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## **An Exploratory Note on Interstate Living-Cost Differentials**

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**A BRIEF EMPIRICAL NOTE ON THE IMPACT OF WELFARE  
BENEFIT LEVELS ON PROPERTY CRIME IN THE  
UNITED STATES**

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**I. INTRODUCTION**

The economic impact of welfare benefits, usually expressed in terms of aid-to-families-with dependent children (AFDC), has been studied extensively in recent years (cf. Cebula [1979], Gramlich [1989], Husted [1989], Ostrosky and Jensen [1978], Pauly [1973], Penkrot [1989], Renas [1980], Schram, Turbett, and Wilken [1988], Southwick [1981], and Stine [1988]). This note investigates the impact of AFDC levels on property crime. It is argued here that, for the poor, AFDC benefits are an alternative source of income to property crime. Consequently, higher AFDC levels should at the margin reduce the attractiveness of perpetrating property crime.

**II. ANALYSIS**

The individual welfare recipient unit may be viewed as a constrained utility maximizer. The individual unit faces a utility function such as:

$$(1) \quad U = U(X_1, \dots, X_n)$$

where  $U$  represents utility and  $X_j$  represents consumption of commodity  $j$ ,  $j = 1, \dots, n$ . Utility is being maximized subject to the budget constraint:

$$(2) \quad W + A = \sum_{j=1}^n P_j X_j$$

where  $P_j$  represents the unit price of  $X_j$ ,  $W$  represents welfare benefits, and  $A$  represents other (non-welfare) sources of income. These alternative sources of income include unreported income from criminal activities such as property crime. A second constraint can also be visualized, namely, that  $U$  must not lie below a certain minimum acceptable (to the welfare recipient unit) utility level,  $\bar{U}$ . This additional constraint is given by:

$$(3) \quad U \geq \bar{U} > 0.$$

To the welfare recipient unit, the level of  $W$  is effectively exogenous — there is no way the unit can lawfully alter the welfare benefit level. Even if the birth of an

additional child is considered, there are limits to *how often* and *how much*  $W$  can be raised. On the other hand, the value of  $A$  is presumably endogenous and can be either zero or potentially positive. If the utility constraint,  $\bar{U}$ , is violated due to an insufficient value for  $W$ , the welfare unit presumably may choose to pursue a positive value for  $A$ . Therefore, if welfare benefits are "too low", there is an incentive to perpetrate property crime. On the other hand, the higher the welfare benefit level, the lower may be the incentive to undertake property crime. This notion is in principle consistent with the finding by Brehm and Saving [1964, p. 1018] that welfare "... recipients ... react to economic incentives".

In order to investigate whether higher welfare benefit levels act to discourage property crime, we estimate the following reduced-form equation:

$$(4) \text{PRCR}_i = a_0 + a_1 \text{AFDC}_i + a_2 \text{POV}_i + a_3 \text{RENT}_i + a_4 \text{UNEM}_i + H^*$$

where:

$\text{PRCR}_i$  = total number of property crimes in area  $i$  per 100,000 population, 1980;  $\text{PRCR}_i$  includes burglary, larceny-theft, and motor vehicle theft

$a_0$  = constant term

$\text{AFDC}_i$  = aid-to-families with-dependent-children in area  $i$ , expressed as the average monthly payment per recipient family, 1980

$\text{POV}_i$  = per cent of area  $i$ 's total population at or below the federally defined poverty level, 1980

$\text{RENT}_i$  = median monthly contract rent in area  $i$  for low income families, 1980

$\text{UNEM}_i$  = 1980 average unemployment rate in area  $i$ , expressed as a per cent

$H^*$  = stochastic error term

This study deals with those 61 of the 75 largest metropolitan areas in the United States (as of 1980) for which all data were available; thus, area  $i$  refers to metropolitan area  $i$ . The principal data sources are the *Statistical Abstract of the United States* (various issues) and the *County and City Data Book*, 1983.

The basic hypothesis being tested here is the following: the higher the  $\text{AFDC}$  benefit level, the less the incentive to perpetrate property crime, *ceteris paribus*. Accordingly, we expect that  $a_1 < 0$ . Next, we include variable  $\text{POV}_i$  in the analysis to control for the potential impact of poverty per se on property crime, bearing in mind that many poor may not qualify for  $\text{AFDC}$  benefits. The variable  $\text{RENT}_i$  is included in the analysis to reflect the fact that higher rent levels for low income families reduce the real purchasing power of  $\text{AFDC}$  benefits and/or other income sources and

hence may create a greater perceived need for a supplement to those benefits, i.e., a greater perceived need to perpetrate property crime, *ceteris paribus*:  $a_3 > 0$ . Finally, the unemployment rate is included in the analysis to allow for the fact that the higher the unemployment rate, the greater the attractiveness of property crime for those who become unemployed:  $a_4 > 0$ . In this case, expected income from gainful employment declines or disappears as an opportunity cost to the expected income from property crime.

Estimating eq. (4) by OLS, using the White [1980] procedure to correct for heteroskedasticity, yields:

$$\begin{aligned}
 (5) \quad PRCR_i &= 3450.01 - 5.77 AFDC_i \\
 &\quad (-2.38) \\
 &\quad + 19.80 POV_i + 24.95 RENT_i \\
 &\quad \quad (+1.21) \quad (+4.11) \\
 &\quad + 139.65 UNEM_i, \\
 &\quad \quad (+2.76) \\
 &\quad F = 7.22, R^2 = 0.65
 \end{aligned}$$

where terms in parentheses are *t*-values.

As shown in eq. (5), the estimated coefficient on variable  $AFDC_i$  is negative and statistically significant at the two per cent level. Thus, as hypothesized above, it appears that higher  $AFDC$  levels may reduce property crime by reducing its marginal attractiveness as a source of "supplemental income".

Furthermore, alternative versions of the model yield this same conclusion. For example, we have controlled for geographic differences in income by including in the model the variable  $INC_i$ , defined as the 1980 per capita income in area  $i$ . The reduced-form equation to be estimated is now given by:

$$\begin{aligned}
 (6) \quad PRCR_i &= b_0 + b_1 AFDC_i + b_2 POV_i \\
 &\quad + b_3 RENT_i + b_4 UNEM_i \\
 &\quad + b_5 INC_i + H^{**}
 \end{aligned}$$

where:

$b_0$  = constant term

$H^{**}$  = stochastic error term

Estimating eq. (6) by OLS, once again using the White [1980] procedure to correct for heteroskedasticity, yields:

$$\begin{aligned}
 (7) \quad PRCR_i &= 3931.95 - 5.66 AFDC_i \\
 &\quad (-2.20) \\
 &\quad + 19.8 POVi \\
 &\quad \quad (+1.25) \\
 &\quad + 25.92 RENT_i + 133.56 UNEM_i, \\
 &\quad (+3.59) \quad (+2.85) \\
 &\quad - 0.064 INC_i, \quad F = 5.69, \quad R^2 = 0.64 \\
 &\quad (-0.39)
 \end{aligned}$$

where terms in parentheses are *t*-values. Note that the coefficient on the income variable is statistically insignificant. And, as shown in eq. (7), the estimated coefficient on variable *AFDC<sub>i</sub>* is (once again) negative and statistically significant at the three per cent level.

In both eqs. (5) and (7), the estimated coefficient on the *AFDC* variable is roughly -6.0. Thus, given the nature of the data, a one dollar rise in the average monthly *AFDC* level would reduce the number of property crimes by roughly six for each 100,000 population. To interpret further, a ten dollar rise in the monthly *AFDC* level, which would represent a roughly 4 per cent increase in the *AFDC* benefit, would reduce the overall property crime rate by roughly 60 per 100,000 population, which would represent a nearly one per cent decline in this crime rate.

### III. CONCLUSION

This brief note has argued that, for the poor, *AFDC* benefits may be an alternative source of income to property crime and thus that higher *AFDC* levels may serve to reduce the attractiveness of perpetrating property crime to secure additional income. This possible impact of *AFDC* levels on property crimes is not expressly examined elsewhere in the literature. In any event, the empirical findings strongly suggest that higher *AFDC* levels do in fact reduce property crime. This finding is in principle consistent with the earlier study by Brehm and Saving [1964, p. 1018], who find that "... recipients are like the remainder of consumers in that they react to economic incentives". Needless to say, the findings presented here apply only to property crime and not to crimes of violence per se.

#### NOTE

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