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RELATIONSHIP BETWEEN CRIMINALITY AND ECONOMIC CONDITIONS

Albert H. Hobbs¹

For more than a century students of social conditions in Europe and America have investigated the relationship between criminality and economic fluctuations. Most of them have concluded that the volume of crime, or of certain types of crime, is influenced by economic conditions in general or by certain aspects of economic conditions. Summaries of these studies by Bonger,² Sellin,³ and Thomas⁴ present an imposing array of supporting evidence.

This thesis could be definitely established or definitely rejected if the total amount of crime, or the total amount of certain types of crime, could be compared with the vibrations or cycles in actual economic conditions or in certain aspects of economic conditions, but neither criminality nor economic phenomena are measurable directly.

The early European studies described by Bonger rely on the prices of rye, wheat, or other cereals as indexes of economic conditions, while later studies use commodity price indexes, pauperism, wages, real wages, employment, cotton prices, pig-iron production, railroad freight ton mileage, and combinations of several items. The index of criminality may be derived from *crimes known to the police, arrests, convictions, commitments* or other available recorded data. The index of general criminality thus derived may be further divided into crimes against property, crimes against person, crimes against public order, or other subdivisions. One or more crime indexes is then correlated with one or more economic indexes.

Are the economic fluctuations described in the index a sensitive reflection of *those economic conditions which have actually affected the way of life of the persons who commit crime*? Does the index of crime mirror the changes in the *actual amount of crime* with sufficient clarity to prevent distorted conclusions? Students of these phenomena will recognize that the variables involved in connection with both series present a formidable obstacle to any affirmative

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Tables of various series of wholesale prices and of the criminal cases for this period were omitted due to space limitations. The author will be glad to answer any questions about this basic data.

² Bonger, W. A., *Criminality and Economic Conditions* Tr. by H. P. Horton, Little, Brown and Co., Boston, 1916.

³ Sellin, T., *Research Memorandum on Crime in the Depression* Social Science Research Council, Bulletin 27, N. Y. 1937.

⁴ Thomas, Dorothy S., *Social Aspects of the Business Cycle* A. A. Knopf, N. Y. 1927.

answer to either of these questions. Sellin,⁵ for example, points out that changes in the substantive criminal law may make appreciable changes in the amount and types of crime recorded. These changes in the law may take place during a period of depression to produce a misleading "rise in the crime rate" at this time. An increase in the size of the police force may "increase" the amount of crime as measured by the index, as may a series of newspaper editorials, etc. Factors which distort the relationship between the economic index and the conditions affecting the way of life of the persons who commit crime are certainly at least as prevalent as these which affect the crime index. These limitations should be kept in mind to avoid a conclusion which is *a priori* just as obvious to thinking oriented in a framework of economic determinism as the movement of the sun about the earth was to persons whose orientation was geocentric.

The indexes used in the following analysis of the relationship between criminality and economic conditions are subject to the limitations mentioned above and to others which are analyzed in Sellin's summary of similar studies. If, however, the limitations of this study are *no greater* than those of other attempts to find a relationship between crime and economic conditions, the negative findings of this study may be of some significance in keeping alive the issue of whether such a relationship actually exists in a form subject to scientific demonstration at this time.

The present study includes 10,386 cases taken directly from the dockets of the Mayor's Court and the Court of Quarter Sessions of Philadelphia for the years 1791-1810 inclusive. It includes all of the cases appearing before these courts during this twenty-year period except those involving disputes over apprenticeship and desertion. The Mayor's Court, created by act of Assembly in 1789, had the same jurisdiction in the city of Philadelphia as the Court of Quarter Sessions had in the county of Philadelphia.

The method followed in compiling the cases was that recommended by Hotchkiss and Gehlke.⁶ According to this procedure the defendant was made the unit of tabulation, each defendant being counted once no matter how many proceedings were instituted against him at any one time. One proceeding, on the other hand, may have involved several defendants and hence be counted several times. In cases where there was more than one proceeding against a single defendant, the one which went furthest in court procedure was counted. If more than one proceeding reached the same stage of court procedure, the most serious offense (according to the Hotchkiss-Gehlke classification) was counted. In compiling the

⁵ Sellin, T., *op. cit.* pp. 3-18.

⁶ Hotchkiss, W. L. and Gehlke, C. E., "Uniform Classifications for Judicial Criminal Statistics" Johns Hopkins Press, Baltimore, Md., 1931.

cases each one was recorded according to the charge, plea of the defendant, disposition of the case, and sex of the offender.

The population of Philadelphia was increasing over this twenty year period, and it is reasonable to suppose that this factor alone would cause an increase in the number of criminal cases. Without means to measure either increase directly, it is assumed that it is regular and the number of cases adjusted to the trend.

Geometric indices of the average annual wholesale prices⁷ for Farm Crops, Farm Derivatives and Industrial Consumptive Goods were taken to determine the fluctuations in economic conditions over this period. It was believed that these three classes of commodities represented better than any others available the price changes which would most directly affect the lives of the people. In dealing with fluctuations in prices it was assumed that rises indicated improving economic conditions while declines indicated poorer conditions.

Before comparing the fluctuations in criminal cases and wholesale prices it was found that the secular slope of the cases was expressed in the formula $Y = 24X$, so that on the assumption of an even increase in the number of cases to conform to the increase in population, each year would have 24 more cases than the year preceding. Over 20 years the cases averaged 514.

The cases were compiled to show the total number of alleged offenders, the number charged with committing crimes against property, those charged with crimes against persons and those charged with crimes against the public order. The sum of these three classifications does not equal the totals because in some instances the defendants were discharged by proclamation without any charge being filed, and in others the cases were transferred to the Supreme Court, for which no records were available.

After eliminating the secular trend from the stream of cases appearing before the courts of Philadelphia the series was correlated with the wholesale prices of selected commodities as indicated above. When the total number of cases was compared with the geometric indices of wholesale prices, the coefficient of correlation was found to be $+0.12$.

Those cases classed as being *offenders against property* included Larceny, Burglary, Forgery, Counterfeiting, etc. This group had a secular trend indicated by the formula $Y = 11X$, and a coefficient of correlation of $+0.06$ when compared with the wholesale prices. In spite of the fact that there is a small positive correlation between these series they moved in opposite directions in 14 of the 20 years.

Those cases classed as being *offenders against persons* include Assault, Assault and Battery, Threat, Challenge, etc. The formula for adjustment to the secular trend was $Y = 12X$ and when cor-

⁷Bezanson, A., Gray, R. D., and Hussey, M., "Wholesale Prices in Philadelphia, 1784-1861." University of Pennsylvania Press, Philadelphia, 1936. Derived from Table 42, p. 393, Part 1.

related with prices the coefficient was $-.07$.

Those appearing before the courts charged with crime against the public order include offenders charged with Keeping a Tippling House, Keeping a Disorderly House, Bigamy, Adultery, Fornication, etc. The formula for adjustment to the secular trend was $Y = 1X$ and when correlated with prices the coefficient was $+.28$.

TABLE I
Alleged Offenders of Various Categories Appearing before the Philadelphia Courts 1791-1810

Year	Total Offenders	Offenders Against Property	Offenders Against Person	Offenders Against Public Order
1791	357	128	145	70
1792	293	84	152	53
1793	240	70	134	36
1794	363	134	126	103
1795	378	129	176	73
1796	544	155	272	113
1797	319	128	141	40
1798	355	139	123	93
1799	484	175	161	149
1800	565	170	257	138
1801	715	292	290	133
1802	534	225	222	85
1803	542	214	250	82
1804	537	198	253	75
1805	522	240	217	65
1806	652	293	296	63
1807	627	258	295	74
1808	813	301	389	123
1809	633	270	312	48
1810	810	295	404	111

The total number of cases was then divided into two groups, the one including only larceny cases, the other including all cases other than larceny. The percentage sentenced in each of these categories was computed separately for each court on a yearly basis. Yearly variations of the percentage sentenced in various categories of crime are not an index of criminality in the same sense as the number appearing before the courts charged with criminal offenses, since the percentage sentenced by the courts cannot reasonably be considered as a function of the amount of criminality. Juries and judges may reflect the feeling of the community and increase the proportion of sentences for those charged with criminal offenses in times of economic stress, but these procedural interpretations of the situation are not likely to be a sensitive reflection of economic fluctuations. It is of interest, then, to find the most nearly significant relationship between "criminality" and "economic conditions" in *this* series which has little or no relation to actual criminality. The percentage of those sentenced for larceny in the Court of Quarter Sessions showed a coefficient of correlation of $-.39$ with the wholesale price series, while the figure for the Mayor's court was $+.12$. The figure for the combined courts was $-.11$. In these computations no allowance was made

for a secular trend, there being no obvious relation between the percentage of sentenced cases and increase in population.

The percentage sentenced for offenses *other than larceny* in the Court of Quarter Sessions showed a correlation of $-.23$ with prices, while in the Mayor's Court the figure was $+.23$. The percentage sentenced from the courts combined showed a coefficient of correlation of $-.01$ with the series of wholesale prices.

Another index of criminality is the number of persons committed to penal institutions. Statistics of commitments are far removed, in terms of procedure, from actual criminality, and many factors make this group a highly selective one, probably less indicative of the true status of crime in a community than those which have not reached this final state of judicial procedure. The figures for the commitments to the Philadelphia penitentiary,⁸ after being adjusted to the secular trend by the formula $Y = 7X$, showed a correlation with prices of $+.36$.

Many criticisms can be directed at the indexes which were used in this study. The index of criminality is based on cases brought before the courts, and hence is probably not as sensitive as "arrests" or "crimes known to the police." The items included in the economic index may not be representative of general economic conditions. Lack of stability of the currency of the young country, the post-war adjustments of the early part of the period, pre-war disturbances in the latter part of the period, immigration, changes in the size of the police force, changed attitudes toward crime in the growing city, and a host of other factors may well have had more influence on the *actual* criminality of the period than wholesale prices of selected commodities.

Inconsistencies in the coefficients of correlation may be accounted for by saying that some of the crime indexes are more sensitive than others, but there seems to be much more justification for concluding that the degree of relationship between various indexes of crime and economic conditions in this study is little more than fortuitous. Experimentation with lags of one year, lags of two years, including only selected portions of the period, and leaving certain of the years out of the computations change the results in a way which is amusing but not enlightening.⁹ However, if certain of these indexes of crime had been used alone, and others rationalized out of existence, it may have been concluded (erroneously) that some fairly intimate relationship existed between the crime series and the economic series.

⁸ "Report of Commissioners on the Penal Code" Harrisburg, Pa., 1828.

⁹ For example, if the index of *crimes against property* is allowed to lag one year behind the economic index, the coefficient becomes $+.30$ instead of $+.06$. The coefficient of the percentage sentenced for larceny in the Court of Quarter Sessions is $-.54$ for 1791-1800, while it is $-.39$ for 1791-1810. If the commitments are allowed to lag one year behind the economic index the coefficient becomes $+.29$ instead of $+.36$.

Commitments to the Eastern Penitentiary during these years correlated with the economic index to a degree of $+ .36$. An investigator who relied on these data for his results might infer a relationship between the items, but an examination of the percentages sentenced by the courts shows not only wide variations from year-to-year, but wide variations between these two courts of concurrent jurisdiction in the same years.

The Court of Quarter Sessions in 1793 sentenced 66.7 percent of the persons appearing before it charged with larceny, while only 38 percent of the persons so charged were sentenced in 1796. In 1795 the judges of the Court of Quarter Sessions sentenced 53.5 percent of the persons appearing before them charged with larceny, while the Mayor's Court in the same year sentenced 76.6 percent of those similarly charged. The Court of Quarter Sessions sentenced only 19.7 percent of those charged with *offenses other than larceny* in 1799, while the Mayor's Court sentenced 55.4 percent of the similar group in the same year. Apparently the difference between the rural county courts and the urban courts constitutes one of the many factors having a more significant influence upon recorded criminality than economic fluctuations, particularly as these are reflected in economic indexes.

The findings indicate that if one changes the index of criminality, the correlation between crime and economic conditions may be changed. It is likewise true that a change in the type of economic index may change the apparent relationship. As Sellin points out, Woytinsky,¹⁰ taking the same crime series as that used by Thomas¹¹ in finding a coefficient of $-.25 \pm .13$ for offenses against property without violence when correlated with a composite index (wholesale prices, commercial failures, bituminous coal production, pig-iron production, railroad freight ton mileage, bank clearings outside New York, employment in Massachusetts, railroad mileage constructed, imports), used the commodity price index of the *Statist* and found a coefficient of correlation of $+.77 \pm .07$.

The author makes no claims for the validity of either the crime or economic indexes used in this study. There are many obvious weaknesses involved in formulating conclusions based on such data, yet do not these same weaknesses attach to many of the other studies which seem to fortify the belief that the amount of criminality, or of certain types of criminality, is a function of economic conditions? If the results of such studies can be greatly modified or even reversed by changing either the crime or the economic index one wonders whether the result is the product of a greater or lesser sensitivity of the index, or of a more fortunate choice of two series which may have little inherent causal relationship.

¹⁰ Woytinsky, W. "Kriminalitat and Lebensmittelpreise" *Zeitschrift für die gesamte Strafrechtswissenschaft* 49:647-675, 1929.

¹¹ Thomas, D., *op. cit.*