

**SENTENCING MODELS FOR POVERTY LED CRIMES: AN EXPOSITORY  
JURISPRUDENTIAL NARRATIVE**

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*“Create enough hunger and everyone becomes a criminal.”<sup>2</sup>*

*Economics has been accredited with the tools of rationality and efficiency in understanding the problems of production, distribution, and consumption. Law on the other hand is probably the matron to whether such human enterprise being accepted and regulated. Law has its own areas of production (legal resource in terms of rights); its distribution (in terms of correlative duties); and the consumption (legal recourse). Seeing law in such elementary forms, one can draw congruous—the economic Arcanum to the legal predicament. Law is then approached with an economic understanding, using the tools of rationality and efficiency to guide greater exposition to legalism.*

*Crime has been described as any activity which has been proscribed by the public law.<sup>3</sup> Such activities are usually seen as abhorrent to the morality that operates in such societies, and are hence met with strict penal sanction. However such view on crimes is an incomplete study if one does not see such behavior from an economic perspective.*

*This paper seeks to explore the strategies the state should employ in order to reduce a specific category of crime—poverty- led crimes.*

*Crimes are of many types, and the reason behind their penalization has been varied, however the drawback of such sanctioning is that it has been unsuccessful in rooting out many crimes in society. One of the*

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<sup>2</sup> Ra's al Ghul, Batman Begins; <http://www.imdb.com/title/tt0372784/quotes>.

<sup>3</sup> Black's Law Dictionary, 2<sup>nd</sup> Edition.

*primary reasons is the failure of the criminal justice system. However such discrepancies are hard to model and study mathematically.*

*The authors tackle the problem of reducing poverty- led crimes as a major socio- economic problem that societies face. <sup>4</sup> Especially rampant in under- developed and developing economies, such volition based crimes also plague the developed world.<sup>5</sup>*

*This paper develops a sentencing model that could be adopted by justice systems across economies, to reduce such crimes. The main approach to this model has been from the point of view of ‘rational criminal behaviour’, and how such an approach would altogether change the need to indulge in crime. The concluding remarks touch upon the macro- level implications of the model.*

### **DEFINING POVERTY- LED CRIMES**

Behavioral economics studies the effects of social, cognitive, and emotional factors on the economic decisions of individuals and institutions, and the consequences for market prices, returns, and resource allocation.<sup>6</sup> The fields are primarily concerned with the bounds of rationality of economic agents. Such behavioural analysis can be equally applied to the criminal behaviour that is observed in a society. In order to give effect to the present study, a rational model is needed to be developed within which a class of crimes will be studied from an economic perspective.

‘Crimes’ throughout the length of this paper comprise of a sub-set of the usually criminalised behaviour in any society. They have been defined as poverty led indulgence in legally proscribed forms of behaviour to achieve desired ends.

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<sup>4</sup> <http://www.poverties.org/poverty-and-crime.html>.

<sup>5</sup> Olakunle F. Odumosu, Social Costs of Poverty: The Case of Crime in Nigeria, [http://archive.lib.msu.edu/DMC/African%20Journals/pdfs/social%20development/vol14no2/jsda014002008.pdf?origin=publication\\_detail](http://archive.lib.msu.edu/DMC/African%20Journals/pdfs/social%20development/vol14no2/jsda014002008.pdf?origin=publication_detail).

<sup>6</sup> <http://www.econlib.org/library/Enc/BehavioralEconomics.html>.

For any activity undertaken by an individual, behavioural economics moves with the presumption that such would be undertaken as being the most rational choice from the perspective of an individual, who would, in his predicament, choose it to maximise his welfare.<sup>7</sup> Thus crime can be seen as a means to achieve end of increasing welfare.

A peculiar function of 'crime' would be the nature it would exhibit. Individuals would not engage in criminal activity for material gain if such gain would be available to non-criminal activities. The question that arises is when do people engage in crime? One possible answer to such a question can be seen by observing the radical ends that are sought through such illegal means. While crimes and criminal motives vary, a general pattern can be seen especially in the case of poverty- led crimes. It is only when people's demands are not satisfied by the goods their incomes can buy, such people may resort to criminal behaviour.

In this regard crime is an inferior undertaking that depends inversely on the income of the subject. In this study crime is the most inferior of all goods in the society, since it is the last resort of anyone, owing to legal, moral, and social conditioning.

Having concluded on certain characteristics of crimes, we will proceed to look as to how the criminal psychology works from the perspective of an individual.

When an individual engages in crime, he does so as to supplement his consumption from such criminal enterprise. Now crimes have been punished in every society since time immemorial, and such punishments have some deterrent value.<sup>8</sup> Thus whenever an individual engages in crime, he has to bear certain costs which are a result of the criminal justice system. These costs are monetary and non- monetary. A monetary cost would be imposition of fines on the offender, while non- monetary cost

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<sup>7</sup> F. Y. Edgeworth, *Mathematical Physics: An Essay on the Application of Mathematics to Moral Sciences* (London, 1881), p. 16.

<sup>8</sup> Valerie Wright, *Deterrence in Criminal Justice: Evaluating Certainty vs. Severity of Punishment*, <http://www.sentencingproject.org/doc/deterrence%20briefing%20.pdf>.

would be to subject the criminal to imprisonment.<sup>6</sup> These are the most frequently seen modes of punishment across all societies.

A person would engage in crime if he feels that the returns from such criminal activity would exceed the costs; a necessary complication being 'if he gets caught.'<sup>9</sup> In order to uncomplicated our model, we will assume for the time being that the criminal justice system is able to apprehend and successfully try the accused for his crime.

Given the general price level in an economy; the person under study can only buy a fraction of goods needed for his basic, minimum consumption.

$$M_I = P_E \cdot Q_E$$

Where  $M_I$  is the income of the individual 'I',  $P_E$  is general price level; and,  $Q_E$  is goods/services that can be purchased with income level  $M_I$  and price level  $P_E$ .

### **WHY DO PEOPLE ENGAGE IN POVERTY- LED CRIMES?**

When the income of the person is not sufficient to consume a minimum quantity of goods, represented by  $\Theta$ ; he would have no option but to resort to criminal behaviour to satisfy his basic, minimum consumption (represented by the poverty line of bare sustenance) being the last option available.

Let  $Q_C$  be the expected reward of crime by the individual 'I'.

That is, the goods/services available for consumption after the crime are  $Q_C + Q_E$ .

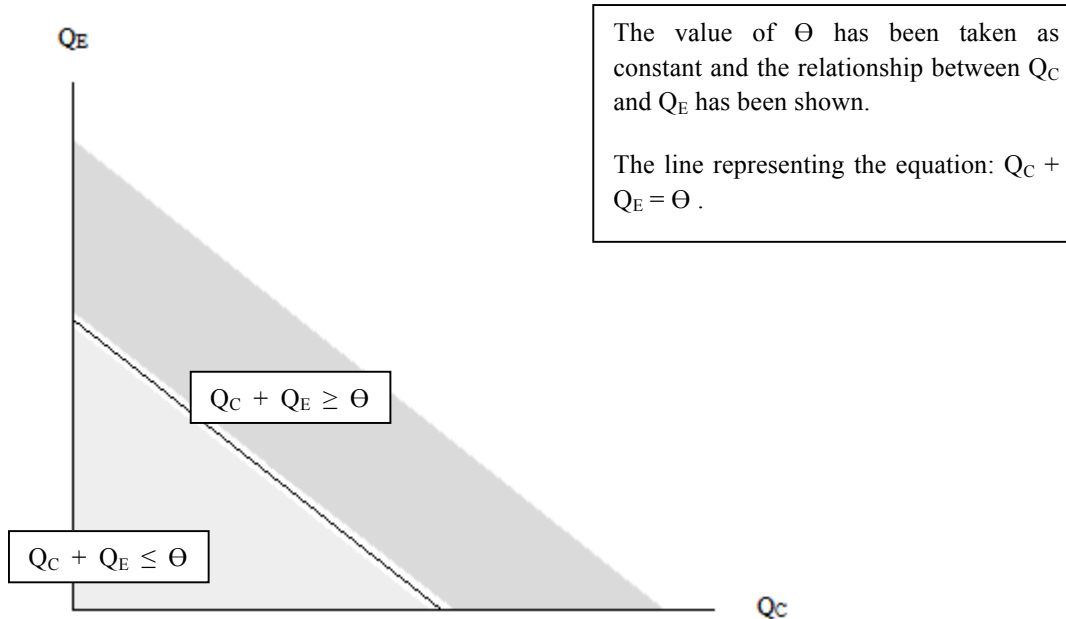
Hence  $Q_C + Q_E \geq \Theta$ . When such a sum exceeds  $\Theta$ , then the crime undertaken would not be to reach  $\Theta$ , but to gain greater benefit. Such behaviour would then not be a result arising only out of poverty, but also other factors; like the criminal inclination of the person. So for the purposes of this paper, the focus will be restricted to  $Q_C + Q_E = \Theta$ .

But like in any society, our model also imposes a cost upon the criminal: either a fine; or imprisonment. Now the lesser the degree of crime, the lesser would be the punishment. Also we assume that the degree of crime indulged in gives benefit to the

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<sup>9</sup> Gary Becker, Crime and Punishment, <http://www.nber.org/chapters/c3625.pdf>.

criminal which is directly related to such undertaking. This is a logical deduction because if an individual can get the same benefit from a crime of a lesser degree then why would he commit a graver offence? The only rational explanation would be that he would not commit that particular crime.



Being a rational person, the criminal would seek to minimise the gravity of his offence to reach the desired  $Q_C$ , where  $Q_C + Q_E = \Theta$ ; given  $Q_E$  is the goods and services that can be purchased with income level  $M_I$  and at general price level  $P_E$ .

#### FINE-BASED SANCTION

Any form of a sanction would apply either in the same consumption cycle or in the next, since in the immediate future the criminal would have consumed from the rewards of the crime. Hence what would follow in situations where the fine based sanction kicks off in the next consumption cycle is that the criminal would be left even greatly vulnerable in the subsequent cycle as his future income would be reduced by the fine. This would only aggravate the desperation to delve into criminal behaviour. The situation if the sanction applies in the same consumption cycle can be understood below.

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Let the monetary cost of crime be depicted by  $M_C$ . So such a deduction of money would only occur from the incomes; because the person is consuming at a rate higher than what his income can buy and is engaging in criminal activity for the same; he has consumed his savings, crime being the most inferior undertaking.

Pre- Crime	Post- Crime
Goods/Services Consumed: $Q_E$ or $M_I / P_E$	Goods/Services Consumed: $Q_C + (M_I - M_C) / P_E$

Goods consumed after crime:  $Q_C + (M_I - M_C) / P_E$ ; substituting  $Q_E$  for  $M_I / P_E$  and subtracting  $M_C$  from  $M_I$  to reach at the new disposable income. For “Without Crime” situation to be favourable, the following condition must be necessarily satisfied to reduce need based crimes in society.

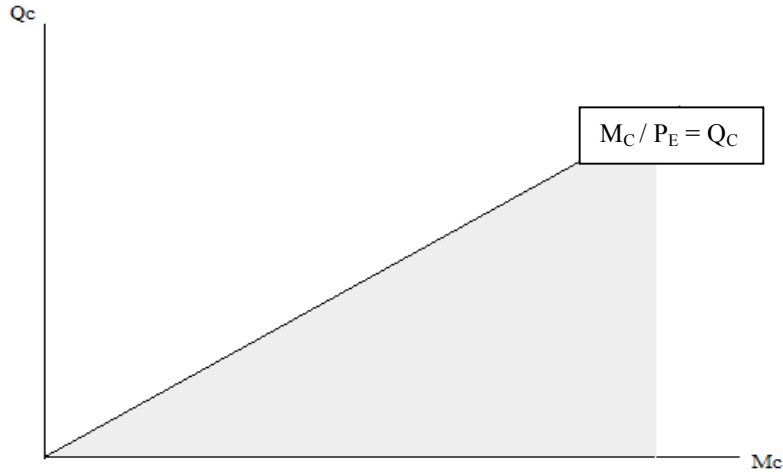
$$Q_C + M_I / P_E - M_C / P_E < M_I / P_E$$

or,  $M_C > P_E \cdot Q_C$

or,  $M_C / P_E > Q_C$

For the following graph  $P_E$  has been taken as a constant, as the General Price Level does not change much in the short-run.

Hence, the shaded region showing  $M_C / P_E > Q_C$ .



As stated earlier,  $M_c$  as a sanction is employed only in cases of crimes of less degree. This is because if an individual is engaging in a crime of a high degree, then as per our model his  $Q_c$  would be high; thereby his  $Q_E$  being very small, and his  $M_I$  being negligible.

### CRIMINAL SENTENCING

The authors have only dealt with the equal monetary cost of committing crimes, ; this section deals with the non-monetary cost The state usually punishes crimes with imprisonment; a penal sentence in a penitentiary institution. It goes with the presumption that the deprivation of liberties is a deterrent to punish the criminal behaviour.

The authors will assume a person who cannot afford the minimum goods required for subsistence For him it might be a route to commit a crime to satisfy his basic consumption needs. However if such person is caught and persecuted for his crime the individual does not lose out entirely The state would at least provide him with all the basic consumption goods as an upholder of the human rights. Thus even if the individual ends up serving time in the prison he would still prefer it to his previous state deprivation. Such cases have been numerous reported among poor nations of the world.

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The sentence would only deter the non- poverty-led criminals who would engage in crimes to afford goods above the basic minimum level, a level they were able to afford previously. In their case imprisonment would leave them at a consumption level lesser or equal to the level they were consuming had they not committed the crime, with an added loss of liberty. So if the two goods are the consumption (Q) and the liberty (Q'); following an Indifference Curve analysis<sup>9</sup> we would arrive at a point where:

Poverty Line @ ( $\Theta$ ; L)	Poverty Led Criminals		Non- Poverty Led Criminals	
	Before Crime	After Crime	Before Crime	After Crime
Consumption (Q)	$< \Theta$	$\Theta$	$\geq \Theta$	$\Theta$
Liberty (Q')	L	$< L$	L	$< L$

The individual will have in the case of poverty led criminals greater of one good as compared to another' while in Non- poverty led criminals he will have lesser of one good at the cost of equal/ lesser of the other good also.

So for a rational consumer who wishes to maximise his welfare, non- poverty led criminal is ruled out. The assurance of a basic level of consumption might exceed the satisfaction from the loss of liberty; hence an individual might still choose to commit crime in case of poverty led criminals.<sup>10</sup>



The necessary condition for reduction of poverty led crimes in society from our previous deduction is:

$$M_C > P_E \cdot Q_C$$

$M_C$  is bounded by  $M_I$  for the individual. If  $M_I$  is too low, then even if  $M_C$  is high, it would not deter the individual from committing the crime ( $M_C \leq M_I$ ). He has nothing to lose. An increase in  $M_I$  would be an effective deterrent.

$P_E$  is price level of the economy. Inflation increases the price level increasing the expected benefits from committing the crime.

$Q_C$  can be reduced by greater and effective expenditure on law and order enforcement, economic regulation and security. Such measures do not truly deter crimes from happening as they do not cure the disease, but act as analgesic barriers to prevent a limited class of people from feeling the effects.

The real cost to the criminal is not what the authors have based this model upon.<sup>10</sup> If one has to analyse this then the improvement in the law and order enforcement, economic regulation and security measures would only maximise the probability variable in the equation, hence the real cost would never be greater than the cost we have based our model upon. This is because in reality the probability of conviction is always  $< 1$  but in best terms can never be  $> 1$ . Hence it can be concluded that no measure of improvement in law and order situation will be able to solve the problem at hand.

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<sup>10</sup> Such an assumption only works to give a favourable position on reducing poverty-led crimes from the state's perspective. In reality the individual will indulge in criminal enterprise when the benefits are at least equal to the cost factored by the probability of being caught, or equal to such a product at margins.  $B = P \cdot C$  ; where B is the benefit (quantity consumed through criminally financed conduct), P is the probability of being caught, C is the cost of committing the crime (fines or years in prison). Because  $0 \leq \text{probability} \leq 1$ , therefore the cost in real terms is at most equal to what we are assuming. Such an assumption is a best- case scenario for the state as the model presumes the cost to be the highest for the criminal, giving the Criminal Justice System the benefit of systemic fallacies. Because, the real cost for the criminal is always  $\leq$  what we have assumed, hence there will not be any error of logic of undermining the potency of the deterrent value of the punishments. Rather the paper takes the view that the law is fully- potent, and at that stage proves the incapability to deal with this class of crimes.

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The only substantial way to deal with this problem would be to raise the level of disposable incomes of the people in the economy so that they can afford the basic, minimum consumption. This would de-incentivise them to commit crimes. For all those criminals lying above the minimum standards of consumption, sentencing them would still act as a good deterrent from an economic understanding.

The alternate way would also be to reduce the cost of the minimum basic consumption goods ( $\Theta$ ) which would push greater mass of people above the line with their consumption ( $Q_E$ ) increasing,  $M_I$  remaining the same. To increase such consumption ( $M_I$ ) societies can increase  $M_I$  by increasing social security (welfare) allowances such as unemployment allowance, or increasing and effective expenditure on health and education (increases human capacity) or measures to promote economic growth and employment or regulation like labour laws. Controlling inflation ( $P_E$ ) would help to reduce the economic rewards of crime, thereby reducing the quantum of crime.

Sentencing a criminal requires expenditure on the part of the state, especially the working cost of maintenance of the criminal as well as the penitentiary institutions, such as salaries of the prison authorities. In such a model we have seen that the crime rates will also tend to be higher, the state also needs to cut such criminal activity by raising the basic minimum consumption. The tax collected could only be increased by either increasing the taxation rate or through increasing economic transactions in the economy. It is only to a point that the state can increase the taxation rate because increasing taxation rates results in greater dead-weight loss to the economy, and the Laffer curve demonstrates that people resort to malpractices of not paying taxes as such cost of taxes goes up.<sup>12</sup> Too much taxation might also push the economy into crimes of tax evasion, money laundering.

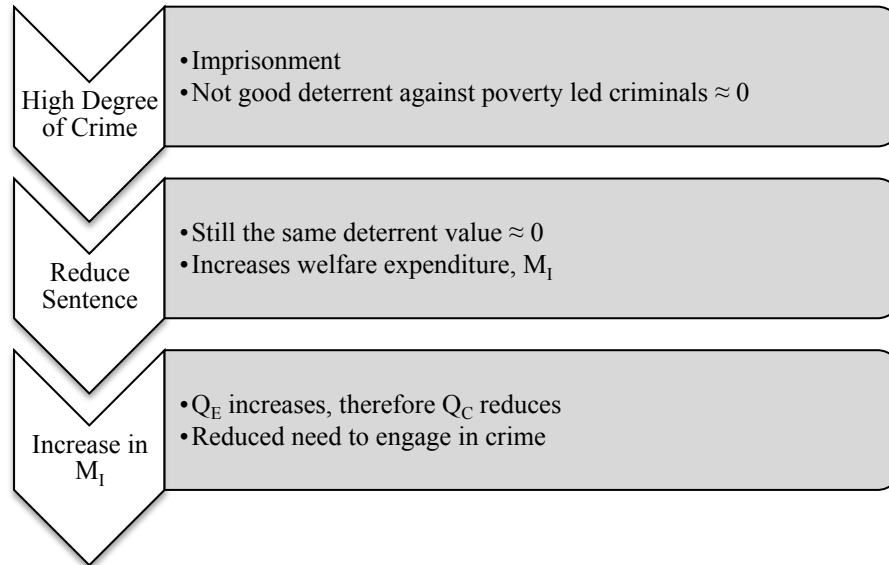
As a result with a limited tax collection and an increasing expenditure on subject welfare, the state has lesser money to spend on keeping a prisoner. Hence the state faces a trade-off between the money it could spend on public welfare, or expenditure on a prisoner.

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As per our model the state operates prisons at the basic minimum consumption, so it cannot cut down on costs; such being perverse to human rights. The only way to cut costs would be to reduce the term of punishment per sentence. However the reduction in sentence would reduce the non- monetary cost of committing the crime for an individual.

This would have no effect on the increase of the quantum of criminal behaviour in the society. Those who are punished by imprisonment are found guilty of heinous crimes; so often that their  $Q_C \approx \Theta$ . At such predicament these people would benefit from a utilitarian perspective by going to prison. To the contrary an increase in the welfare expenditure would mean that the  $M_I$  would go up, as a result  $Q_E$  would also increase; and  $Q_C$  would go down. Since the  $Q_C$  will eventually go down to a point where the criminal degree falls outside the scope of imprisonment; fine- based sanctions would now be applicable on such offenders. A similar need has been shown to reduce crimes from the perspective of a fine- based sanction system, where  $M_C$  will only hold as a deterrent if  $M_I$  increases (being bound by  $M_I$ ).

If the state chooses not to cut down on the sentence duration, the welfare expenditure is greatly reduced for the state to push the incomes of the individuals up. This will not reduce the quantum of crimes. We can also see that the level of consumption in prison remaining the same, a rise in income would reduce the desire to choose prison as favourable; but a fall in income would accelerate both the quantum and the degree of criminal behaviour. The sentence would continue to serve as an equal deterrent for Non- poverty led criminals.



### CONCLUSION

In the case of crime the externality reflects upon the unlawful deprivation of someone's property or life. This results in the decrease in the corpus of the labour/enterprise and the decrease in capital. Although the capital would return to the economy as expenditure on consumption goods; there is an absolute loss of life. Consequentially the production would also fall; this would lead to the further fall in nominal incomes—further rise in crime. Thus economically the society heads for anarchy and a constantly falling equilibrium.<sup>13</sup>

The best way to observe criminal sentencing within any economic model would be to choose welfare over sentence terms from the economic perspective. Such welfare measures would push the aggregate demand which would be followed in the long run with rise in the aggregate supply and superior equilibrium.

Reduced criminal activity would in turn push up both the quantum of economic transaction, and the frequency of economic exchange. This would increase the incomes for all people and the revenue to the state. What would follow would be more money to spend on the prisoners, which would give the state greater ability to increase the duration of sentence, which would now act as greater deterrent to both poverty led criminals and non- poverty led criminals without putting the incomes at hazard.

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The only aberration to this model would be in case the state decides to execute the person. We limit our model to only imprisonment as the most widely practiced sanction across the world.