria, Institute for Security Studies.

[18] Andargatchew Tesfaye. Rural urban migration and the problems of crime and delinquency. IN United Nations Interregional Crime and Justice Research Institute, Criminology in Africa. Publication No. 47. Rome, 1992 Pp.179-190.

[19] Manga Bekombo, Changements socioculturels et marginalization des enfants et des jeunes en Afrique subsaharienne, IN United Nations Interregional Crime and Justice Research Institute, Criminology in Africa. Publication No. 47. Rome, 1992 Pp.165-178.

[20] Elisabeth Michelet, Les déviances de subsistence. IN United Nations Interregional Crime and Justice Research Institute, Criminology in Africa. Publication No. 47. Rome, 1992 Pp.191-210.

[21] Ben F. Smit, Violence as a weapon of the dispossessed. IN United Nations Interregional Crime and Justice Research Institute, Criminology in Africa. Publication No. 47. Rome, 1992 Pp.211-233.

[22] Indeed the European population of Australia is largely the result of abjectly poor people taking resources needed for survival and coming into conflict with new laws directed at preserving virtually all property in the hands of a small elite. Hay, D. (1975). Albion's fatal tree : crime and society in eighteenth-century England. New York, Pantheon Books.

[23] For a general overview of such events the reader should consult, The World Guide. An Alternative Reference to the Countries of our Planet. Instituto del Terco Mundo, 2000.

[24] The standard measure of inequality, the GINI coefficient, rose for the U.S. from roughly 34 in 1975 to 43 in 2001. The GINI coefficient measures the area between a line representing equality in income to that representing the current distribution of income (the Lorenze curve) when cumulative percentage of households (ordered from poorest to richest) are plotted against percentage of income. Complete equality is zero while complete inequality would be one – though the coefficient is generally represented as a percent. The transition from 34 to 43 represents a major increase in inequality perhaps more easily understood when we note that in the same time frame the top five percent of households had their share of total income rise from under 16% to over 22%. The World Bank generally calculates the GINI coefficient for each country, eg. www.worldbank.org/research/growth/dddeisqu.htm. By the same measures, inequality fluctuated but generally decreased in the U.S. between 1950 and 1975 but has increased steadily with only tiny inconsequential dips since that time. While inequality in this period has lessened in Asia it has significantly worsened in Africa with most African countries having a GINI coefficient in the 50s and 60s. Peter Coy, Economic Trends, BusinessWeek Online June 17, 2002 at, www.busnessweek.com/magazine/content/02_24/c3787032.htm) and an ILO page: www.ilo.org/public/english/employment/strat/kilm/kilm20.htm.

one sees drivers of fancy vehicles accelerate on a road towards a crowd who are expected to disperse like chickens. Similar scenes were common in Europe between aristocrats' carriages and peasants in the years before democracy was more than a quaint notion from ancient Greece.[25]

In the introduction to the UNICRI volume, twelve means to reduce crime rates are given:[26]

1. Universal and compulsory education
2. Reduction of unemployment among the youth
3. Creation of new employment opportunities
4. The eradication of poverty
5. Decentralization of government
6. Reduction of the rate of urbanization
7. Reduction of corruption
8. Prompt justice
9. Short, sharp and shock prison sentences
10. Greater use of non custodial sentences such as fines and community labor
11. Abolition of capital punishment,
12. Strengthening of family values

This is a mixed bag of prescriptions but many lend themselves to statistical investigation. Is it the case that poverty breeds crime and education reduces it? Does unemployment cause crime? Is there a link between rate of urbanization and crime rates? While reducing rates of corruption, defined as crimes in themselves, will reduce crime, it is unclear whether corruption will induce other types of crime. In either case, there is insufficient evidence to study this issue from a broad comparative perspective at this time, because few governments report their levels of corruption to Interpol or anyone else.[27] The whole question of which punishments, if any, reduce crime and by how much will also have to be neglected in this article although current opinion seems to be that harsh punishments including the death penalty do not serve as inhibitors to first time offenders.[28]

While it may seem fairly straight forward to test the relationship between poverty and crime rates it is not as simple as it seems. Key indicators of wealth such as GNP are not likely to be very useful because they reflect average wealth and thus only vaguely capture the number and living standard of the poor. In international statistics these figures have also traditionally been

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[25] In France, distrust of justice was so high in the 19th century that farmers' evening prayers often included the phrase, "My God, deliver us of all ill and from justice." Eugen Weber, Peasants into Frenchmen. Stanford: Stanford University Press, 1976, p.50. Also of note is an epigraph in the same book, on p.512, "Justice my friend, is like spiderwebs, it only catches little flies, the oxfly breaks the web."

[26] Tibamanya mwene Mushanga, Introduction, IN United Nations Interregional Crime and Justice Research Institute, Criminology in Africa. Publication No. 47. Rome, 1992 Pp.x-xi.

[27] Ade, C. (1996). Crime in the public sector : trends and implications for the performance of the sector. Addis Ababa, United Nations Economic Commission for Africa Multi-Disciplinary Regional Advisory Group.
Bayart, J.-F., S. Ellis, et al. (1999). The criminalization of the state in Africa. London, Bloomington, International African Institute in association with J. Currey Oxford ; Indiana University Press.

[28] The classic support for this position is 18th and 19th century Great Britain which instituted the death penalty for almost every offense conceivable against private property. This had so little effect that judges, who could not bring themselves to apply the recommended legal sanctions, populated Australia by commuting sentences from death to deportation for countless poor who had been driven by poverty and social inequality to break the law. Hay, D. (1975). Albion's fatal tree : crime and society in eighteenth-century England. New York, Pantheon Books.
Cockburn, J. S. (1977). Crime in England, 1550-1800. Princeton, N.J., Princeton University Press.

calculated in dollars using official exchange rates - a practice that is debilitating for comparative purposes. More recently, however, new income statistics reflect the local purchasing power of local money. These adjusted rates at least overcome the problems associated with tying wealth indicators to official exchange rates.[29]

Education is easier to study since fairly universal standards are officially followed in all 22 countries. Nevertheless, there is reason for caution here as well. For example, in Senegal the traditional French education system is generally felt to be too literary. Consequently, primary and secondary school are seen as providing little value for immediate application. Graduates end up with few business skills though most will earn their living by commerce. Thus many parents in Senegal opt to pull their children out of the government education system and place them in Koranic schools that teach the basics of commercial accounting and Islamic legal principles of commerce. The point is that it is as open a question whether official education facilitates employment as it is whether it instills morality: some clear attempts to fight crime through education[30] do not readily pertain to education in general. It is plausible that the impact of education varies empirically and that it may be more fruitful to examine closely the causes of this variability than to make dogmatic assertions one way or the other. Statistical tools may of course be helpful in this evaluation but simple national figures on years of schooling may be problematic.

Overview comparison of the 22 countries using various parameters

Prior to any consideration of crime statistics, it is important to clarify some of the basic dimensions along which the 22 countries in the study vary. The primary reason for a varied sample is that relationships which emerge from such a sample are more likely to be of broad relevance than those which emerge from very homogeneous samples. This advantage, while important, would be negated if the researcher were to make completely erroneous assumptions at the hypothesis formation stage or even later at the interpretation stage due to unfamiliarity with basic national differences. Thus this article will not consider drug statistics from the 22 nations to be comparable for the reasons outlined above. Nor will it assume the data on juvenile crime is comparable due to underreporting in more traditional societies.

The 22 nations fall into three fairly distinct groups when GDP adjusted for local purchasing power is considered. These three groups (a high income group of eight countries, a middle income group of four countries and a low income group of ten countries) are brought out by the simple cluster analysis provided below:

[29] Official exchange rates are either set in the market or adjusted by government action to facilitate financial policies with little regard to the value of normal income except to the extent this is affected by prices of imports or exports.

[30] Early Learning Resource Unit (South Africa)., Quaker Peace Centre., et al. (2000). Baseline study of research done on anti-crime initiatives at school level. Cape Town, Western Cape Education Department : COLTS Campaign : Safe Schools Programme.

Table 1. Ranking of Countries by purchasing power adjusted per capita GDP					
1	Sweden	1	0.02	83	22200
2	UKEng	1	0.23	89	22800
3	Germany	1	0.27	87	23400
4	France	1	0.37	75	24400
5	Singapore	1	3.5	100	26500
6	Norway	1	0.49	75	27700
7	Switzerland	1	0.27	68	28600
8	USA	1	0.9	77	36200
9	Algeria	2	1.71	60	5500
10	Botswana	2	0.47	50	6600
11	Russia	2	-.35	70	7700
12	S. Africa	2	0.26	55	8500
13	Tanzania	3	2.61	27	710
14	Yemen	3	3.38	24	820
15	Mali	3	2.97	29	850
16	Niger	3	2.72	20	1000
17	Senegal	3	2.93	47	1600
18	Mauritania	3	2.93	56	2000
19	Pakistan	3	2.11	36	2000
20	Zimbabwe	3	0.15	35	2500
21	Syria	3	2.54	54	3100
22	El Salvador	3	1.85	46	4000

This tripartite ranking based on GDP also shows population growth rate, percentage of the population that was urban in 1999, and the adjusted per capita GDP as of 2000. Note that the three groups are listed by increasing per capita GDP within each of the groups while the order of the groups is from wealthy to middle income to poor. Even a cursory glance reveals that the higher income countries tend to have lower population growth rates and to be more urban than the lower income countries. A graph of GDP versus population growth rate illustrates this first point well and clearly separates out Singapore as anomalous:

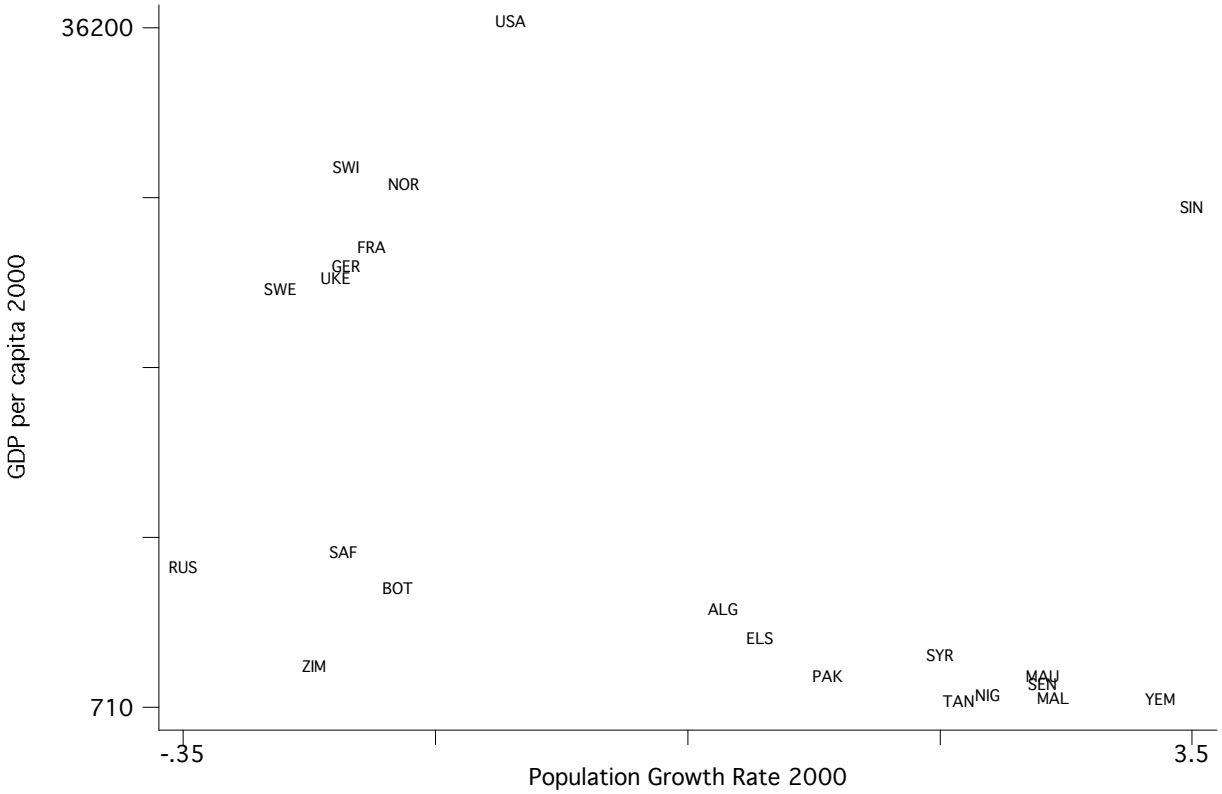

Figure 1. Per Capita GDP versus Population Growth Rate in 2000

The three groups are located respectively in the upper left, lower left and lower right in this figure with Singapore floating alone in the high income and high population growth rate quadrant. In addition, Algeria appears more closely allied with the poor countries when it comes to population growth rate while Zimbabwe fits more into the middle income group along this dimension. The general cohesion, however, supports the existence of a complex of socio-economic factors linking the countries together.

We might expect gross national savings rates to correlate with GDP. As the figure below indicates, they do correlate reasonably well, but the graph makes it clear that the three clusters are less distinct with Russia and Algeria showing far higher savings rates than most of the countries in the high income group. The more significant point to make is that there is still very considerable clustering of countries when examined along these dimensions. There is an indication that GDP and savings rates bear some relation to each other yet the relationship is by no means simply that wealthy countries save more.

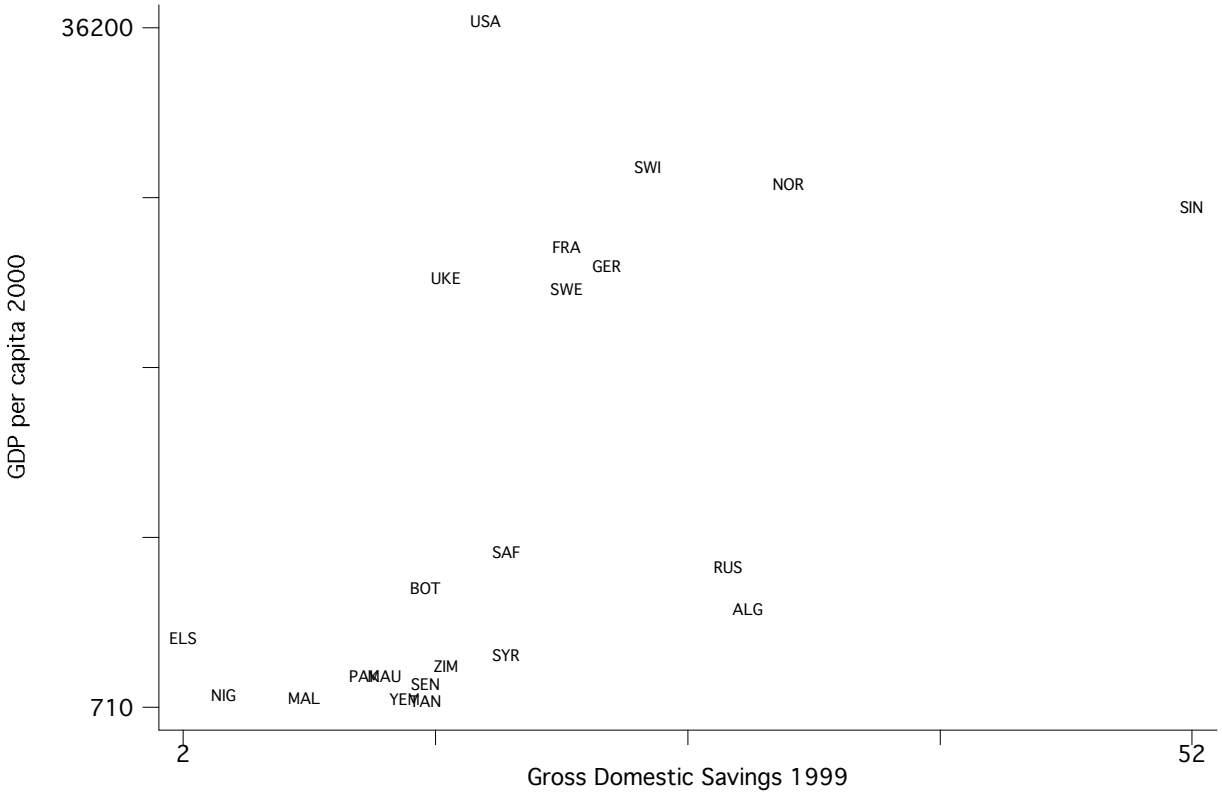

Figure 2. Per Capita GDP versus Gross Domestic Savings in 1999

If we now compare domestic savings rates with population growth rates we find a rather different set of similarities. In this graphic there are two key groups: those with moderate domestic savings rates and low population growth rates and those countries with low domestic savings and high population growth rates – with Algeria being somewhat anomalous and Singapore, as usual, being entirely anomalous. Thus high population growth rates seem on average to correlate inversely with savings but wealth, as evidenced by the locations of the wealthy countries in the graphic, shows only a moderate positive correlation with savings rate.

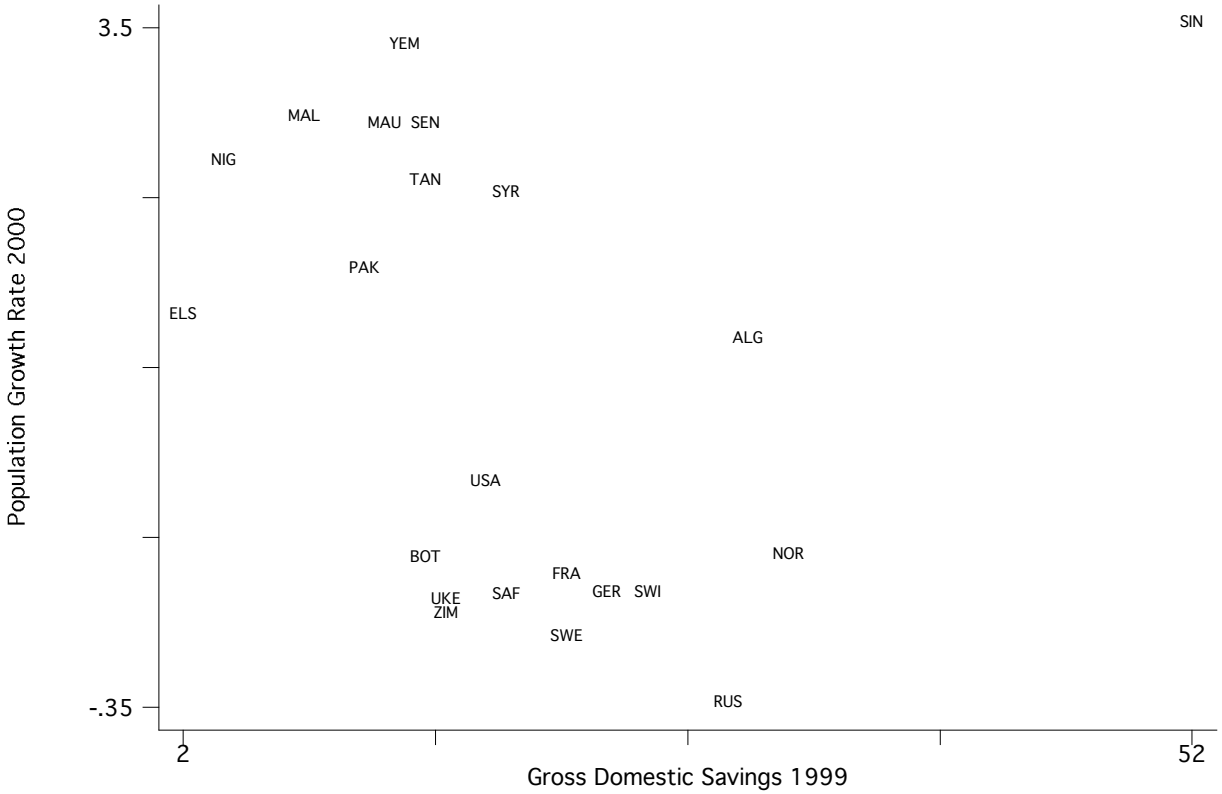

Figure 3. Population Growth Rate in 2000 versus Gross Domestic Savings in1999

One of the strong commonalities in the entire data set is that there seems to be an inverse relationship between rate of urbanization and rate of population growth as the following figure illustrates again with entirely urban Singapore being a glaring exception. This relationship suggests that, ignoring immigration, urban populations grow less rapidly than rural ones. This of course has only the slightest direct connection to urban growth rates because they are largely due to immigration to the urban areas from the rural areas. Consequently, it is no contradiction that the poor countries, though currently less urbanized are now typically urbanizing and growing more rapidly than the wealthy countries.

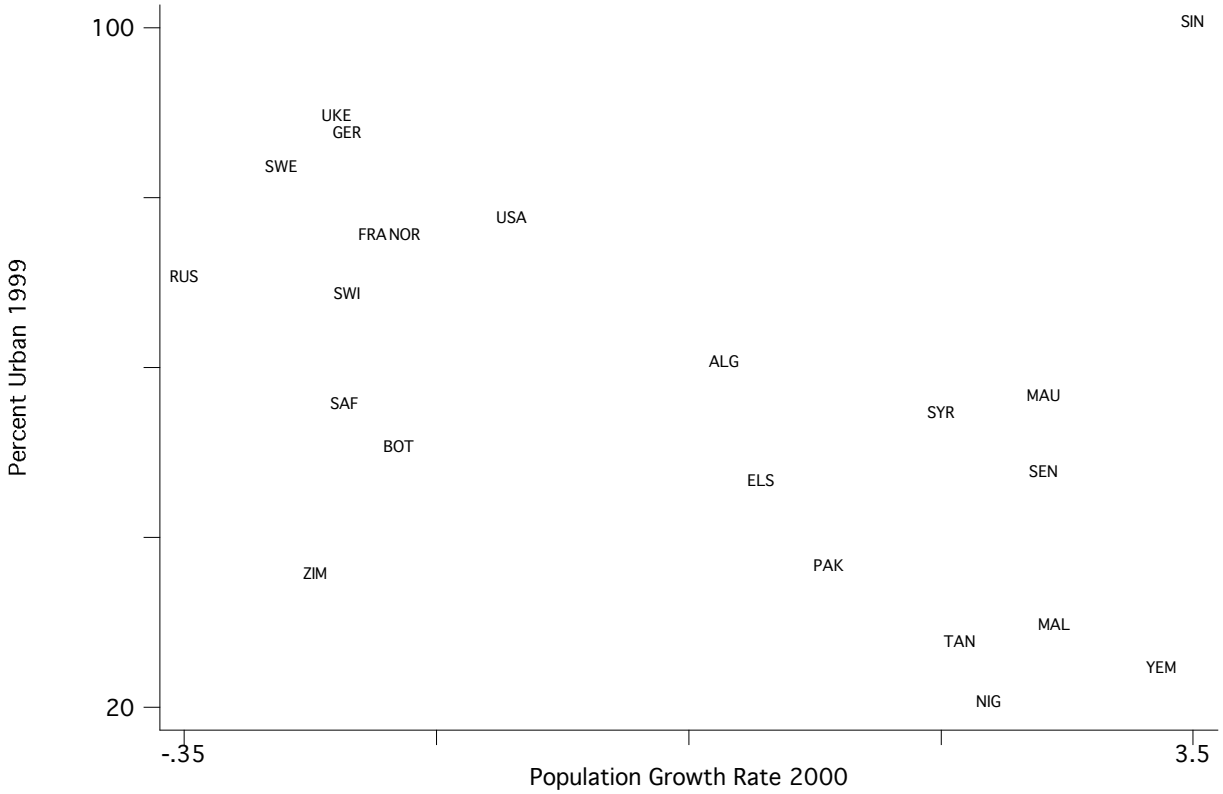

Figure 4. Percentage Urban versus Population Growth Rate in 2000

Exposure to external debt and the ratio of that debt to other indicators separates the nations dramatically. With regards to the ratio of the present value of external debt to adjusted GDP, the three original groups appear again with some different outliers. The wealthy countries, with the exception of Sweden, cluster along the low end of the debt ratio, the middle income countries come next with El Salvador joining the group, while the poor countries gather around the 40-60% mark with Syria and Mauritania approaching 160%. It is important to note that different economies can sustain different levels of debt. Mauritania, which has vast fishing reserves, low population, and recently discovered oil wealth, is pushing for rapid modernization and views high levels of debt as a reasonable strategy. Similarly, the rebuilding of Lebanon and the overall Middle East situation have made loans available and credit needs paramount to Syria. Many other heavily indebted countries are in more difficult circumstances despite lower absolute debt levels.

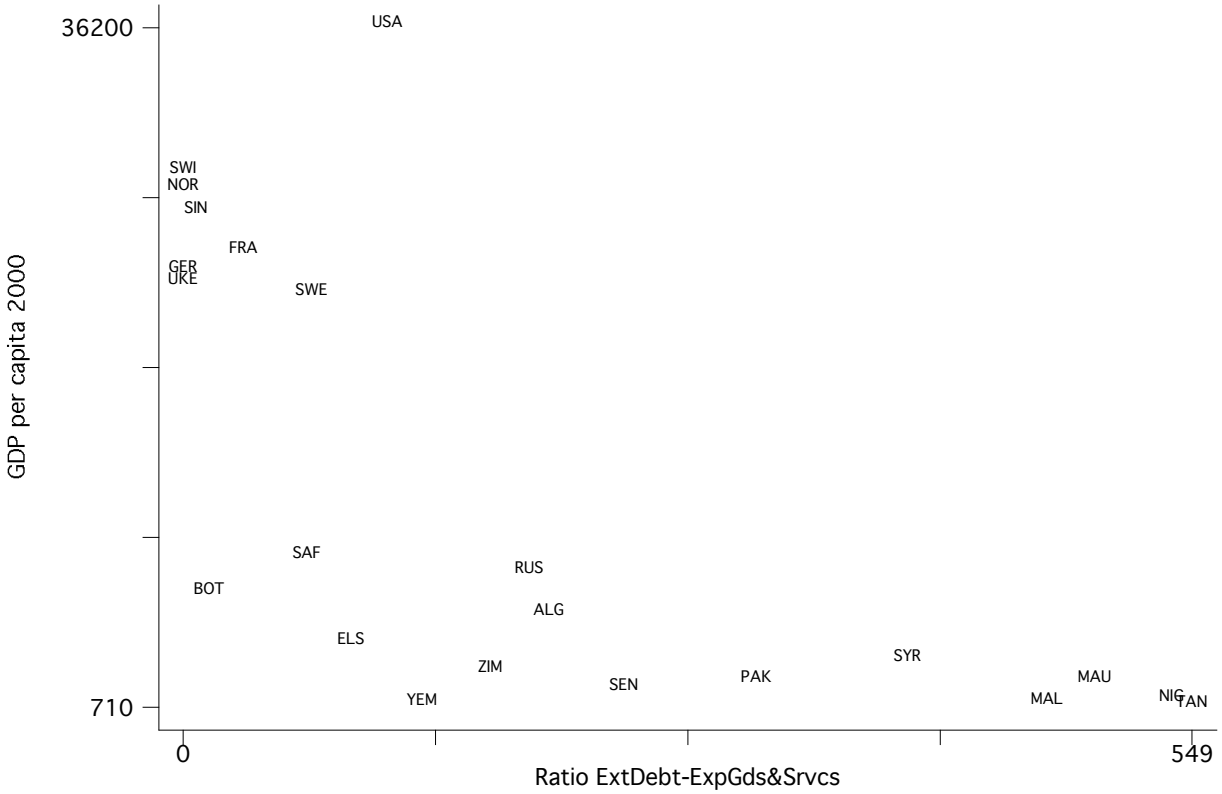

Figure 5. GDP per Capita versus Ratio of the Present Value of External Debt to GNP 1999

A reliable demographic indicator is the age profile of a country. If we compare along the two dimensions of age profile and HIV rates, it is fairly clear that the first separates the 22 nations into two distinct groups, while the second places the vast majority of both groups into a single low HIV rate cluster. A few of the nations with mid-high level proportions of youth are separated into a disparate third group. On some reflection we find that there are countries with aging populations that are generally rich and countries with young populations, that are typically poor, as well as a small group of countries that used to have young populations but have now lost so many young people to AIDS that their populations, while still young, now on average are considerably older than they otherwise might be.[31]

[31] Since a far higher percentage of those with HIV/AIDS in Africa are under 50 than are older and some countries have had infection rates among the young as high as 40-60% for a number of years the demographic impact is striking. A typical calculation of the expected HIV profile showing the rapid increases before age 35 and similar declines after can be plotted online at, sauvy.ined.fr/popafsi/English/tab-fig-ch3e.html. A recent survey at the University of Botswana, though not to my knowledge yet published, found an HIV rate of 60% among the university community (personal communication). Even the official rates cited in WHO statistics are more than enough to have major demographic consequences: see pages at, www.who.int/health-topics/hiv.htm.

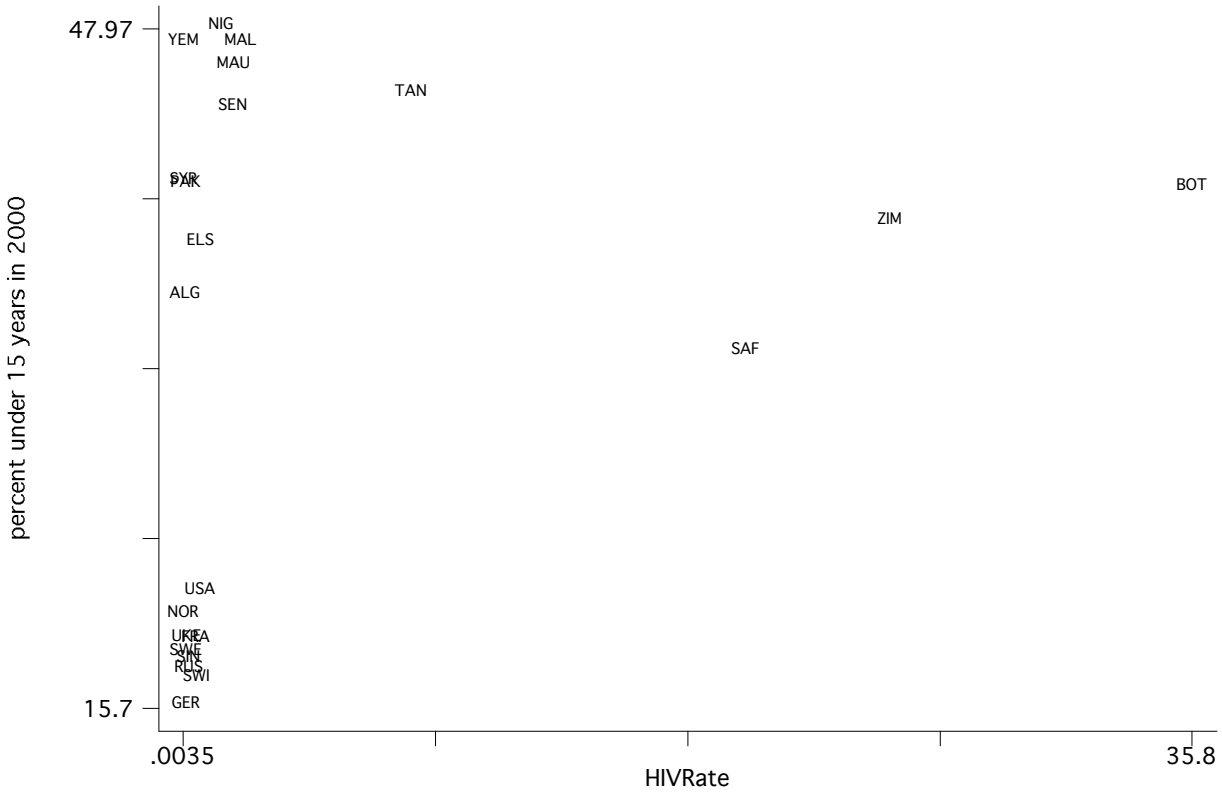

Figure 6. Percent under 15 years of Age versus HIV Rate

While these disparate glimpses of the dataset do not all concur, they do collectively suggest that the data have an internal logic. They also do not support any claim that national level statistics are so fraught with error as to be meaningless. As the article will demonstrate, similar conclusions are warranted of the crime data.

Comparison of the national crime statistics

The article focuses on crime figures for homicide, assault and theft. Data on crimes linked to drugs are not useful because of the major differences in the social significance of drugs between rich and poor countries and the overall low significance of drugs in Africa. Sexual crimes are also not usefully compared since in many African and Middle Eastern countries they are either not common, not well reported or not defined as crimes. The definition of a sexual crime differs too dramatically for it to be a valid cross-cultural category.[32] Thus the three most useful statistics

[32] Even rape is not often recorded in some countries to a degree that makes its underreporting in Europe or the US seem inconsequential. Since it impacts both a women's honor and that of her family, many societies will not condone official reporting of rape in most circumstances. An eloquent discussion for the case of Pakistan is Asifa Quraishi, "Her Honor: An Islamic Critique of the Rape Laws of Pakistan from a Woman's Perspective, " Michigan Journal of International Law (1997, volume 18, 287).

available are figures for homicide, assault, and theft all of which are condemned and sanctioned in each of the 22 countries in the data set.

The following bar chart plots the annual numbers for per capita theft and per capita total reported crime for each of the 22 countries. As can be gleaned from the graphic, if we set aside Zimbabwe, South Africa, and Botswana, all three with very high rates of HIV/AIDS, the most criminally inclined populations are the high income countries, with Sweden leading the pack. In the three poor African countries, HIV diagnosis is typically a death sentence and often results in desperate behavior including drunkenness, robbery and assault.

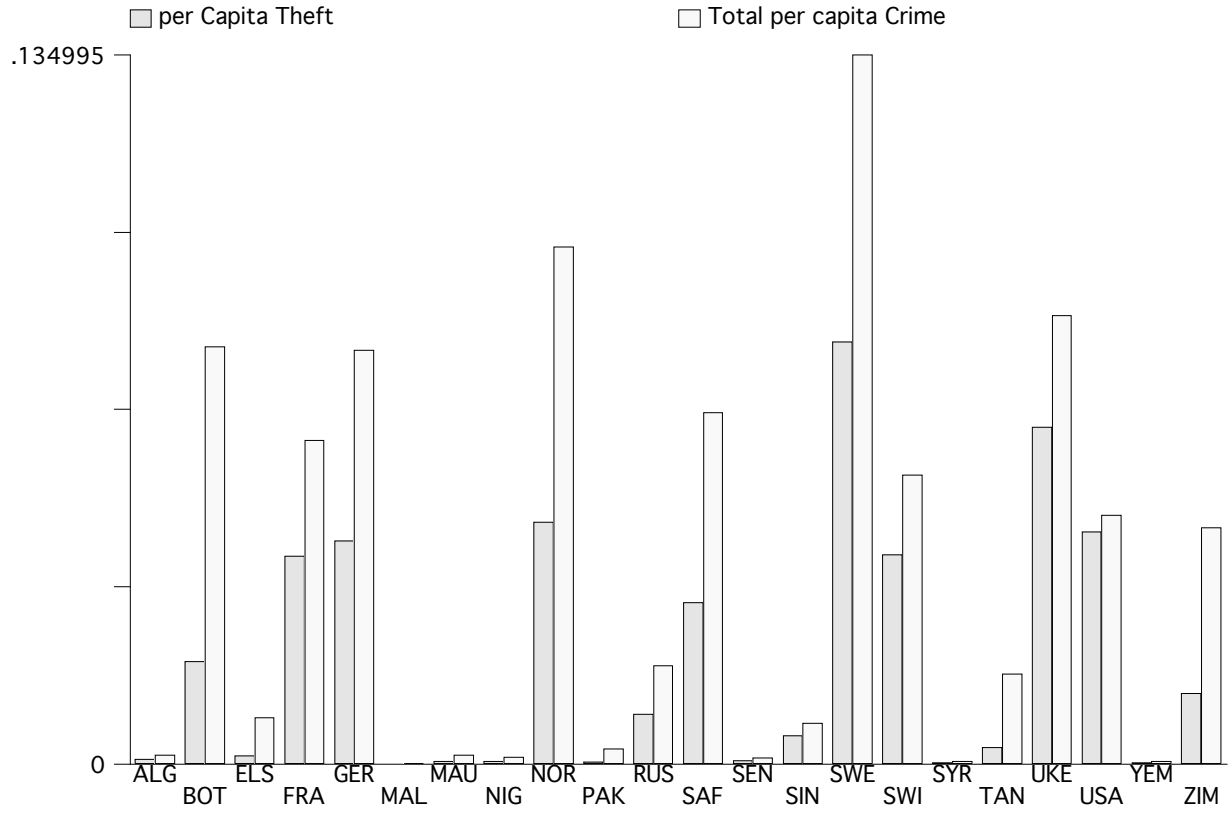

Figure 7. Per Capita Theft and Total per Capita Crime by Country

Although the numbers involved are admittedly much smaller the figures for homicides and assaults tell a related story. The most violent nations are a mixed bag of rich countries such as the US and the UK followed by France and Germany and countries in the throws of HIV / AIDS such as Botswana, South Africa, and Zimbabwe. South Africa, the leader in assaults

also has the legacy of Apartheid to overcome.[33] The most violent of the remainder are only half as violent as the above described group.

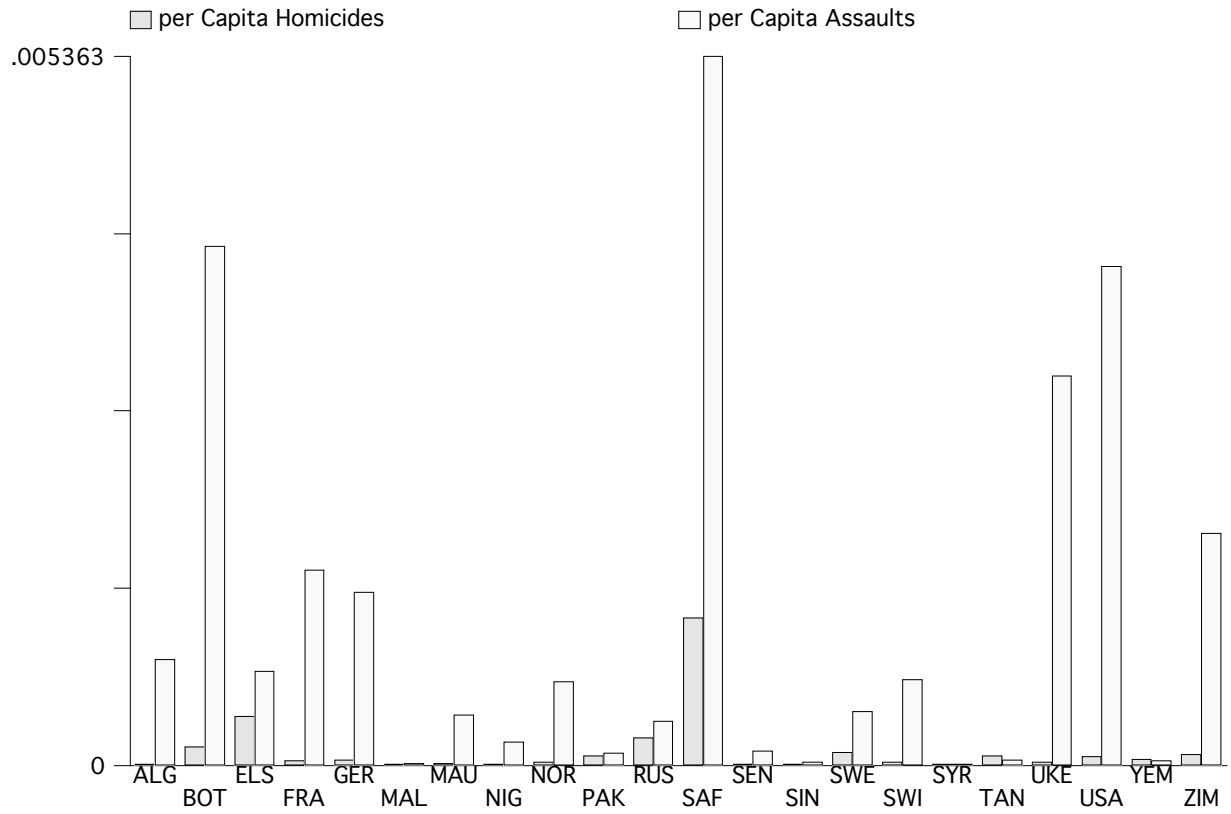

Figure 8. Per Capita Homicides versus per Capita Assaults

We can be more precise by ranking the nations according to wealth, rate of population growth, age of the population (using the proxy of percentage of youth), per capita homicides, assault, theft, and total crime as in the following tables. In each case the rates go from low to high. It is worth noting the extreme similarity between the rankings of homicides and assaults which are both violent crimes. There is also a similarity between the rankings by theft and total crime due to the numeric predominance of thefts in the total of all crimes. The following two tables provide, respectively, the actual rates and the corresponding countries ranked for each variable. The second table is more readily understandable but the first provides much of the data used later in the paper for analysis.

[33] Gordon, D. R. (1998). "Crime in the New South Africa - One of apartheid's legacies is a national habit of violence." The nation **267**(15): 4.

Table 2. Country (see Rankings) Rates for GDP, Pop. Rate, Youth, Homicide, Assault, Theft and Total Crime

GDPPerC2000	PopRate00	Youth00	Homicide	Assault	Theft	Total Crime
1: 710	-.35	15.7	7.09E-06	0.0000213	0.0000213	0.0001003
2: 820	.02	16.97	7.38E-06	0.0002	0.0002	0.0004414
3: 850	.15	17.41	9.36E-06	0.0002502	0.0002502	0.0005097
4: 1000	.23	17.89	9.61E-06	0.0003703	0.0003703	0.0011272
5: 1600	.26	18.19	0.00001	0.000512	0.000512	0.0012681
6: 2000	.27	18.8	0.000011	0.0005308	0.0005308	0.0016317
7: 2000	.27	18.89	0.0000122	0.0005877	0.0005877	0.001742
8: 2500	.37	20	0.000023	0.000947	0.000947	0.0029324
9; 3100	.47	21.12	0.0015797	0.0015797	0.0015797	0.0077356
10: 4000	.49	32.5	0.0031985	0.0031985	0.0031985	0.0087899
11: 5500	.9	35.2	0.0053778	0.0053778	0.0053778	0.0170766
12: 6600	1.71	37.68	0.0094665	0.0094665	0.0094665	0.0186543
13: 7700	1.85	38.68	0.0133694	0.0133694	0.0133694	0.0449123
14; 8500	2.11	40.3	0.0195017	0.0195017	0.0195017	0.0473549
15; 22200	2.54	40.47	0.030661	0.030661	0.030661	0.0549751
16; 22800	2.61	40.6	0.0395761	0.0395761	0.0395761	0.0615582
17: 23400	2.72	44.07	0.039773	0.039773	0.039773	0.0668597
18: 24400	2.93	44.76	0.0424817	0.0424817	0.0424817	0.0787374
19: 26500	2.93	46.1	0.0441973	0.0441973	0.0441973	0.0794287
20: 27700	2.97	47.2	0.0459671	0.0459671	0.0459671	0.0853517
21; 28600	3.38	47.21	0.0641064	0.0641064	0.0641064	0.0984036
22: 36200	3.5	47.97	0.0803236	0.0803236	0.0803236	0.1349947

Table 2. Rates of seven variables by Country

Note that the per capita GDP goes from a low of $710 (Tanzania) to a high of $36,200 (USA) but the latter figure incorporates the high figures the USA reached during the height of the Clinton era and would be substantially lower if figures for 2002 were available. The rate of population growth spans a low negative rate (-.35% for Russia) through the generally low rates typical of the industrialized countries to the high rates of the poorer countries and the top rate of Singapore (3.5%). In consulting the first of these two tables remember that countries, as indicated in the second table, occupy different ranks in different columns. Thus, for example the GDP column represents a spectrum from poor (Tanzania) to rich countries (USA) going from 1-22 while the Youth column begins with the aging rich countries (Germany) and procedes on to the younger poor countries (Niger)

Table 3. Corresponding Country Rankings for GDP, Pop. Rate, Youth, Homicide, Assault, Theft and Total Crime

GDPPerC2000	PopRate00	Youth00	Homicide	Assault	Theft	Total Crime
1.Tanzania	1. Russia	1.Germany	1. Mali	1. Mali	1. Mali	1. Mali
2.Yemen	2. Sweden	2. Switzerland	2. Senegal	2. Yemen	2. Yemen	2. Syria
3.Mali	3. Zimbabwe	3. Russia	3. Syria	3. Syria	3. Syria	3. Yemen
4.Niger	4. UK Eng	4. Singapore	4. Singapore	4. Pakistan	4. Pakistan	4. Senegal
5.Senegal	5. S Africa	5. Sweden	5. Algeria	5. Mauritania	5. Mauritania	5. Niger
6.Mauritania	6. Germany	6. France	6. Niger	6. Niger	6. Niger	6. Mauritania
7.Pakistan	7. Switzerland	7. UK Eng	7. Mauritania	7. Senegal	7. Senegal	7. Algeria
8.Zimbabwe	8. France	8. Norway	8. Norway	8. Algeria	8. Algeria	8. Pakistan
9.Syria	9. Botswana	9. USA	9. Switzerland	9. El Salvador	9. El Salvador	9. Singapore
10.El Salvador	10. Norway	10. S Africa	10. UK Eng	10. Tanzania	10.Tanzania	10. El Salvador
11.Algeria	11. USA	11. Algeria	11. France	11. Singapore	11. Singapore	11. Tanzania
12.Botswana	12. Algeria	12. El Salvador	12. Germany	12. Russia	12. Russia	12. Russia
13.Russia	13. El Salvador	13. Zimbabwe	13. Yemen	13. Zimbabwe	13. Zimbabwe	13. Zimbabwe
14.S Africa	14. Pakistan	14. Botswana	14. USA	14. Botswana	14. Botswana	14. USA
15.Sweden	15. Syria	15. Pakistan	15. Pakistan	15. S Africa	15. S Africa	15.Switzerland
16.UK Eng	16. Tanzania	16. Syria	16. Tanzania	16. France	16. France	16. France
17.Germany	17. Niger	17. Senegal	17. Zimbabwe	17.Switzerland	17.Switzerland	17. S Africa
18.France	18. Senegal	18. Tanzania	18. Sweden	18. Germany	18. Germany	18. Germany
19.Singapore	19. Mauritania	19. Mauritania	19. Botswana	19. USA	19. USA	19. Botswana
20.Norway	20. Mali	20. Mali	20. Russia	20. Norway	20. Norway	20. UK Eng
21.Switzerland	21. Yemen	21. Yemen	21. El Salvador	21. UK Eng	21. UK Eng	21. Norway
22.USA	22. Singapore	22. Niger	22. S Africa	22. Sweden	22. Sweden	22. Sweden

Table 3. Rankings of the 22 Countries for seven variables

These seven different rankings make it clear that the ranking for theft is similar to that for adjusted per capita GDP. The higher the per capita GDP, the higher the per capita theft. This close relationship holds for total crime as well. Conversely, the lower the population growth rate, the higher each of these two crime rates are. The violent crimes (homicide and assault) do not show the same simple patterns. Though the figures are not shown in the table, assaults seem to increase in tandem with the percentage of the population that is urban, but homicide rates show no such simple relationship. The percentage of the population that is 14 years of age or under, is inversely related to the nonviolent crime rates, but its relationship to the violent crime rates is not clear from the tables.

Failure of common sense explanations of crime rates

Crime is so disruptive and often shocking that all societies have numerous common sense theories to explain criminality. Some have minor statistical significance (few crimes are really committed by madmen or mad women), others, such as failures in upbringing or acculturation,

seem to explain little because they neglect to ask why such failures occur more and less frequently in different times and places. If we leave behind the small portion of the crimes committed by seriously psychologically disturbed people, the bulk of crime merits specific attention not just because it is the bulk of crime but also because it may plausibly be linked, in well-run and generally peaceful societies, with socio-economic conditions.

At first reflection, it may seem that poverty causes crime or perhaps wealth does or that perhaps disparities in wealth give rise to jealousy which in turn gives rise to crime. The data just examined certainly does not support the notion that poverty as measured by adjusted per capita GDP leads to crime but neither does it fully support the contention that disparities in wealth are the root of crime, since such disparities are extremely high in the poorer countries in the sample.[34]

Another common sense approach might be to suggest that education has an impact - many believe that education will eradicate crime because people will know better or will be more employable and thus not need to commit crime.[35] There are those, however, who argue that modern education promotes crime in Africa because it cuts children off from their traditions and devalues their elders with consequent moral deterioration among the young.[36] While this study has found fully comparable data on years of education for only 14 of the 22 nations in the set, these data suggest that years of education is linked positively to nonviolent crime rates. Note that the wealthy countries also tend to have high levels of both education and crime. Yet there are major differences in violent crime rates in countries that do not differ substantially along this dimension. Education, like child rearing or other forms of cultural instruction, obviously has the potential to produce people who are law abiding, but there is a difference between a theoretical potential and an empirical result.

The gap between theoretical potential and reality applies to all hypothetical relationships, but it is especially important for common sense propositions, because human beings tend to extrapolate from a few examples to produce stereotypes. Although researchers may try to avoid these common errors they too can benefit from careful testing of hypotheses, because the human brain simply cannot easily distinguish valid statistical hypotheses from invalid ones.

The common belief to the contrary that inordinate numbers of non-statistically based generalizations are valid is most likely rooted in experience with the basic logic of universal claims and counterfactuals and a failure to distinguish logical from statistical claims. Thus, if we say that one of the defining characteristics of all mammals is that they breath air and someone claims that a creature that breaths water (say a fish) is a mammal, we feel confident in rejecting the claim simply because it does not have one of the key characteristics of a mammal. Logic seems to provide the answer to this apparently empirical question quite easily.[37] The situation is quite different for statistical propositions which require processing large amounts of data with complex algorithms that while quite easy on a computer are well beyond the unassisted capacity

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[34] Although ideal statistics are lacking the high standard of living of elites and the abysmally low standard of living of the poor in the world's poorer nations is made clear to all on the roads and in the cities of these nations.

[35] Disrespect by the young of their elders may be part of the modern condition due to education, rapid technological change, high valuation of new technology and the rapid obsolescence of old technological knowledge.

[36] Andargatchew Tesfaye. Rural urban migration and the problems of crime and delinquency. IN United Nations Interregional Crime and Justice Research Institute, Criminology in Africa. Publication No. 47. Rome, 1992 Pp.179-190.

[37] If the question were rephrased to suit modern biology in terms of the genetic relatedness of two species it would itself become a complex, perhaps statistical, problem no longer suitable for simple binary logic appraisal. Major revisions of the Linnaean classification system based on such analyses are ongoing in the biological sciences.

of most human brains. It is quite possible for intelligent people to maintain dogmatically that education lowers crime on the basis of some examples that they simply assume are widely representative plus an awareness that there is a theoretical possibility that this may be the case. It is quite impossible for an unaided human to crunch a significant data set and tell how significant a multivariant statistical model will be. Many people do not even know the difference between a correlation and a causal statistical analysis and so are in a poor position to critique their own faulty hypotheses.

Recent postmodern desires to empower all perspectives have their place but dogmatic versions of post modernism have obvious drawbacks (flat earth claims may be sociologically interesting but airlines that wish to conserve fuel will do well to reject them). Similarly, criminologists and social scientists, who may influence government policy and the welfare of human beings and wish to deter wasteful expenditures, would do well to examine their hypotheses, where possible, using statistical methodologies even when they rely primarily on other methodologies.

The Importance of Family Structure and the Complexity of African Family Sructure

It seems plausible that family structure and functioning may have something to do with crime rates. We easily imagine idyllic families where all members have responsibilities and together they live well and take care of each other. Our minds easily contrast this with a dysfunctional family in which no one has time for any one else, no one eats meals together, and children are left without guidance and exposed to the dangers of a violent and drug ridden neighborhood. Few people would deny that there may be causal linkages between family situation broadly conceived and crime rates, but it is problematic to propose specific linkages on a global scale due to the major differences between family and community structure in different countries.[38]

Most obviously, families in Africa are frequently polygynous and children of co-wives view themselves as siblings.[39] Usually a quite broad subset of relatives Americans would refer to as cousins consider themselves in Africa to be "brothers" or "sisters" with all the claims on kinship that nuclear family siblings might have in Europe or the US. In general, families in Africa are effectively larger even when the number of children per mother is not. This makes it inappropriate to expect simple cross-cultural demographic relationships to hold. Thus, if one imagined that small family size provided children with greater attention and conversely that large family size went with neglect and led to increased crime rates, this would not be cross-culturally testable. Working parents with only a few children in the US might still be forced to neglect their offspring, while in Africa a single mother with many children might be highly likely to have multiple relatives happy to assist with raising her children and the children might find this so much the norm that they never for a moment feel neglected.[40]

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[38] Clearly community structure has the potential to influence crime rates as well and some work has been done in this area: Shaw, M., A. Louw, et al. (1998). Environmental design for safer communities : preventing crime in South Africa's cities and towns. Halfway House, South Africa, Institute for Security Studies.

[39] Robert McC. Netting, Richard R. Wilk, and Eric J. Arnould editors, Households. Comparative and Historical Studies of the Domestic Group. Berkeley: University of California Press, 1984.

[40] A survey that was part of the Six Cities Project funded by the National Science Foundation (1999-2003) for

A similar issue arises with unemployment. In Europe and the US statistics are kept of unemployment rates but these are defined rather counter intuitively as the number of people actively seeking employment through a variety of official channels. Thus the statistics bear little relation to the actual proportion of people who are not actively employed. In Africa, unemployment figures are even less meaningful because the norm is underemployment via a multitude of part-time livelihood strategies. Seasonality of work and the complementarity of extended family member livelihood strategies make simple distinctions between employed and unemployed of dubious value as well. Nevertheless, there are in all countries many who are for all intents and purposes dependents even if they are not well distinguished by official unemployment figures.

Rural Urban Migration and Urban Household Structure

One of the major social phenomena in recent years in Africa has been rapid urban growth. Many African countries have among the highest urbanization rates in the world, though these rates are recent. The very high proportion of people living in the rural area 50 years ago mean that African countries still have either a majority rural or barely a majority urban - unlike Europe and the US which long ago became heavily urbanized. A key mechanism in this trend in Africa has been rural-urban migration centered around African extended family structures.[41]

Particularly in subsaharan Africa, urban employed people face a heavy burden as rural relatives come to stay with them - often indefinitely.[42] Until they begin earning income the formerly rural relatives function within the family primarily as dependents - though young female relatives may quickly make some labor contributions to the household.[43] The net result is a significant increase in the consumer / worker balance within the household. The scarcity of employment and the low returns to underemployment strategies mean that many immigrants remain primarily dependents for long periods. Economist Todaro long ago based an influential model of rural-urban migration on the notion that migrants find migration advantageous if the expected income in the urban area is greater than in the rural area.[44] The insight of this model was that "expected income" was defined as the average income if employed times the probability of employment thus making it advantageous for many to migrate even if only a few ended up employed – given that they can survive by living with relatives and that the average urban earnings of those with income is significantly higher than the average rural income. We might modify this model slightly and add that the key comparison may be some combination of

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which I was the principle investigator found households ranging in size from one to 44 and a household composition ranging from exclusively nuclear family members to large proportions of more distant relatives and smaller numbers of non-relatives.

[41] Agesa, R. U. and S. Kim (2001). "Rural to Urban Migration as a Household Decision: Evidence from Kenya." Review of Development Economics 5(1): 16.

[42] Olga F. Linares, Households among the Diola of Senegal: should norms enter by the Front or the Back door? Pp.407-445 IN Robert McNetting et al editors. Households. Comparative and Historical Studies of the Domestic Group. Berkeley: University of California Press, 1984.

[43] Recent surveys in six cities (see note 40) document extensive contributions to household labor by young relatives but it is unclear how many would show up as employed or unemployed in national statistics of the age dependent ratio.

[44] Michael P. Todaro, "A model of labor migration and urban unemployment in less developed countries". American Economic Review, 59(1) (1969), 138-48.

monetary and non-monetary income perhaps better seen as including the value of urban amenities.

As it turns out, one of the international statistics that has been kept by many countries in recent years is the age dependent ratio which measures the ratio of working age dependents to the working age population and so in a sense is a measure of what many think "official unemployment" statistics measure though they actually measure only current job seekers. It should be noted that this age dependent statistic probably does a more consistent job for the male population than for the female population because in all countries there is still a chauvinistic legacy whereby not all labor is equally viewed as work and housework and community work often are not seen as real work.[45] In consequence, it is hard to know whether young women doing significant amounts of household or community labor, but not yet married and without the status of housewife will be classified as not working or working. This may depend on the idiosyncracies of the interviewer. Nevertheless, this recently available statistic is likely to be a major improvement over traditional "unemployment" statistics.

Some tentative hypotheses about the most critical causes of national crime rates

The article has suggested an apparent disjunction between the potential causes of violent and nonviolent crime through the lens of the graphics and tables already examined. At this point, we can use regression analysis to examine the relationship between crime rates and socio-economic indicators more rigorously. Given the obvious discrepancy between the causes of violent and nonviolent crime we will look at each separately.

Beginning with assault, we might hypothesize that the per capita rate of assault will rise along with the HIV rate and will also rise as per capita GDP rises. This model would thus address both the relatively high rates of violent crime in wealthy countries and low rates in poor countries plus the predicament of those countries battling HIV / AIDS. The results of this regression model using HIV rate and adjusted per capita GDP to explain per capita assault rate for the 22 countries confirms the accuracy of these hypotheses.

A few additional remarks are in order. Positive signs for both coefficients confirm the positive contribution of increases in each dependent variable to the per capita assault rate. The adjusted R-squared of 53.5% suggests that more than half of the variation in per capita assault rates is captured by the two dependent variables. The F-statistic (13.07), indicating the overall significance of the model suggests there is only 3/100 of a percent chance this relationship could occur purely by chance. The two t-statistics for the dependent variables (respectively 4.73 and 3.1) also seem to have extremely small chances of occurring purely by chance (less than 0.01 in each case) thus both variables seem to be independently significant. A similar model does not yield significant results for homicide rates perhaps because other, yet to be identified, factors determine these rates.

For the nonviolent crimes it seems appropriate to examine per capita theft rates. In this case we might hypothesize that the proportion of dependents to workers among the adult population may be relevant and more particularly, since we view this as a better measure of unemployment, that an increase in this ratio will increase the per capita rate of theft. By contrast, despite common sense notions that youth are at the root of increases in crime rates, we have seen that, at

[45] Claude Meillassoux, Maidens, Meal and Money, Cambridge: Cambridge University Press, 1972.

least superficially it looks as if those countries with high proportions of youth in the total population have low rates of theft. Thus we might hypothesize that as the proportion of youth increases the per capita rate of theft will diminish. In contrast to the last regression this would mean we expect the sign of the t-statistics to be positive for the age dependent ratio and negative for the youth variable. The results of the regression confirm these hypotheses.

In this model, the F-statistic (19.72, probability of less than 0.0001)) and the t-statistics (2.54 and –4.15) are clearly significant (0.02 or less) and of the expected sign. It is worth noting that the adjusted R-squared, an indication of how much of the variability in the dependent variable (per capita theft) is explained by the model, rises to 64% compared with the 53.5% R-squared in the assault model.

Clearly if we wish to tackle the more complex issue of the total per capita rate of crime in the 22 nation sample set we might begin by combining variables from the last two models. In regression models it does not pay to include in a model two variables that correlate significantly with each other because they will, mathematically speaking, each grab a share of the variation in the dependent variable that they each "explain" and together they will end up looking insignificant or at least not significant enough to pass muster at the standard 5% level (95% probability that an apparent relationship is not the result of purely random coincidence). Thus, since per capita GDP is high in wealthy countries and these same countries have relatively low levels of youth (the population is on average older than in the poor countries), we need to use only one of these variables and youth of the population seems the more reasonable choice. Since the model for theft seems stronger than that for assault it makes sense to keep its two variables and add the HIV rate variable from the assault model. This would lead us to hypothesize positive signs for the t-statistics of both the HIV variable and the age dependent ratio and a negative sign for the youth variable. The results of the appropriate regression model confirm these hypotheses.

Despite the greater complexity of the phenomenon being "explained," the adjusted R-squared rises to 69% in this model suggesting that more than two thirds of the variation in crime in these 22 countries can be tied to variation in only three socio-economic variables. The F-statistic (16.63, probability less than 0.0001) and the t-statistics (-4.78, 4.11, and 3.15 all less than 0.01) also attest to the significance of the model.

It may, however, be methodologically revealing to approach the explanation of the per capita crime rate in another way. We could begin by putting the adjusted per capita GDP back into the model, assuming again that relative wealth might impact both dependency and correlate inversely with the youth of the population. We noted earlier that high rural-urban migration may be linked to high population growth rates and increases within urban areas of the proportions of adult dependents. The causality presumably starts with the population growth rate which itself distinguishes the countries more than per capita GDP (see figure 4). A model using both per capita GDP and rate of population growth might capture much of the same variations "explained" in the first general model. We would then expect per capita crime rates to increase with GDP and to decrease with an increase in the rate of population growth, if the latter's influence is primarily to lower the age of the population and only secondarily to increase urban adult dependency rates. The results of such a regression model confirm these hypotheses.

The F-statistic (21.55 probability less than 0.0001) and the t-statistics (2.23, -4.26 probability 0.038 and less than 0.001) are highly significant although the adjusted R-squared is slightly lower (66% vs 69%) compared to the first general model. It looks as if this is another viable way to explain overall crime rates but it is preferable to view the two models as simply different sets

of variables serving as proxies for an underlying real relationship between crime rates and socio-economic conditions. Intuitively, the first model linking youth, HIV rates and age dependent ratios to crime rates makes clear sense while the second model, relying on adjusted GDP and population growth rate seems to use proxies for the more direct causes exposed in the first model – adult unemployment, age of the population, and the trauma of AIDS. It is worth noting as well that the t-statistic in the second model for per capita GDP is significant at the 0.05 level but not at the 0.01 level – a level to which all three variables in the first model easily attain. This would tend to support the claim that it is a moderately successful proxy for other variables and support the conclusion that the first model brings us closer to the underlying causes of crime rates.

Reflections on what such models really mean

Regression models are often interpreted as delineating causal relationships. However, it is often preferable in the social sciences to view them initially as diagnostic tools. Suppose there were a tendency for people who read a lot to be less easily duped. This might be because, among all those who read, a significant proportion read widely and come across swindlers in novels far more often than people typically do in real life. It would, then, not follow that reading a lot of chemistry will help or that reading *per se* makes you less gullible. The discovered statistical relationship would thus be best viewed as an aid to uncovering the underlying causality, familiarity with swindlers, rather than as a description of any causal relationship itself.

This analysis, therefore, suggests primarily that there is a high probability that some socio-economic factors impact national crime rates fairly consistently. Second, it looks highly likely that nations with high proportions of youth in their populations are not, thereby, at greater risk for crime – the opposite seems likely.[46] Third, a key factor in nonviolent crime may be the number of people of working age without gainful employment (interpreted either financially or symbolically to recognize the contribution of those who do housework). Fourth, traumatic issues like an extreme HIV / AIDS epidemic may be causally linked to increased violent crime. Obviously, socially destructive wars, dictatorship, harsh social environments, and other social catastrophes might have similar effects.

Legal scholars can benefit from a close understanding of both national and international empirical research into the causes of crime. If the US has high juvenile crime rates linked to the drug trade, the comparative research can suggest that it is not youth *per se* that is to blame but perhaps (to merely hazard a guess) instead the constellation of great economic opportunities for youth in the drug trade combined with limited alternatives and low upward mobility via traditional routes, along with massive exposure to a culture of materialism. Adult unemployment (disguised by standard statistics) and resultant single parent households and other factors might presumably contribute. Empirical research should be relied on to clarify the actual causes rather than allowing cultural suspicions of youth or individual morals to justify avoiding careful research or ameliorative policy.

[46] It may never be possible to know what proportion of this decreased risk is attributable to a lower level of criminal behavior by youth and what is due to lower criminalization of youthful infractions in some countries but the consistency of the relationship suggests the majority of the decrease is due to lower levels of criminal behavior.

Yet this comparison suggests as well that considerable thought ought to be given to the historically disproportional criminalization of behavior in the US (where drug laws are only a part of this trend) and the long term impacts this may have both nationally and within ethnic communities. It is by no means obvious that criminalizing increasingly larger proportions of undesirable behavior has benefits that offset its financial, psychological, and social costs. It is quite possible that this is behind the shameful position the US holds in the forefront of the world's nations in terms of the percent of its population behind bars or with a criminal record.[47] It may also be as well that this rush to criminalize behavior will have less than salutary effects down the road. This is not to argue that undesirable behavior should be condoned, rather it is to suggest that there may be other ways to deal with more of it outside the justice system in the manner more usual in human societies. Again, it is such empirical questions that ought to have a significant place in the deliberations of legal scholars about what ought and should be done with the legal system. There is a place both for logical discourse, with an eye to past debate within a specific tradition of legal thought, and for discussion that avails itself of modern tools to study crime in a comparative perspective. It is, more generally, time to broadly incorporate social science findings into considerations of justice itself.

The empirical evidence that poor countries have, other things being equal, less crime per capita than rich ones and that youthful populations commit less crime per capita than older populations ought to refocus attention on socioeconomic causes and away from criminal propensities or adult prejudices. Moving toward a concern with statistical causality and tendencies is wise because these are more amenable to policy instruments. Just as public health measures are more cost effective than individual care for the ill, so policies which head off incentives for crime are more cost effective than relying on the deterrent effect of individual sanctions. The much criticized notion that a released felon will do just fine with a long rap sheet and a few dollars in his pocket is merely one example of a "just say no" methodological individualism that is in ideological denial of the statistical character of socioeconomic causality - including the influence of lengthy time in prison. We need not only individual responsibility but also intelligent social policies benefiting from broad comparative research. This clearly mandates placing more confidence and power of discretion in the hands of judges and less power in the hands of prosecutors who are chained to a win-loss record and too often experience an unreasonable need to both criminalize everything and convict every suspect of something. Such pressures not only lead to innocents on death row but also mitigate against paying adequate attention to the consequences of over criminalizing youthful infractions and inhibit the ability of families or communities to handle infractions, by youth or adults, in less traumatizing, and perhaps more socially beneficial, ways. The anti-intellectual "lets just hit them harder" approach is no more efficient at defeating crime than it is in defeating football teams, yet it wreaks a lot more damage in the former case than in the latter.

[47] The International Centre for Prison Studies in January 2003 lists the United States as having the highest rate in the world followed closely by the Russian Federation. The US rate of 690 per 100,000 is half again as high as that of South Africa (406) (kcl.ac.uk/depsta/rel/icps/worldbrief/highest_prison_populationrates.html).