

Future-Oriented Gang Members?

Gang Finances and the Theory of Present-Oriented Criminals

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ABSTRACT. Two prominent theories of crime (Wilson and Herrnstein 1985; Gottfredson and Hirshi 1990) rely heavily on the notion that criminals are impatient or “present-oriented.” In brief, the theories posit that present-oriented individuals will be predisposed to crime because the “costs” of crime (e.g., prison time) lag behind crime’s benefits. While the theory has intuitive appeal, it remains controversial. This study considers a data set first presented by Levitt and Venkatesh (2000) that details a drug-selling gang’s activities. In this gang, low-ranking criminals accept low initial wages in the hope of receiving high future remunerations. As demonstrated in the note, this wage structure is exceedingly difficult to reconcile (both theoretically and empirically) with the notion of present-oriented criminals. In sum, the study suggests that present orientation is at best an incomplete and idiosyncratic explanation of the causes of crime.

I

Introduction

NUMEROUS ARTICLES APPEARING OVER THE LAST DECADE (including, among others, Hay 2001; Wright et al. 2001; Paternoster and Brame 1998; Dean, Brame, and Piquero 1996; Nagin and Paternoster 1994) have discussed and evaluated the theories of individual “criminal propensity” formulated by Wilson and Herrnstein (1985) and Gottfredson

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and Hirschi (1990). These theories attempt to understand criminal behavior within a rational choice framework. One prominent element common to both theories is an emphasis on criminals' "present orientation," or lack of "self-control." As summarized by Nagin and Paternoster (1994: 584), "individuals who commit crimes place little weight on the future consequences of their actions." The supposed present orientation of criminals helps explain why individuals might commit crimes even if the pecuniary rewards from crime are low (Wilson and Abrahamse 1992). As long as the gains from crime are immediate while the costs of crime are delayed, present-oriented individuals will commit crimes that are not obviously lucrative.

Present orientation finds some support as a theory of crime. A theory of stable individual differences, such as present orientation, helps resolve some puzzles regarding criminal activity, such as the prevalence of repeat offenders (Nagin and Paternoster 1994; Dean, Brame, and Piquero 1996) and the frequently low financial returns to crime.¹

The association between criminality and present orientation also finds some empirical backing. In Nagin and Paternoster (1994), for example, a student questionnaire revealed that present orientation (as defined by several questions) is highly associated with the likelihood of committing a number of crimes and misdemeanors. Dean, Brame, and Piquero (1996) note that several findings from a statistical analysis of a cohort of North Carolina offenders support the theory that stable individual differences such as present orientation are an important cause of crime. Paternoster and Brame (1998) utilize several survey variables from the Cambridge Study in Delinquent Development to define "self-control" in eight- to nine-year-olds. They observe that children with low self-control disproportionately turn to crime and other present-oriented behaviors, such as smoking and drinking. This finding supports the notion that stable individual differences, such as present orientation, cause crime, rather than more specific and idiosyncratic factors.

Not all empirical research supports the theory of present-oriented criminals. All the studies cited in the paragraph above, for example, report some findings that are inconsistent with the theory. (On balance, however, these studies clearly do support the theory.) Tremblay and Morselli (2000) question the notion that crime does not pay.

Using the data set employed by Wilson and Abrahamse (1992) to suggest that criminal earnings are low, they find, by contrast, that for some individuals crime is quite lucrative. While this finding does not directly contradict the self-control theory, it does suggest that crime can be consistent with rational, nonpresent-oriented criminals.

This research note questions the validity of the notion of present-oriented criminals. It discusses a unique data set described and analyzed by Levitt and Venkatesh (2000) that details the economics of a drug-selling criminal gang. Broadening and reinterpreting some of Levitt and Venkatesh's findings and data, this note posits that the economics of the gang under study is starkly dissonant with the notion of present-oriented criminals. In brief, the gang's compensation structure is highly skewed, requiring gang members to "rise through the ranks" before earning high wages. As described below, this wage structure is exceedingly unlikely where individuals are present oriented. While gang members are not necessarily representative of all street criminals, these results suggest that the broader theory of stable individual differences should be treated with greater skepticism.

II

Methods and Discussion

IN THEIR IMPORTANT RECENT PAPER, LEVITT AND VENKATESH (2000) discuss a unique data set that can be employed to shed light on the present-oriented hypothesis. The Levitt and Venkatesh data were "compiled by the leader of a drug dealing gang to facilitate the gang's operations." The data detail the wage and revenue structure of the gang over a four-year period.

Two facets of the gang's wage structure are particularly salient for the theory of present-oriented criminals. First, Levitt and Venkatesh (2000: 762) discuss the wages of the lowest level gang members, the "foot soldiers." Foot soldiers are the "street-level drug sellers" and are "typically from 16–22 years of age." Thus, they fit the typology of the "radically present-oriented young man" who is "part of a gang" often described by researchers (DiIulio 1996: 16–17). Levitt and Venkatesh (2000: 771) also note that the foot soldiers are remunerated at an "hourly wage that is below the federal minimum wage," a rate that

is “strikingly low.” (Over the four years of data, the wage ranges between \$2.50 and \$7.10 per hour in inflation-adjusted 1995 dollars.) They observe that many street-level drug dealers concurrently hold legitimate sector jobs and live with their families, facts consistent with low earnings from drug selling.

Levitt and Venkatesh (2000: 757) also demonstrate that the distribution of wages within the gang is “extremely skewed.” The average “wage” of gang members over the four-year period is two to three times the wage of the foot soldiers, even though foot soldiers comprise over 90 percent of the gang’s wage earners. The wage skewness results from the fact that the gang leader earns 10 to 20 times as much as a foot soldier (between \$32.50 and \$97.20 per hour over the four years). Other high-level gang members also make considerably more than those at the bottom of the hierarchy. The gang leader’s wages in particular are much higher than the wage that would be available to an individual with his level of human capital in the legitimate sector. Indeed, the leader’s wage is sufficiently high to make the average wage of gang members greater than their supposed private sector alternatives. On average, crime does pay for the members of the gang. The rewards are unequally distributed, however. Levitt and Venkatesh (2000) also note that the average wage premium over the gang is quite small relative to the added risk of injury or death associated with gang membership.

In assessing this wage structure, Levitt and Venkatesh (2000: 773) conclude that “the most reasonable way to view the economic aspects of the decision to join the gang is as a tournament where the participants vie for large awards that only a small fraction will eventually obtain.” In other words, members of the gang accept low wages in the present in the hope that they will advance in the gang and earn well above market wages in the future (Lazear and Rosen 1981).

Levitt and Venkatesh’s conclusion is a reasonable one given the structure of wages in the gang. Nevertheless, a tournament wage structure is strikingly inconsistent with the notion of present-oriented criminals. Levitt and Venkatesh do not note this inconsistency, however. The supposedly “radically present-oriented” (DiIulio 1996: 16) 16- to 22-year-old foot soldiers of the gang are sacrificing present wages for the hope of future gains. Indeed, the gang is using the

same compensation structure as the one commonly used to characterize law firms (Rebitzer and Taylor 1995). The “foot soldiers” are filling the role of law associates, a group not known for its impulsiveness.

Moreover, foot soldiers seem acutely aware that they are making an investment in the future by foregoing present gains. As one foot soldier noted:

You think I wanta be selling drugs on the street my whole life? No way, But I know these n—[above me] are making more money. . . . So you know, I figure I got a chance to move up. But if not, s—, I get me a job doin’ something else. (Levitt and Venkatesh 2000: 773)

This quotation does not comport with the notion of a super-impulsive young criminal.

Tournament compensation schemes are often used to ensure maximum effort by low-level employees (Rebitzer and Taylor 1995). Executives (or gang leaders) offer the prospect of high future wages in the hierarchy to induce effort by low-wage employees in the present.² The prospect of high wages in the second period must suffice to induce effort in the first period. If there are two levels of effort and two periods, then the wages for the winner of the tournament (the second-period gang leader) must be high enough to satisfy the no-shirking condition described by Rebitzer and Taylor (1995):

$$\Delta W = \frac{(1+r)}{\Delta P} \Delta U_1, \quad (1)$$

where ΔW is the difference in second-period salary between becoming a member of the gang hierarchy or not, ΔP is the difference in the probability that a foot soldier will make it into the gang hierarchy if he exerts high effort in the first period as opposed to shirking ($\Delta P > 0$), and ΔU_1 is the difference in first-period utility if a foot soldier is shirking gang activity vs. if the foot soldier is working hard ($\Delta U_1 > 0$; as in the first period, shirking yields more utility since there is disutility from hard work and the wage will be the same). Finally, $(1+r)$ is the foot soldier’s discount rate.

Criminologists have commonly associated present orientation with

the discount rate (r). As one study notes, “the more present-oriented the individual, the higher his or her discount rate” (Nagin and Paternoster 1994: 587). If criminals discount the future at the upper end of rates commonly estimated for noncriminal individuals (approximately 30 percent per annum, Warner and Pleeter 2001), then Equation (1) implies (given reasonable estimates for the other parameters, see below) that the premium offered to those few foot soldiers who are able to advance to gang leader would have to be astronomically high to induce impulsive “foot soldiers” to work for long periods at low wages.

By combining data presented by the Levitt and Venkatesh study with other estimates, one can (very roughly) estimate the theoretical wage premium (from Equation (1)) that would be required to induce present-oriented individuals to work hard and compare this estimate with the observed wage premium. For present-oriented individuals, the discount rate is approximately 30 percent annually. Since gang leadership changed hands only once in the four-year period, this annual rate will have to be compounded accordingly. ΔP will be estimated by utilizing the hierarchical structure of the gang. There are approximately 50 foot soldiers under a gang leader.³ If all foot soldiers have equal chances of becoming leaders, then they each have a 2 percent chance of becoming a leader within a four-year window. If a gang member shirks, he is assumed to have no chance of becoming a gang leader. Since the equilibrium wage is assumed to prevent shirking (Rebitzer and Taylor 1995), any foot soldier is assumed to have a 2 percent chance of becoming gang leader if he exerts effort. Thus, $\Delta P = 0.02$.

Estimating ΔU_1 (the difference in first-period utility if a foot soldier is not actively involved in gang activities (shirking) vs. if the foot soldier is working hard) is fraught with difficulty. This study proxies ΔU_1 by employing the added probability of death while active in the gang vs. shirking violent activities. Levitt and Venkatesh estimate that gang members value their lives at approximately \$100,000, a shockingly low number. Gang members active over the entire four-year period had mortality rates of 25 percent, while nonactive members had mortality rates below 2 percent. The estimate for ΔU_1 is thus $(0.25 - 0.02) * 100,000 = \$23,000$.⁴ This is the disutility a potential gang

member receives from the added chance of death associated with active gang participation. Finally, note that if a gang member becomes gang leader, he is assumed to stay in that position for life. This assumption is almost definitely an overestimate given the high mortality rates and job turnover described in this study, and should bias the estimates presented here toward being consistent with the present-oriented criminal assumption.

Thus, the implied wage premium ΔW is given by:

$$\frac{(1 + 0.3)^4 * 23,000}{0.02} = \$3,284,515. \quad (2)$$

The actual wage premium, however, is the present discounted value of the lifetime difference between the gang leader's wage and the foot soldier's wage. The difference in annual salaries for the two positions is approximately \$100,000 (Levitt and Venkatesh 2000). The value of a bond that pays \$100,000 annually when the discount rate is 30 percent per annum is approximately $\frac{100,000}{0.3} = 333,000$.⁵

Thus, the assumption that criminals are present-oriented is inconsistent with the wage data and structure observed by Levitt and Venkatesh. The theoretical wage premium required to induce present-oriented individuals to participate in a tournament-type wage structure (approximately \$3.3 million) is 10 times the observed wage premium (\$333,000). The gap between the theoretical and actual wages exists in spite of the fact that assumptions (such as lifetime tenure for gang leaders) were made that should bring the numbers closer together.

The observed wage structure is consistent with tournament wage premiums for individuals with ordinary discount rates (5 percent–10 percent per annum). The theoretical wage premium required for individuals with ordinary discount rate is $\frac{(1 + 0.07)^5}{0.02} * \$23,000 = \$1,507,415$ while the present discounted value of the actual premium is $\frac{\$100,000}{0.07} = \$1,428,571$. These two numbers correspond closely, especially given the necessarily rough nature of the estimates.

These quasi-empirical estimates confirm the intuition that a

tournament wage structure is strikingly dissonant with the assumption of present-oriented criminals.

III

Conclusion

IT IS EXTREMELY UNLIKELY THAT THE FOOT SOLDIERS OF THE GANG studied by Levitt and Venkatesh (2000) are super-impulsive. There are several other possibilities that can reconcile the apparent contradiction between high criminal discount rates and the Levitt-Venkatesh data, however. As with all studies of criminal data, the Levitt and Venkatesh data may not be reliable. Foot soldiers may receive more compensation than the data record, rendering the argument presented here invalid. Levitt and Venkatesh note, however, that the purpose of the data was to assist in gang management. As a result, the data are likely to be at least somewhat reliable. Moreover, to the extent that the data are unreliable, it would probably be biased in favor of high wages for foot soldiers. In other words, Levitt and Venkatesh believe that, if anything, the reported wages for foot soldiers are biased upward. If the gang leader wanted to hide his profits from other affiliated gangs, for example, then he would have incentive to overstate his expenses, including his compensation to other gang members.

Another possibility is that the gang studied by Levitt and Venkatesh is not representative of the average criminal. There is some truth to this claim. The criminals involved in drug dealing may be different from car thieves or other violent criminals, for example. They view gang membership as a career and do not appear to come from noticeably different backgrounds than average within their neighborhood (Levitt and Venkatesh 2001). Nevertheless, it seems unlikely that the foot soldiers of the gang are completely unrepresentative of the super-impulsive criminal described by DiIulio (1996) in his survey article. As suggested above, "foot soldiers" fit many of the demographic characteristics of the stereotypical super-impulsive criminal. They are young, urban, involved in a gang, deal drugs, and are commonly involved in street violence, including murder.⁶ Moreover, even if the gang members are not thoroughly representative of other street criminals, these data still cast doubt on the general theory of

impulsive criminals. Gang members are an empirically critical criminal type, accounting for approximately 20 percent of all homicides in 1997 (National Youth Gang Center 1998). Thus, the data suggest that the “super-impulsive criminal” theory of crime is incomplete at best.

There may be a way to reconcile the tournament wage structure described by Levitt and Venkatesh with impulsive criminals. Recall that ΔU_1 , the difference in first-period utility if a foot soldier is shirking vs. if the foot soldier is working hard, was very imprecisely estimated. If active participation in a gang brings psychic benefits, however, then ΔU_1 may be very low. If ΔU_1 is low enough, then the observed wage premium may be enough to induce foot soldiers to participate in the gang, even if foot soldiers are present oriented.

While this explanation helps resolve the apparent contradiction between the Levitt and Venkatesh data and the assumption of present-oriented criminals, it does impair the assumption’s value as a theory of the cause of crime. The low value of ΔU_1 (from the psychic benefits of being part of a gang) is an equally (if not more) important “cause” of gang membership and crime.

In sum, a careful analysis of the Levitt and Venkatesh (2000) study suggests that present orientation is at best an incomplete and often inapplicable theory of crime. Although the evidence presented in this research note is only suggestive, scholars should be skeptical of the present-oriented criminal theory pending further empirical investigation.

Notes

1. The theory of present-oriented criminals has also been used to derive several policy recommendations within law. For examples, see Polinsky and Shavell (1999) and Listokin (2002).

2. The need to induce high effort from the foot soldiers would appear to be a real one. Levitt and Venkatesh discuss the prevalence of street-level dealers pilfering inventory from their drug merchandise.

3. Note that there are three gang officers with intermediate ranks interposed between the gang leader and the foot soldiers. These officers receive relatively low wage premiums, however (Levitt and Venaktesh 2000), so the analysis does not change substantially if the officers’ wages are included.

4. If the probability of death in the gang is not as high as estimated here (in other words, if these years have atypically high mortality), the results

would not change substantially. While ΔU_1 would go down in these calculations, the implicit value of life would rise, so that the two effects should counterbalance each other for the purpose of the present calculations.

5. The present discounted value of a bond that pays α dollars every year *ad infinitum* when the interest rate is r is $\frac{\alpha}{1-r}$.

6. In the four years studied by Levitt and Venkatesh, violent gang wars with many fatalities were shockingly frequent.

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