

DIVISION OF LABOR, ANOMIE, AND CRIME RATES:  
A TEST OF A DURKHEIMIAN MODEL

by

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## CHAPTER I

### STATEMENT OF PROBLEM

Durkheim's theory of the division of labor has recently received a great deal of attention in social science literature. Much of this attention has been directed to the validity of Durkheim's theory in terms of the relationships among the variables of population size, moral density, material density, urbanization, and the division of labor.<sup>1</sup> However, few efforts have been made to utilize Durkheim's theory as a point of departure in the explanation of social behavior. Most notably, Merton (1938) attempted to demonstrate the relationship between anomie (following Durkheim's discussion) and deviance. A more recent effort by Webb (1972) concerns the relationship between crime and the division of labor. However, most of these studies<sup>2</sup> have ignored change as a factor in their tests or their reformulations of Durkheim's theory. A major theme in Durkheim's theory is

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<sup>1</sup> Some of the better known and more ambitious of such studies include: Clemente (1972), Clemente and Sturgis (1972), Kemper (1972), Gibbs and Martin (1962), and Land (1970).

<sup>2</sup> Land's (1970) study is an exception. His study covered a fifty year period, from 1900-1950 and was largely supportive of Durkheim's theory.

change both in his description of the transition of societies from mechanical to organic solidarity (i.e., evolutionary) and in his description of suicide (i.e., sudden change in terms of economic or domestic crises). For Durkheim change plays an essential part in social solidarity, and in turn, social behavior (e.g., anomie and suicide respectively).

Briefly, then, Durkheim's theory of social solidarity offers an explanation of how the nature of the social structure can and does effect social behavior. A primary ingredient aside from the components of social solidarity is change around which Durkheim formulated his theory of society. The purpose of this study is to examine Durkheim's theory of the division of labor in society as an explanation of the change in crime rates.

Durkheim in his writings did not specify that a relationship exists between the division of labor in society and crime. Rather his primary concern was social solidarity and crime was more or less presented in the context of explaining social solidarity. However, he did develop an elaborate sociological explanation of suicide (1951) based upon the nature of the social structure. In any case, social solidarity is apparently the center of his argument. Either too much solidarity (i.e., altruism)

or too little (i.e., anomie) or its limited presence (i.e., egoism) affects human behavior.

Durkheim's (1964) theory of the division of labor is an effort to deal with the problem of social solidarity (or threats to it). Two main types of solidarity exist-- mechanical solidarity based on similarity among individuals and a collective conscience and organic solidarity based on differentiation and interdependence (i.e., the division of labor). As societies evolve from mechanical to organic states certain changes occur in their structure. The old structure based in the collective conscience evolves into a new structure based upon the division of labor in society. In this respect, Durkheim formulated the following proposition (1964: 262):

The division of labor varies in direct ratio with the volume and density of societies, and, if it progresses in a continuous manner in the course of social development, it is because societies become regularly denser and generally more voluminous.

Thus, the main variables of this new (organic) solidarity are moral (or social) density, material (or population) density, urbanization, and population size.

In essence, what occurs as societies evolve is a transformation of the structure of societies and their basis of solidarity. However, during the transition period the potential for anomie is greater since the new collective order has not yet been established and the impact of the collective conscience is weakening.<sup>3</sup> Collective conscience has less impact as labor is divided and specialization is greater. If no new bonds (e.g., interdependence) have been established then anomie can result.

Durkheim's discussion of suicide (1951) offers a more complete description of anomie. Anomie results from any disturbance in the equilibrium of society. Two main examples are economic crises (e.g., bankruptcies, sudden prosperity, etc.) and domestic crises (e.g., divorce, widowhood, etc.). Anomie, which Durkheim describes as the lack of regulations, results not only from transformation of societies in general but also from certain transitions within society (e.g., crises). In broader terms, what Durkheim suggests is that change, especially sudden change, can lead to anomie.

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<sup>3</sup>One indicator of the decline of the collective conscience is suggested by Durkheim who contends that a decline in religiosity is a reflection of the decline of the collective conscience (Giddens, 1972: 135).

In sum, as societies change from predominately mechanical to organic solidarity the result can be either interdependence and thus greater social solidarity or greater anomie (particularly during the transition period). Anomie is especially likely if crises (economic, domestic, etc.) or if the population growth is rapid since it could hinder transition to organic solidarity. Thus a Durkheimian model of crime would have to include the elements of change. In essence, the key concern of this study is, what if the division of labor does not produce social solidarity? It is suggested that if certain conditions prevail (e.g., a high level of change) then the likelihood for crime is greater.<sup>4</sup>

To restate Durkheim, as societies become more complex reflected in greater moral and material density, population size, urbanization, the division of labor, then the potential for anomie increases if the rate of transformation is high. Anomie enhances the chance of crime since social regulations have less impact. Thus, an increase in the crime rate should coincide with an increase in the division of labor and its antecedents

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<sup>4</sup>These conditions are brought about by a high level of structural change.

particularly during the early stages of this transition or if this transition is especially rapid. The main factors, then, are the division of labor and its components, crime rates and the degree of change in these elements. It is assumed that the condition of anomie is more likely to be present if the change in the above-mentioned variables is greater. This condition in turn will be reflected in a higher rate of crime.



CHAPTER II  
REVIEW OF THE LITERATURE

Division of Labor

Durkheim was not the only, nor by any means the first, social theorist to direct his attention to the division of labor as a factor in social life. Although he may have popularized the term among sociologists there were some notable predecessors who also directed their efforts to analyzing the division of labor in society.

The first important analysis (for sociologists) was proposed by Adam Smith (1937).<sup>5</sup> He suggested that an economic system based upon a natural division of labor was best for all. Following his basic assumption that man's prime psychological drive is self-interest, Smith contended that the natural order of the universe makes all individual striving for self-interest lead to the common good. Using his famous pin-making example Smith showed that the division of labor is the cause of increased productive power of labor. This increase is the result of greater dexterity of every workman (i.e., more quantity by each), the saving of time and the use of more efficient

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<sup>5</sup> Bucher (1963) points out that Adam Smith borrowed the theory of division of labor in its essential features from the Essay on the History of Civil Society by Adam Ferguson (1767).

machinery due to new inventions and increased expertise or specialization (among machine-makers and philosophers). The increased productive power of labor leads to increased wealth which in turn encourages a greater demand for labor and thus increase in wages. All of this provides for more wealth and greater improvement of the country.

In sum, Smith proposed that man's basic psychological drive--self-interest--encourages exchange which in turn leads to a greater division of labor. Increased division of labor improves the productive power of labor which results in a greater overall wealth. Thus, a system of laissez-faire in which the natural order of things (especially the division of labor) is allowed to progress unencumbered by the government is most beneficial for all. In essence, then, the division of labor (both economic and intellectual) contributes to the good of everyone if allowed to run its natural course.

Marx also directed much of his attention to the division of labor especially in his earlier writings. In fact a careful reading of Marx indicates that he considered the division of labor as a fundamental element in the formation of classes and the development of alienation, antecedents to the violent demise of capitalism and the rise of communism. A summary of his discussion of the development of capitalism ought to clarify the Marxian approach.

Marx (1947, 1964, 1967) saw the essence of the development of capitalism in the modes of production. The earliest modes involved tribal industry in which communal property predominated. The tribal community, Marx stated, (1965: 63) is the "precondition of the joint (temporary) appropriation and use of the soil." In these pre-class societies (e.g., Asiatic, Tribal, Slavonic) the basis of the economic order is landed property and agriculture. Essentially, private property has not entered the picture yet. Nor does wealth appear to be the aim of production.<sup>6</sup> Merely production for the sake of consumption and subsistence is of primary concern. The fundamental condition for ownership of property is being a member of the tribe. At this stage the labor is still attached to the "objective conditions of its realization" (Marx, 1975). That is, the producer is still attached to the means of production. Also, the division of labor is basically natural (i.e., based upon sex).

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<sup>6</sup>That is, the pursuit of profit, which according to Marx is the essence of capitalism, has not developed. These then are essentially pre-capitalist societies. Actually according to Marx, the two key elements for capitalism seem to be private ownership and the pursuit of profit by entrepreneurs.

The next form of ownership and basic mode of production is "the ancient communal and state ownership" (Marx, 1947) which is usually an outgrowth of the formation of towns (the result of the union of several tribes into a city). The basis of property is the city rather than the land. Generally, the formation of such towns had their foundation in the warlike organization. The union of several tribes into a city gives the community an economic existence. Property ownership is still predominately communal but on a more formal and concentrated basis than in the tribal community. Control of the modes of production is essentially still in the hands of the union (city). Accumulation of wealth into the hands of a few is inhibited by the communal ownership of property and traditional economic practices. However, Marx (1964) points out that at this point antagonism between town and country (the beginning point of the whole class struggle) arises. Here the division of the population into two classes, based directly on the division of labor and the instruments of production, starts to appear. Marx stated that, "The class relation between citizens and slaves is now completely developed." (1965: 123). The beginning of the transition from landed property (e.g., communal property, feudalism, etc.) to capitalism occurs in the cities. However in this stage (monetary) wealth has not become

mobile--an important ingredient in the development of modern capitalism. Before capitalism can develop the appearance of feudalism is important. With the decline of feudalism (and with it the decline of the traditional modes of production) the appearance of capitalism is much more likely. In the feudalism setting the laborer is still tied to the land. The growth and development of capitalism depends strongly upon a free labor market from which the capitalist can draw upon and exploit. In fact, Marx (1967) indicated that the production of surplus value, the very aim of capitalist production depends upon the "free" laborer. In the feudalistic system, which Marx (1965) viewed as the third form of ownership, (landed) property is in the hands of a few (i.e., the control of the property and the labor "tied" to the property are in the hands of a nobility class). Marx (1965) described this system thusly:

Like tribal and communal ownership, it is based again on a community; but the directly producing class standing over against it is not, as in the case of the ancient community, the slaves, but the enserfed small peasantry. As soon as feudalism is fully developed, there also arises antagonism to the towns. The hierarchical system of land ownership, and the armed bodies of retainers associated with it, gave the nobility power over the serfs (1965: 126).

At this stage, the ownership of property in the towns involves the "feudal organization of trades" (i.e., the guilds) in which property consisted chiefly in the labor

of each individual. A hierarchy similar to that in the country based upon such organization, evolved in the city. During the period of feudal organization very little free labor existed. Essentially, there were the landed nobility, the serfs (both attached to the land) and in the towns there were the artisans and craftsmen who were, in essence, attached to their work in what Marx called a "slavish relationship."

During the feudal period, the antagonism between town and country emerged. Towns began to unite with other towns against the landed nobility. Class (e.g., common) interests became apparent. These associations were the outgrowth of a further extension of the division of labor (among cities) along the lines of production and commerce in which a special class of merchants was formed. A wider market, which transcended towns, was also made possible by this transition. The rise and expansion of manufacture and trade accompanied these changes. The circulation of commodities, which Marx indicated as the starting point of capital, appears. Products are produced directly for exchange in the market. This mode of production, said Marx, "is the most general and most embryonic form of bourgeois production" (1967: 32). Here, a certain accumulation of capital into the hands of a few serves as the prelude to the specifically capitalistic mode of

production. Marx suggests that this accumulation occurs at the transition from handicraft to capitalist industry. This so-called primitive accumulation of capital is, according to Marx, "the historic basis instead of the historic result of specifically capitalist production" (1967: 624). As the accumulation of capital increases there is a corresponding increase in the concentration of the means of production along with an increase in credit. The credit system (which Marx characterizes as "the humble assistant of accumulation") allows the capitalist to increase his accumulation of wealth. The devices of competition and credit provide for a greater centralization of capital. Centralization, Marx pointed out, "completes the work of accumulation by enabling the industrial capitalists to extend the scale of their operations" (1967: 627).

This whole process of capitalistic development, however, could not have developed without the appearance of free labor on the scene. The "freeing" of the agricultural worker from the land such that he is forced to "sell" his labor power. According to Marx this begins on a smaller scale during the Middle Ages. During this period, some agricultural workers (peasants) had broken away from the control of the landed nobility and migrated to the towns. However, in the towns, due to the formation

of the guilds, the workers were unable to enter the economy and were forced into vagabondage. This occurred on a more massive scale (due to evictions) as the feudal-ist system began to disintegrate such that large numbers were thrown upon the "mercy" of the mercantile class of the city. As the accumulation of capital expanded along with the growth of industry, the former peasants provided an available and exploitable labor resource (i.e., "the industrial reserve army") for the emerging capitalist. Marx pointed out that the "expropriation of the agricultur-al producer, of the peasant, from the soil, is the basis for the whole process" (1967: 716). The presence of a surplus population (an industrial reserve army) allowed for, not only the pursuit of profit, but its attainment, as well. Marx, in his theory of surplus value explains that the laborer produces more than he is paid for. In addition, the production of the worker is further cheap-ened by advanced technology and industrial techniques. Hence, the margin of profit.

The historical prerequisite for capitalism--the concentration of ownership in the hands of a class (i.e., the bourgeoisie) and the emergence of a propertyless class (i.e., the proletariat)--has been achieved. The capitalistic system consisting of its class structure based on the organization of a unit of production has



developed. Capitalistic private property, in which wage labor is treated as a commodity, has supplanted collective property. Marx summarizes this situation:

As soon as this process of transformation has sufficiently decomposed the old society from top to bottom, as soon as the labourers are turned into proletarians, their means of labour into capital, as soon as the capitalist mode of production stands on its own feet, then the further socialization of labour and further transformation of the land and other means of production, into socially exploited and, therefore, common means of production, as well as the further expropriation of private proprietors, takes a new form. That which is not to be expropriated is no longer the labourer working for himself, but the capitalist exploiting many labourers. This expropriation is accomplished by the action of the immanent laws of capitalistic production itself, by the centralization of capital. One capitalist always kills many (1967: 763).

Capitalism is the last antagonistic mode of production. Marx sees communism, the violent and revolutionary formation of a classless society, as appearing just over the horizon.

Marx, then, contended that the division of labor converts productive labor into a commodity. As shown, this is an essential element in the development of capitalism but it also results in alienation. In this respect, Marx demonstrated that his main concern, sociologically, was the impact of the division of labor upon the social structure and in turn upon the individual. Through change brought about by the division of labor the

objectification of labor results. In earlier forms of ownership the worker has control over the means of production and his product. However, as feudalism evolves into capitalism labor becomes a commodity. The worker no longer has control over his labor since now it has become a separate commodity available to be bartered in the "free market." The worker becomes related to the product of his labor as an alien object or as Marx (1961) wrote:

This fact simply implies that the object produced by labor, its product, now stands opposed to it as an alien being, as a power independent of the producer. The product of labor is labor which has been embodied in an object and turned into a physical thing, this product is an objectification of labor.

This objectification of labor is the beginning of the process that leads to the alienation of the individual from society. Marx contended that at first the worker becomes alienated from ownership of the means of production--of his life activity. Man loses control over the product of his labor as well as the life activity itself. Being alienated from his labor and its product man also becomes alienated from himself as an individual being. This, in turn, leads to the alienation of man from other men. The end result is that man becomes alienated from the capitalist system and thus is ripe for

revolution. The basis of social relations, according to Marx, is in labor. That is:

What is true of man's relationship to his work, to the product of his work and to himself, is also true of his relationship to other men, to their labor and to the objects of their labor (1947).

In sum, Marx saw the division of labor as the basis of class conflict and the alienation of man. The division of labor converts productive labor into a commodity. This process grew out of the separation of industrial and commercial labor from agricultural labor and hence the separation of town and country (the beginning of class antagonism). This separation led to the formation of classes whose interests are antagonistic. The creation of private property from the division of social production splits society into haves and have-nots, the bourgeoisie and the proletariat. Not only do antagonistic classes result but due to the objectification of labor alienation of man results as well. The only solution for Marx is to eliminate this unnatural division of labor which fosters inequality, antagonism, and alienation and in its place substitute a political economic system of communism.

Smith's discussion emphasized the importance of the division of labor in providing for the good of all. If allowed to run its natural course the division of labor could lead to greater productivity of labor and thus

greater overall wealth. Marx's discussion, on the other hand, pointed to the detrimental results of the division of labor. As societies evolve the modes of production change to the extent that the laborer loses control over his labor and in turn over his environment. Also two antagonistic classes arise which are in conflict regarding the means of production which permeate all social relationships. In short, the division of labor has a negative impact upon social relationships--bringing about class conflict and alienation--such that the only solution is its elimination. The division of labor is no longer natural, as in earlier forms of society (e.g., tribal community) but is unnatural for the contentment of mankind.

Durkheim's discussion of the division of labor is in contrast to both Smith and Marx. While Durkheim, like Smith, contends that the division of labor has positive outcomes his whole discussion of it is largely an answer to the "atomistic" approach of the utilitarians like Adam Smith. Durkheim believed society to be real; an entity separate from individuals and from which individuals attain their "reality."

In contrast to Marx, Durkheim maintained that the division of labor had positive effects (e.g., social solidarity) whereas Marx believed the division of labor

to have negative effects (e.g., conflict and alienation). Also Marx more clearly envisioned the individual reacting back upon the social structure (via revolution) and changing it. Durkheim more likely saw the individual reacting to the change in social structure by acting upon himself (e.g., suicide) or upon others (e.g., crime) rather than attempting to change society by violent or other means. However, both theories are basically evolutionary and all of these states are temporary (e.g., alienation, anomie, etc.) until they reach a more solid and secure state in which the likelihood of anomie or alienation is minimized or eliminated. Marx's approach does seem to have a more definite endpoint (i.e., communism) while Durkheim's, more or less, presumes that organic solidarity is the final stage subject to some changes as society evolves. A fuller exposition of Durkheim's ideas may better clarify the above observations.

Durkheim lived during a period of anarchy and unrest in France. Seeing the adverse effects of such a state he became interested in social solidarity and expressed this interest in the preface of the first edition of

The Division of Labor in Society in which he wrote:

This work had its origins in the question of the relations of the individual to social solidarity. Why does the individual while becoming more autonomous, depend more upon society? How can he be at once more individual and more solidary? Certainly these two movements, contradictory as they appear, develop in parallel fashion. This is the problem we are raising. It appeared to us what resolves this apparent antimony is a transformation of social solidarity due to the steadily growing development of the division of labor. That is how we have been led to make this the object of our study (1964: 37).

Thus, the concern of Durkheim was--how can social solidarity be achieved without being too restrictive upon the individual? He attempted to demonstrate this by describing the evolutionary change of societies from one form of social solidarity to another.

The form of social solidarity in less developed societies Durkheim called "mechanical solidarity." This type of solidarity is based on the collective conscience and the fact that individual's identity is the collectivity. He described the collective conscience as, "The totality of beliefs and sentiments common to average citizens of the same society. . ." (1964: 79). Law and morality bind the individual to society. Mechanical solidarity is rooted in the similarity of individuals which resulted from the impact of the collective conscience. Durkheim (Giddens, 1972: 138-39) summarized the main characteristics

of this type of solidarity thusly:

1. (Mechanical solidarity) ties the individual directly to society without any intermediary. . .
2. . . . Society is more or less a closely organized totality of beliefs and sentiments common to all the members of the group: it is the collective type.
3. It can be strong only to the degree that the ideas and tendencies common to all the members of the society are greater in number and intensity than those which pertain to each individual member. . . This solidarity can thus grow only in inverse ratio to personality. . . Solidarity which comes from resemblance is at its maximum when the collective conscience completely envelops our whole consciousness and coincides in all points with it. But, at that moment, our individuality is nil.

Organic solidarity is characterized by differentiation and interdependence and hence is rooted in the dissimilarity of individuals. According to Durkheim as societies begin to change in terms of increased material and moral density and volume there is a concomitant increase in specialization and in differentiation and finally in the development of interdependence. A new form of moral bond, replacing the collective conscience, develops among the ones who carry out different tasks. This new moral bond allows for greater autonomy of the individual while at the same time providing for greater social solidarity.

Previously the society was segmental based upon relations of lineage. This segmental character is

gradually eliminated as societies progress toward organic solidarity. The social segments lose their individuality as the boundaries among them become less marked. As more individuals are in contact with one another to the extent that they are able to act and react to one another a new solidarity begins to develop. Durkheim contended that this "dynamic" or "formal" density is in direct ratio to the progress of the division of labor. Moral density is dependent upon material density and thus both grow at the same time. Durkheim suggested that societies become progressively condensed in the course of historical development in three principal ways (Giddens, 1972: 152-53):

1. Whereas lower societies are spread over immense areas relative to the size of their populations, among more advanced peoples population tends to become more and more concentrated. . . .
2. The formation of towns and their development is an even more characteristic symptom of the same phenomenon. . . . Thus when they (individuals) multiply and expand the moral density must become raised. We shall see moreover, that they receive a source of recruitment from immigration, something which is only possible when the fusion of social segments is advanced. . . . As long as social organization is essentially segmental, towns do not exist. There are none in lower societies.



3. Finally, there are the number and rapidity of the means of communication and transportation. By suppressing or diminishing the gaps which separate social segments, they increase the density of society. . . . If work becomes progressively divided as societies become more voluminous and dense, it is not because struggle for existence is more acute. . . . Men obey the same law. In the same city, different occupations can co-exist without being obliged mutually to destroy one another, for they pursue different objectives.

Thus, the factors in the progression to organic solidarity are dynamic density and material density (aided by number and rapidity of means of communication and transportation), population increase, the formation of towns (urbanization) and the more acute struggle for existence a la Darwin. A major element in Durkheim's theory, then, is social change and its impact upon the nature of solidarity and the structure of societies. The change is not small but quite substantial as Durkheim (Giddens, 1972: 143) clearly indicated:

This social type (organic solidarity) rests on principles so different from the preceding that it can develop only in proportion to the effacement of that type. In this type individuals are no longer grouped according to their relations of lineage, but according to the particular nature of the social activity to which they devote themselves. Their natural and necessary milieu is no longer that given by birth, but that given by occupation. It is no longer real or fictitious blood-ties which mark the place of each one, but the function which he fills.

Durkheim was concerned with studying the facts of moral life (which consist of rules of action) according to the scientific method. With mechanical solidarity these facts were embodied in the collective conscience and with organic solidarity in the division of labor. The division of labor provides for solidarity by creating an interdependence among the differential members of a society.

The progression from mechanical solidarity to organic solidarity involves the increase in dissimilarity among individuals. Durkheim illustrates this change with the relationship between man and woman. During primitive times man and woman resembled one another socially and physically. The relations of parent to child took precedence over marriage relations which were easily terminated. As there is advancement to modern times the marriage relation becomes stronger, more intimate and lasting. At the same time sexual labor becomes more evenly divided. Sexual roles become more specialized. As a result of this differentiation an interdependence between the sexes develops (e.g., the joint necessity of breadwinner and housekeeper).

Durkheim said that the visible symbol of the development of modern solidarity in societies is law. There are two main kinds--repressive (penal law) and restitutive (civil law). The repressive sanctions consist of

inflicting suffering or loss on the deviant individual. Restitutive sanctions involve returning things to the way they were, to their normal state. Both of these are sanctions of the violations of obligatory rules of conduct. The repressive sanctions which emphasize punishment are more characteristic of mechanical society. A criminal act offends the collective conscience to the extent that it warrants punishment. Durkheim, in this context, defines a crime as an action that is criminal because it shocks the collective conscience. The purpose of punishment is to repress such behavior.

Restitutive sanctions correspond to organic solidarity. Such sanctions merely sentence the individual to comply with the law; punishment is of less concern. Here the main concern is with cooperation among individuals. The relations are governed by cooperative law (involving property law; contractual relations; administrative functions, etc.). Durkheim agrees with Maine in asserting that penal law occupies a greater place in the more ancient societies. Durkheim also points out that the spread of Christianity which was made up of very broad and very general articles of faith facilitated the development of free thought and the departing of penal law. However, the development of individualism and free thought did not begin

at any particular time in history but rather developed "without cessation all through history."

Contractual relations increase not only with the division of labor but noncontractual relations increase as well. The contract both recognizes and reinforces the mutual dependence of individuals.

The movement to organic solidarity and greater autonomy of the individual is not always positive. If an excessive number of options are provided to the individual then the outcomes may be negative. It could result in a breakdown of social cohesion or social integration (i.e., anomie).

Nevertheless for Durkheim the division of labor is the chief source of solidarity and is the foundation of the moral order of societies. In ancient societies the proper duty of the individual was to resemble his companions, in modern societies it is to play his role as an organ of society. The progress of society and the progress of individual personality are thus dependent upon the division of labor.

However, the division of labor does not automatically produce social solidarity and happiness. For instance, Durkheim (Giddens, 1972: 180) maintained that, "For the division of labor to produce solidarity, it is not sufficient, then, for every individual to be given a task

to perform; he has also to be suited to that task." That is, the division of labor must be spontaneous or natural in which each one can realize his nature, his needs "relative to his means." Society needs to be constituted in such a way that "social inequalities exactly express natural inequalities." In other words, the division of labor should not be "forced" but spontaneous. Otherwise the division of labor cannot provide solidarity.

Durkheim's ideas have not been without comment or criticism. Earlier analysis of Durkheim by Parsons (1937) called the attention of American sociologists to Durkheim's theories of social solidarity. Although Parsons interpreted Durkheim within the framework of the normative orientation and action framework, he did provide an important analysis of Durkheim's discussion. Parsons correctly viewed Durkheim's central concern as social solidarity as well as an answer to the utilitarians. However, Parsons (1937: 383) tended to emphasize that solidarity of individuals is, "the unity of allegiance to a common body of moral rules, of values." Actually Durkheim (1964) spoke less of common values and more of a necessity for survival (in Darwinian terms). Social change, he suggested, brings about changes in the social structure, which in turn makes necessary a new form of

solidarity. McCapra (1972: 123) recognized this element in Durkheim's thought when he made the following observations:

Durkheim argued in Social Darwinian fashion that population pressure caused an increased struggle for existence which resulted in time in the survival of the fittest. . . . This entire state of affairs for him was an aspect of transition and pathology. He envisioned a process of evolution which would eventuate in the survival of the fittest form of social structure, i.e., the normal state which would cooperatively employ the social contributions of all members of society for the common good. . . .  
 . . . Men did not choose to abandon a traditional mode of cultural integration, they were forced out of it by external conditions such as population pressure.

The earlier form is based on a collective conscience (or common value system?) and the later form upon interdependence. This interdependence is enhanced if each individual is naturally suited to his function and not "forced" into it by social consequences. Although there is a certain degree of moral obligation to fulfill one's function in society the actual incentive seems to be based upon (in Durkheimian terms) the individual (Giddens, 1972: 181), "realizing his nature; his needs relative to his means." This solidarity is further cemented by social interaction (i.e., "dynamic density").

Despite Parsons' early discussion of Durkheim little attention in American sociology was given to Durkheim's

division of labor discussion until the 1960's. Since Gibb's and Martin's (1962) analysis of the division of labor and related variables several empirical studies and conceptual analyses have appeared. Much of this discussion, in addition to being laudatory of Durkheim, pointed out several theoretical and empirical flaws in Durkheim's explanation.

One problem raised was that Durkheim was more concerned with using the concept of the division of labor as a metatheory than with developing the concept in an analytic sense. In this regard, Kemper (1972: 740) wrote:

Intellectually confronting the stability of French society during the century following the Revolution, Durkheim's major interest was to discover the grounds for social solidarity and the moderation of conflict. In the division of labor, Durkheim was a solution to the problem of social integration in a society racked both by the overthrow of the traditional political order and the dislocations unleashed by industrial growth.

That is, Durkheim used an analytical concept to answer an immediate social question. He viewed the division of labor as serving a certain political and historical need.

Not only was Durkheim concerned with the political order of the times, according to Kemper, but also with establishing sociology as an independent discipline. In doing so he rejected the atomistic explanation of the

Utilitarians who maintained that society was founded on self-interest and the propensity of individuals to exchange products of their labors. This viewpoint of Durkheim's is reflected in the following passage (1964: 279),

Collective life is not born from individual life, but it is, on the contrary, the second which is born from the first. It is on this condition alone that one can explain how the personal individuality of social units has been able to be formed and enlarged without disintegrating society.

However, this is not the most glaring weakness of Durkheim, contends Kemper. He committed the logical error in assuming that the division of labor "emerged from an earlier form of association where it was absent. Durkheim failed to consider that the ineluctable condition of human kind is interdependence and that the division of labor could have existed all along."<sup>7</sup> Thus, Durkheim did not give sufficient analytical attention to the concept of the division of labor. In fact he does not return to this concept specifically in his later works.

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<sup>7</sup>This is not entirely true since Durkheim indicated that differentiation is in terms of degree of differentiation and complexity and is not absolute.



Kemper, who suggested that the division of labor as a concept needs to be carried further analytically, followed his own directive. Briefly, he indicated that the properties of the division of labor, including interdependence, be treated as a system. In this system actors and tasks are coordinated and specialized. Group size and number of tasks involve external differentiation (i.e., "the number of different tasks, activities, or occupations in a group"), internal differentiation (i.e., "the ratio between the number of different tasks and group size"), and functional dispersion (i.e., "the ratio between actual and maximum possible variation in the assignment of actors to different tasks"). In this context Kemper (1972) suggests as a definition:

The division of labor is an arrangement of actors whose coaction is required to complete a common task or attain a common goal.

Kemper further suggested that his approach deals with both micro and macro levels of analysis in that the actors in a system of divided labor may be individuals, groups, or even societies. In sum, Kemper's argument focuses on the need for treating the concept more analytically with emphasis upon interdependence. Although powerful, Durkheim's explanation falls short because of its polemic quality. A result of this is that many of the elements of Durkheim's treatment of the concept are

difficult to clarify and measure. In addition, the relationships among the variables as specified by Durkheim have not always held up under empirical scrutiny (Clemente and Sturgis, 1972; Childers, et al., 1971).

Durkheim, as reviewed earlier, indicated that with an increase in population size, moral (or dynamic) density and material density there is also an increase in specialization and differentiation of tasks (i.e., the division of labor). However, Clemente and Sturgis (1972) could only find similar relationships between social density and the division of labor. Tests of relationships between population size and division of labor (MID), moral density (i.e., proportion of individuals employed in transportation and communication activities) and the division of labor, and age of community resulted in no support for these relationships.

Clemente and Sturgis offer reasons for the nature of their findings. One reason given is that the data refer to the political rather than the ecological community. The result is an (1972: 180) "overweighting of the manufacturing sector of the industrial structure since commuters who reside outside the city limits tend to be employed in non-manufacturing activities." They suggest that future research might involve units other than cities.

A second reason offered is that there may be more of a division of labor among communities than within due to greater technological efficiency. A third reason involves the difficulty in operationalizing the division of labor. The authors suggest that it may be much more complex than indicated in the measure of industrial diversification (MID).

Childers, et al., (1971) found in their study of military organizations that the larger organizations had a greater number of occupations but were more internally homogeneous than small ones. In other words, the greater the size of the organization, the less the specialization of occupations within organizations. This finding, coupled with their finding of a positive correlation between systems size and external structural differentiation suggest that the systems are pressured on the one hand toward differentiation and on the other toward increased homogeneity. Childers, et al. suggest that rank differentiation and continuity in operational systems operate as "countervailing forces."

Several other empirical studies of the division of labor have been conducted which lend, to different degrees, support to Durkheim's theory. One of the more notable and comprehensive efforts was made by Land (1970) who mapped a complex model consisting of algebraic and differential

equations. Following Durkheim's basic model, with emphasis upon "dynamic density" and competition as essential elements, Land conducted a mathematical analysis.

Land restated Durkheim's dynamic density in terms of the number of interactions in a society per unit of time or the number of interactions/time. Material density is the product of the levels of population size, urbanization, and efficiency of the technology of communication and transportation. Following Durkheim's assumption that material density can be used to measure dynamic density Land measured dynamic density thusly:

$$\frac{\text{Number of interactions}}{\text{Time}} \quad (\text{dynamic} = K \times \text{the population in the density})$$

urban areas x efficiency of communication and transportation, where K = a constant representing the rate at which the concentrated portion of the population utilizes the means of communication and transportation for interaction (the rate of use of means of communication and transportation/time).

The division of labor is defined as, "the degree of differences among members with regard to their sustenance activities." Land restated Durkheim's model mathematically and tested it empirically for the period from 1900-1950. Basically the data support the model. The relationship between density and the division of labor is approximately

linear for the United States from 1900-1950. He suggests that a longer time series of observations may be more conclusive.

On the theoretical side, Land points to a major problem--the lack of specification of the theoretical relationship of competition to density and the division of labor. Also there is the failure of the Land-Durkheim model to specify rules of correspondence of the concept to some operational procedure.

Nevertheless, an important feature of Land's analysis is his effort to demonstrate (both conceptually and empirically) the link between increased size and density, increased competition, and increased division of labor.

Gibbs and Martin (1962) provide one of the earlier empirical analyses involving Durkheim's concept of the division of labor. They tested the link between the degree of urbanization, the division of labor, the dispersion of objects of consumption, and the level of technological development. This link is based, in part, on the assumption that (1962: 668) "a high degree of urbanization depends on widely scattered materials and represents the type of spatial organization necessary for acquiring them." Only through the division of labor and

advanced technology is a city able to bring material from great distances.

Two types of dispersion of objects of consumption are specified: (1) internal dispersion which refers to "the average distance between the points of origin of raw materials and the points at which the materials are consumed. . ." and (2) external dispersion which is the "average distance between the points when the origin is outside the society." One dimension of the division of labor is derived from the fact that different objects are being produced. This dimension is occupational differentiation. Another dimension is specialization of occupations reflected in the necessity of specialized occupations for transportation and communication. These factors coincide with advances in technology. Not only is there occupational differentiation and specialization but the division of labor also involves functional interdependence.

The results of analysis of 45 countries show consistent relationships among urbanization, the division of labor, the level of technological development, and the dispersion of objects of consumption. The data, thus, indicate that (as postulated) both the division of labor and technological development are more closely related to large-scale urbanization than to small-scale urbanization.

Other studies provide similar results. Labovitz and Gibbs (1964) found that close direct relations hold among technological efficiency, urbanization, and the division of labor. However, this study merely shows that efficiency is enhanced by the division of labor and does not deal with social solidarity. Similar results were reported by Gibbs and Browning (1966) who included size of productive associations as a factor. Again efficiency and the division of labor showed close relationships suggesting that such studies are more clearly a test of Adam Smith's (1937) pin-making factory illustration than Durkheim's theory of social integration.

Browning and Gibbs (1971) more closely approximate Durkheim's thesis in their study of intraindustry division of labor. Their analysis indicates that concentration of the labor force territorially is related to population size and the division of labor.

The various analyses of Durkheim's concept of the division of labor point to both the strength and weaknesses of his idea. Parsons (1937) called attention to Durkheim's concern with social solidarity and how the division of labor is a mechanism to achieve it. Also, he indicated that Durkheim's discussion was somewhat of a polemic aimed at utilitarians. The metatheoretical nature of Durkheim's explanation is also pointed out by Kemper (1972) who

argued for a more analytical approach to the division of labor. However, more importantly, contends Kemper, is that the division of labor and interdependence did not "evolve" as Durkheim argued but that such are inevitable conditions of humans which could have existed all along. Clemente and Sturgis (1972), in an empirical analysis, found a relationship between only two of the variables (density and the division of labor) specified by Durkheim. Childers, et al. (1971) found an inverse relationship between size of organization and specialization.

However, not all studies have been critical of Durkheim. Land (1970) in an elaborate analysis of a Durkheimian model found that, in large part, the relationships are as specified by Durkheim. Land's study is also of interest because he included the factor of social change by testing the relationships within the time context of 1900-1950 in the United States. Theoretically, Land suggests a greater specification of competition and dynamic density as variables in a Durkheimian model.

Gibbs and Martin (1962), Labovitz and Gibbs (1964) and Gibbs and Browning (1966) focused upon technological efficiency and the division of labor. Seeming to be more closely tests of Adam Smith's theory these studies demonstrated a close relationship between technological efficiency and the division of labor. In their analysis,



as well as in the other studies reviewed above, social solidarity tended to be ignored (at least empirically).

The inconclusiveness of the findings (in terms of supporting or refuting Durkheim) may be in part due to ignoring social solidarity as a factor. Without the inclusion of this factor (i.e., social solidarity or integration) a true test of the Durkheimian model has not yet been made. Instead the studies focused upon differentiation of occupations and excluded interdependence. Basic to Durkheim's explanation is what holds societies together as their elements become more specialized. Although not always ignored theoretically this dimension of Durkheim's argument was ignored empirically.

In addition, the studies may have had difficulty bridging the gap between theory and research. As Clemente (1972: 30) pointed out:

. . . one is constantly faced with the question of whether the variables one employs in empirical investigation are really accurate indicators of the concepts presented in one's theoretical scheme.

This seems to be especially the case with the division of labor. As indicated earlier, this concept involves two main dimensions: differentiation (or specialization) and interdependence. The measure utilized in the aforementioned studies of the division of labor is actually a measure of "functional dispersion," according to

Clemente (1972). There is a great deal of difficulty in obtaining data which is indicative of the absolute number of unique functions which exist. But functional dispersion (i.e., the actual distribution of individuals among sustenance producing activities) was measured by Gibb's and Martin's MID which involves a ratio of the number of persons in each functional category.

Despite such shortcomings and difficulties these studies have brought about a renewed interest in Durkheim's theory of the division of labor as an important explanation of social behavior. They are conscientious efforts to empirically come to terms with Durkheim's theory and thus offer an important foundation for further analysis.

However, these efforts have only scratched the surface of potential of sociological testing of Durkheimian theory. The testing of relationships among the division of labor and its antecedents ignores the major importance of Durkheim's theory. Viewing his work more broadly one sees that Durkheim provided sociologists with an explanation of the relationship between social structure and social behavior. That is, a careful reading of two of Durkheim's classics--The Division of Labor in Society and Suicide indicate that the factors of social change, social integration (and disintegration), and social pathology are essential ingredients in his theory.

Division of labor is not social solidarity itself<sup>3</sup> but a means to social solidarity. Unless it reflects natural differences and not social differences its cohesive function is limited (if not negative). Social change can also limit the effectiveness (especially if it is too rapid) of the division of labor such that anomie results rather than solidarity. Whether society is well-integrated (and to what extent) can have an impact upon individuals. In short, Durkheim's model suggests a relationship between the degree of social integration and social pathology.

### Anomie

Durkheim discussed anomie in two different contexts: as a possible outcome of the abnormal development of the division of labor and as a result of a disturbance of the collective order which explained a variety of suicide.

The division of labor, according to Durkheim (1964: 406), produces solidarity because, "it creates among men an entire system of rights and duties which link them together in a durable way." However, the division of

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<sup>3</sup>LaCapra (1972), for instance, made a similar observation:

It was not the division of labor per se which created either solidarity or disorder, but the nature of the division and the way in which it was institutionally organized.

labor, he points out, may not always produce social solidarity--it may at times have "different even contrary results" (1964: 353). This outcome is especially likely if the development of the division of labor is too swift or extensive. As societies are transforming from mechanical solidarity to organic solidarity there is a period of time, a transition period, in which the impact of the collective conscience is weakened and the organic solidarity has not yet become fully established. Although there is a gradual shift from mechanical to organic and the changes of cohesive structure are parallel there is no guarantee that this transition is always one-to-one. The probability for anomie is greater at this time since as labor is divided the role of the collective conscience diminishes. But divided labor alone is not enough for a "system of rights" must be created and they must be just so that competition among individuals is equal. Without such rules the cohesive function of divided labor is muted; a state of anomie results from the division of labor rather than social solidarity.

The development of such rights and duties follows a, more or less, natural course. In this regard, Durkheim (1964: 365-66) wrote:

Moreover, in the normal state, these rules disengage themselves from the division of labor. They are a prolongation of it. Assuredly, if it only brought together individuals who united for some few moments to exchange personal services, it could not give rise to any regulative action. But what it brings face to face are functions, that is to say, ways of definite action, which are identically repeated in given circumstances, since they cling to general, constant conditions of social life. The relations which are formed among these functions cannot fail to partake of the same degree of fixity and regularity. There are certain ways of mutual reaction which, finding themselves very conformable to the nature of things, are repeated very often and become habits. Then these habits, becoming forceful, are transformed into rules of conduct. The past determines the future. In other words, there is a certain sorting of rights and duties which is established by usage and becomes obligatory. The rule does not, then, create the state of mutual dependence in which solidary organs find themselves, but only expresses in clear-cut fashion the result of a given situation. In the same, the nervous system, far from dominating the evolution of the organism, as we have already said, results from it.

That is, the cohesive function of the division of labor develops out of relations among the various social functions. Eventually, out of habit rules of conduct develop from actions and reactions among individuals in certain social functions. If these functions are disparate and unconnected or are in conflict (for survival) with one another then anomie results, if not then anomie does not result. For instance, Durkheim (1964: 363) pointed out:

Since a body of rules is the definite form which spontaneously established relations between social functions take in the course of time, we can say, a priori, that the state of anomy is impossible wherever solidary organs are sufficiently in contact or sufficiently prolonged. . . .

. . . For the same reason that exchanges take place among them easily they take place frequently; being regular, they regularize themselves accordingly, and in time the work of consolidation is achieved.

Furthermore, not only must there be close relations among these functions but these relations must be regular or continuous. Any interruption of this state enhances the possibility of anomie.

Finally, the individual must perceive his social function as meaningful to himself and to society. Not only do relations need to exist and exist regularly but they also need to provide the individual with a sense that he is more than a machine-like functionary. Durkheim's explicit statement on this point is noteworthy. It reads (1964: 372-373):

The division of labor presumes that the worker, far from being hemmed in by his task, does not lose sight of his collaborators, that he act upon them, and reacts to them. He is, then, not a machine who repeats his movements without knowing their meaning, but he knows that they tend, in some way, towards an end that he conceives more or less distinctly. He feels that he is serving something. For that, he need not embrace vast portions of the social horizon; it is sufficient that he perceive enough of it to understand that his actions have an aim beyond themselves. From that time,

as special and uniform as his activity must be, it is that of an intelligent being for it has direction, and he knows it.

This point by Durkheim is connected with his comments on the forced division of labor in which he foresees the importance of divided social functions not only for society but for the individual as well. Labor that is merely divided does not enhance solidarity if the social relations are limited, irregular, meaningless, and "forced." The latter condition is present if social inequalities and natural inequalities do not coincide. Labor needs to be more than merely divided, it needs to be divided spontaneously. Durkheim explains what he means by this term as follows (1964: 377):

But by spontaneity we must understand not simply the absence of all express violence, but also of everything that can even indirectly shackle the free unfolding of the social force that each carries in himself. It supposes, not only that individuals are not relegated to determinate functions by force, but also that no obstacle, of whatever nature, prevents them from occupying the place in the social framework which is compatible with their faculties. In short, labor is divided spontaneously only if society is constituted in such a way that social inequalities exactly express natural inequalities.

Thus, with his discussion of "forced" division of labor Durkheim adds a dimension to his theory of social solidarity often overlooked by contemporary commentators. Organic solidarity requires more than external constraint.

Rather it is aided by the functions being meaningful to individuals and being "spontaneously" allocated. Rules alone or force cannot produce solidarity since injustices are potentially inherent in both which promote disruption and anomie. Durkheim makes this point clearly in the following passage (Giddens, 1972: 179-180):

It is not enough for there to be rules, however, for sometimes the rules themselves are what is at fault. That is what occurs in class-wars. The institution of classes or of castes constitutes an organization of the division of labor, and it is a strictly regulated organization; but it is often a source of conflict. The lower classes not being, or no longer being, satisfied with role which is theirs by custom or law, aspire to functions which are closed to them and seek to dispossess those who are exercising them. Thus civil wars arise which are due to the manner in which labor is distributed.

Labor must be divided naturally and social relations must proceed along a natural course continuously and rules must arise naturally from this process. However, Durkheim's theory is not blatantly laissez-faire. Society plays an active role in this process. Its purpose is to provide regulation without imposing or reinforcing social inequality. The natural process alluded to by Durkheim is a natural social order rather than a natural physical or organic-psychic order. Rather, society must dominate nature in order to ensure this natural social process. That is, "The task of the most advanced societies is, then,



a work of justice" (1964: 337). The external condition of competition must be equal for this justice to be present. Durkheim's utopian-like comments in the latter part of The Division of Labor in Society (1964: 407-408) especially reflect these sentiments:

. . . what characterizes the morality of organized societies compared to that of segmental societies, is that there is something more human, therefore more rational, about them. It does not direct our activities to ends which do not immediately concern us; it does not make us servants of ideal powers of a nature other than our own, which follow their directions without occupying themselves with the interests of men. It only asks that we be thoughtful of our fellows and that we be just, that we fulfill our duty, that we work at the function we can best execute, and receive the just reward for our services. The rules which constitute it do not have a constraining force which snuffs out free thought; but, because they are rather made for us and, in a certain sense, by us, we are free. . . . In deed, a moral code is not above another because it commands in a drier and more authoritarian manner, or because it is more sheltered from reflection. Of course, it must attach us to something besides ourselves but it is not necessary for it to chain us to it with impregnable bonds.

Durkheim's discussion of anomie in The Division of Labor illustrates the complex conditions which must exist in order for divided labor to produce solidarity. In a sense, it reflects more clearly Durkheim's metatheoretical concerns rather than the actual state of society. In any case, anomie is more likely if the conditions discussed above are present in society. Since these conditions

develop gradually, as the collective conscience recedes and divided labor expands, then the chance of anomie is greatly enhanced during this delicate transition period. If this transition is interrupted or sudden (as Durkheim implies in Suicide) then anomie can easily result. There is a breakdown of social cohesion since social relations are disrupted or "forced."

With his discussion of anomie in The Division of Labor in Society, Durkheim laid the ground work for his discussion of anomie in Suicide. He demonstrated that any disruption of social solidarity can be detrimental to the social order and that this disruption is related to social change. Eventually societies will probably attain a state of order but during the transition period anomie is a clear likelihood. In addition, he indicated that merely divided labor does not ensure solidarity but this labor must be divided in a just manner allowing every individual to realize his potential. Social relations must also be frequent and regular.

In Suicide, Durkheim expands his discussion of anomie to show that the nature of the social structure has an impact upon behavior of individuals. If it is too well integrated then altruistic and fatalistic suicide are likelihoods, if too little integrated or lacking in integration then anomic and egoistic suicide are encouraged.

Too much as well as too little solidarity can be detrimental to society and to individuals.

Here, Durkheim speaks less of evolutionary change and more in terms of sudden changes especially economic and domestic crises. These crises disturb the collective order such that the scale is upset. A new one has not yet been improvised to regulate behavior creating essentially the same condition often present during the transition period from mechanical to organic solidarity. Again, change in the elements is a catalyst which delays or disrupts the development of the collective order. The result of a change in the social structure is frequently an increase in the occurrence of an apparently psychological phenomenon--suicide. More than just an explanation of behavior Suicide is an explanation of an increase in the occurrence (or rates) of such behavior.

Durkheim systematically and ruthlessly eliminates psychological, racial, hereditary, cosmic factors and imitation as explanations of the suicide rate using statistical data. He then differentiates the social types of suicide by classifying them by the causes that produce them. Examining the statistical data he learned, for instance, that suicide rates differed among Protestants, Catholics, and Jews, and concluded that more suicide among Protestants was due to their church being less

well-integrated. In such a society the individual ego exerts itself to excess. The weaker the group the less the individual depends on the group and the more he depends on himself. He is left without reason to live since society's existence is no longer felt. The result, in this case, is egoistic suicide.

On the other hand, altruistic suicide is the result of insufficient individuation. The person takes his own life because he feels it is his duty. Such a state is altruism in which (1951: 221),

. . . the ego is not its own property, where it is blended with something not itself, where the goal of conduct is exterior to itself. . . .

This type is more likely among more primitive societies or the military in which the supremacy of the group overwhelms the individual. While egoistic suicide is an act of despair and depression, altruistic suicide is one of hope and sense of duty. Altruistic suicide is less likely in modern complex societies except in such groups as the army.

Durkheim discusses anomie in Suicide in terms of needs and means--that is, the discrepancy between them. For happiness, an individual's needs have to be related to his means--". . . if his needs require more than can be allocated to them or even merely something of a different

sort, they will be under continual friction and can only function painfully" (1951: 272). Thus there ought to be some bounds to an individual's pursuit of his needs. This barrier, for Durkheim, is in the form of moral rules and regulations. In another context he writes eloquently of this situation (Giddens, 1972: 173):

The totality of moral rules truly forms about each person an imaginary wall, at the foot of which the flood of human passions simply dies without being able to go further. For the same reason--that they are contained--it becomes possible to satisfy them. But if at any point this barrier weakens these previously restrained human forces pour tumultuously through the open breach; once loosed they find no limits where they can stop. They can devote themselves, without hope of satisfaction, to the pursuit of an end that always eludes them. . . . For man to see before him boundless, free, and open space, he must have lost sight of the moral barrier which under normal conditions would cut off his view. He no longer feels those moral forces that restrain him and limit his horizon. But if he no longer feels them it is because they no longer carry their normal degree of authority, because they are weakened and no longer as they should be. The notion of the infinite, then, appears only at those times when moral discipline has lost its ascendancy over wants; it is a sign of the attrition that occurs during periods when the moral system which has prevailed for centuries is shaken, and fails to respond to new conditions of human life, without any new system having yet been formed to replace that which has disappeared.<sup>9</sup>

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<sup>9</sup>This quote is from Giddens's (1972) translation of Durkheim's L.' education Morale, 1925.

What usually causes these rules to lose their authority is a sudden change--such as an economic or domestic crisis--which releases the moral obligation to adhere to these rules. Desires and needs exceed the means available. It is not so much a lack of norms as it is a lack of moral obligation to adhere to these norms. When the collective order is disturbed it is temporarily incapable of exerting its influence until a new scale is improvised. Thus, anomie suicides result from (1951: 253) "man's activities lacking regulation and his consequent sufferings." The individual is, so to speak, left without a "check-rein."

Durkheim's conclusions on the connection between social disorganization (anomie) and individual disorganization (suicide) were derived from his observations of suicide rates among divorced persons and widows and economic occupations. In conjugal anomie, for instance, the rate of divorce is symptomatic of the disruption that has occurred in the stability of domestic relationships. The moral obligation of marriage, albeit temporarily, has been set aside. The same with rapid economic change--sudden affluence or poverty can result in temporarily disrupting the collective order. These changes are not significant because they involve poverty or affluence but because they interrupt the restraining influence of society. Thus,

those individuals who are faced with a disturbance of the equilibrium between themselves and their surroundings react with anger and with disappointment associated with it. This condition, explained Durkheim, often results in a (1951: 269),

. . . state of exasperation and irritated weariness which may turn against the person himself or another . . . (e.g., suicide or homicide).

Without certain societal constraints individuals pursue their needs and desires in infinity. Society defines and orders such pursuits by moral regulation but if it is disrupted then anomie results. People continue to pursue their needs but without regulation (or moral obligation to these regulations) to the extent that they are never satisfied. The end result of such dissatisfaction and disappointment often is to react by striking out against oneself or others.

Durkheim's discussion of anomie division of labor (1964) indicates that during the transitional phase to organic solidarity traditional moral bonds have receded in influence yet no new moral regulation has fully developed to take its place. The result is a breakdown due to relations not being regulated. Occupational differentiation has destroyed the integrity of the community. If this differentiation is such that the varied social functions

have not adjusted to one another then a state of anomie is very likely. In order for divided labor to be cohesive relations among the social functions must be regulated, close, regular, and meaningful. Unless the division of labor is spontaneous (i.e., individuals must be able to fill social functions in accord with their abilities in order to accept them as legitimate) which enhances the moral obligation of the individual to his respective function. In addition, Durkheim seems to perceive industrial advancement and certain of its corollaries (e.g., affluence, bankruptcies, etc.) as a major "determining" element for anomie. He mentions economic crises in both Suicide and The Division of Labor as precipitates of anomie. These crises are bound up in industrial progress since the likelihood of their occurring increases as industry expands. Also Durkheim discusses the division of labor as a division of occupations (Giddens, 1972: 143) and offers as a solution to anomic division of labor a "corporate system of occupations." Thus industrialization is closely tied in with the development of anomie. Durkheim seems to say that in an industrial society the collective conscience is unable to exert the same type of influence as it exerted in segmental groups. Rather a new form of social cohesion is necessary in a society becoming increasingly industrialized--a new form which must be



based in divided labor, the most common element connecting men to men. If this system of divided labor provides for close, continuous, interdependent relationships then it is very cohesive. If due to the transition being too rapid or some disruption of the process, the division of labor does not then produce social solidarity; instead anomie results. Until a new scale is improvised which can provide moral regulation then anomie will continue.

In Suicide, Durkheim demonstrates one outcome of this state--namely an increase in the rate of suicide. This study's aim is to examine another probable outcome--an increase in the crime rate. However, Durkheim's discussion of anomie and its relationship to social behavior is not the only effort. More recently Merton (1933) discussed anomie as a factor in deviance. Contending that anomie results from a disjunction between culturally prescribed goals and socially institutionalized means for attaining these goals Merton demonstrated that individuals react to such a state by either conforming or adjusting in either of four different ways: innovation (i.e., accept goals but not means), retreatism (i.e., reject both goals and means), rebellion (reject both goals and means and substitute new values), ritualism (accept means but not goals). In American society conditions are especially conducive to anomie. There is an emphasis upon success

goals but not a clear-cut emphasis upon means for achieving them. This condition is especially acute among the lower class. In America success is a goal for all classes but the means are not equally allocated. Lacking means commensurate with those of other classes lower class individuals are more likely to opt for a deviant mode of achieving success, especially innovation. In any case, Merton contends that a disjunction between goals and means results in anomie and this condition in turn leads to deviant adaptations among individuals.

In later writings (1938; 1957; 1964) Merton modified his theory slightly but the basic format summarized above has remained. Although Merton indicates that his formulation grew out of Durkheim's theory he ignores a basic element of Durkheim's explanation--social change. Merton's analysis is basically ahistorical in which no discussion of social change is systematically included. He doesn't indicate how anomie comes about--merely what anomie is. His basic argument is that anomie results from the lack of clear-cut means provided by the social structure for the achievement of strongly emphasized success-goals. Individuals adapt to such a state by engaging in some type of deviant behavior. In effect, he shows how the social structure influences individual behavior. It seems that Merton has neither added to nor improved much upon

Durkheim's theory other than offer certain "modes of adaptation" as a classification of deviant behavior. Actually there is some doubt, at least according to Scott and Turner (1965), that Merton's theory is a development of Durkheim's work. Rather, they contend that it is actually a continuation of Weber's work. One difference Scott and Turner note between Durkheim's theory and Merton's is that (1965: 234), "Merton conceives of anomie as a chronic condition; Durkheim, as an acute fracturing in the social world." Instead, Merton's discussion of pecuniary success and deviant adaptations seem more akin to Weber's discussion of the Protestant ethic and his four types of social action. Concerning the former, Scott and Turner (1965) write:

Weber's Protestant ethic is a study of individuals--thrown back on themselves--in pursuit of a goal whose achievement would never be known: salvation. For salvation, Merton substitutes pecuniary success.

Scott and Turner also see parallels between Merton's modes of adaptation and Weber's four types of social action. For instance, Merton's "conformity" mode bears a close resemblance to Weber's traditional action. Traditional action concerns "the habit of long practice" and is part of the "world-as-taken-for-granted" and routine. Merton's conformity mode reflects the same essence of habit and

routine acceptance. Zweckrational conceived in terms of "expediency," of what is necessary to win whatever the means is equivalent to Merton's "innovation." Wertrational is associated with norms legitimacy--a belief in the absolute value of a form of behavior for its own sake-- is related to "ritualism" in which one compulsively adheres to institutional norms. Affectual action concerns the "specific affects and states of feeling of the actor" relates to Merton's retreatist mode of adaptation. No parallel was found to Merton's rebellion mode.

However, the authors note a crucial difference in Merton's and Weber's method of theorizing. They write, (1965: 239)

Whereas Weber has taken the belief system of identifiable groups, and has treated of their natural history--following their logic where it led the social actors involved--Merton takes stereotypical culture contents (e.g., that Americans are devoted to material success) and uses them as though they were appropriate 'scientific descriptions of a society.'

In essence, it does appear that there are several differences between Merton's formulation and Durkheim's. Although both focus upon the social order Merton tends to concentrate more so upon the adaptations of individuals. Merton seems to skim over the concept of anomie and discusses it in terms of a "disjunction" between cultural structure and social structure without offering a reason

why other than a vague alluding to conflict of norms. He doesn't indicate first of all how these norms arise, how they become conflictual, and how anomie results. For all we know from Merton's discussion is that anomie has always been here and will always be here. More reasonably, Durkheim argues that anomie comes from a temporary but sharp disruption of the collective order resulting in a lack of regulations or adherence to moral regulations, which by the way, arise from the division of labor. However, Merton's effort to provide a sociological answer to the psychological theories of deviant behavior of that day (see Scott and Turner) ends up, essentially, as a psychological explanation. Focusing upon actors and their adaptations Merton offers an explanation of why individuals engage in deviant behavior which is largely related to inadequate internalization of the norms and values. It is not changes in the social structure itself which brings about deviant behavior (or an increase) but due to the actor not properly assimilating society's norms. More sociologically, Durkheim centers his argument upon society and the changes in society which, in turn, bring about an increase in deviant behavior (or decrease). Scott and Turner (1965: 236) offer an explanation of why such a discrepancy in Merton's and Durkheim's argument. It reads:

If Merton is not using Durkheim's conception of anomie and if Durkheim's influence cannot be found in this essay, how might we account for the invocation of Durkheim? We might shed light on this question by considering that Merton wrote this essay in 1938 as a polemic against the individualistic, psychological (especially Freudian) explanations of deviant behavior so prevalent at the time. Thus the essay begins as a polemic against a psychological theory of deviance and ends with a sociological theory.

Seeking to find a sociological explanation Merton invokes the sociologist who claimed that society was a reality sui generis and utilizes one of his distinctively sociological concepts. The concept of anomie--both Merton and Durkheim insist--refers not to the individual but to the social order. But that is where the similarity ends: Merton's essay, as we have indicated, bears scant relevance to Durkheim. Merton, in short, has staged Hamlet without the Prince of Denmark.

Nevertheless, Merton's 1938 article, "Social Structure and Anomie" has probably generated more comment and empirical study than any other single writing in American sociology. A comprehensive bibliography (Cole and Zackerman) of empirical and theoretical studies of anomie show that since 1938 about 85 empirical and 90 theoretical studies have appeared. Of these, 12 of the empirical studies were direct tests of Merton's theory and 25 theoretical studies were specific analyses of Merton's theory. In general, the empirical studies are supportive of Merton's theory. However, some researchers (Rushing, 1971; Meier and Bell, 1959) claim that it is more closely a measure of Merton's "retreatism" than normlessness. Thus,

it seemingly is a measure of one or Merton's modes of adaptation than a measure of anomie.

Probably the most important contribution of Merton's work is that it has generated a great deal of debate concerning anomie and social behavior. It also offers an important analysis of deviant behavior, above criticisms notwithstanding. The main objection is the frequent mention of Merton's theory as an extension or improvement upon Durkheim's explanation. In short, Merton merely discussed the relationship between a static anomic condition in society and adaptations to this condition, ignoring that if such a condition long prevailed society would be in a shambles. Durkheim, on the other hand demonstrated how this condition arises and how it moderates or how it can be alleviated. Furthermore, he does not base his analysis on stereotypical observations of one society (i.e., success-goals in American society) but upon empirical and analytical observations applicable to different societies (especially industrial) within an historical context. Societies are not static--they change and, in turn, individual behavior therein. They are dynamic entities involving more than sets of norms and goals but "real" elements such as population, divided labor, social interaction (e.g., "dynamic density"), competition, conflict, etc., as well. Crime is not an abnormal

adaptation by improperly socialized individuals. Instead it is an expected part of any society, only when it reaches abnormal proportions is it unusual. With Merton's theory explanations of crime rates in terms of the nature of the social structure are untenable. In effect, how do you measure an "adaptation," or a "norm"? Durkheim realized the difficulties of measuring such variables when he suggested using divorce rates and bankruptcies as indicators of anomie. Such behavior is symptomatic of anomie since it reflects the disruptive nature of the social order. Thus, as an extension of Durkheim's theory, Merton's effort falls short. It more clearly serves as a distinct effort which generated its own body of literature. For this reason only studies relevant to Durkheim's theory will be reviewed.

Several efforts to interpret Durkheim's discussion of anomie point to the lack of regulations as the defining element. Dohrenwend (1955: 472) saw Durkheim's anomie as being characterized by a state of "deregulation" in society and is distinguished from egoism, altruism, and fatalism as it is "marked by the absence of norms altogether." Wallwork (1972: 103) views Durkheim's discussion as an analysis of the collapse of regulations in the industrial sector of society in which there is a "lengthy period of unregulated economic activity, immoral economic behavior,



and widespread anomie." Giddens (1971) tends to agree suggesting that Durkheim believed anomic suicide to be derived from the lack of moral regulation typical of modern industry. He continues (1971: 103) that according to Durkheim,

Anomie is present in the occupational system in so far as moral integration is lacking at the 'modal points' of the division of labor--the points of conjunction and exchange between different occupational strata.

Giddens also recognizes another important element in Durkheim's work--the historical nature of man, that is, "the present opposes itself to the past, yet derives from and perpetuates it." This introduces social change into the analysis since the examination of history inevitably includes change. The introduction of change provides an explanation for the origin of anomie. As Angell (1941: 16) pointed out, rapid social change "jars people loose from their accustomed social niches." La Capra (1972: 159) seems to agree with Angell's interpretation when he suggests that the basic cause of anomie is rapid social change which has the effect of "the unsettling displacement, uprooting, and disorientation of the groups or categories affected by social change." This unsettling effect leads to an absence of "consensually accepted limiting norms." He also pointed out that Durkheim related all disruptive change to anomie. This state is particularly evident

during transition periods in the economy.

Clinard (1964) also viewed Durkheim's concept of anomie as related to sudden upward changes especially in the economic or in conjugal relations. This condition of "normlessness" arises from a sudden disruption of the collective order such that individuals no longer have rules to control their infinite aspirations. In the division of labor, anomie arises because divided labor fails to (1964: 4) "produce sufficiently effective contacts between its members and adequate regulations of social relationships." Thus, Clinard calls attention to the fact that Durkheim recognized the importance of contacts among individuals in the creation of social solidarity. Also, important is the legitimacy of the regulations. Morison (1970: 306) calls attention to this point, indicating that in a Durkheimian state of anomie, "legal and moral rules have ceased to have sanctioning power." That is, there is not necessarily a lack of rules as a loss of their sanctioning power, of their legitimacy. Giddens (1971) sees anomie as a result of the lack of "moral validation of the division of labor" which has resulted from its unequal distribution (i.e., "forced division of labor.").

Other discussions also point to or add interesting dimensions to Durkheim's concept. For instance, De Grazia (1943: ix) interprets anomie as resulting in the weakening

or destroying the "bonds of allegiance which make the political community." This condition involves a breakdown or absence of common values or beliefs. In addition, he carries Durkheim's concept further suggesting that there are two types of anomie--simple anomie and acute anomie--the former a moderate form and the latter a more severe form.

Nisbet (1970: 55) in contrast to many observers contends that anomie arises from a conflict of norms rather than an absence of norms. He maintains that there is no social behavior that is normless since, "All human behavior above the level of extreme mental deficiency is normative in at least some degree."

In sum, the various commentators on Durkheim's concept of anomie generally point out the main concerns of his analysis. Historical change, especially rapid disrupts the social order such that there is either a temporary absence of norms or conflict of norms and a lack of moral legitimacy attributed to the collective order. This condition is especially evident in industrial society in which changes (e.g., population, division of labor, etc.) are more likely. Social relations are disrupted so that regular effective contacts are precluded. It is not an absence of norms or a conflict of norms per se which leads to anomie rather it is social change which so disturbs the social order that it

loses its sanctioning power and legitimacy. With this lack of legitimacy, norms or no norms, anomie is present.

Durkheim's discussion of anomie is based in his concern with social solidarity. If there is a rapid transformation in a society or the new solidarity (e.g., the division of labor) is not properly established then the probability of anomie is greater. Although this study does not attempt to directly test anomie as an antecedent variable to crime several studies have addressed themselves to this connection. The following section will briefly review some of these studies.

#### Studies of Anomie and Crime

Basic to Durkheim's theory is social solidarity and what happens when this solidarity is disrupted. However, Durkheim did not specifically discuss how anomie can lead to an increase in crime although interpretations of anomie as a factor have frequently been made. Hartjen (1974: 176) clearly recognizes a connection. According to Durkheim, he points out, as long as the rate of crime is fairly stable then society is also fairly solidary but only when a dramatic change occurs in the rate should it be of concern. Anomie is a condition in which the rate of crime may arise dramatically since "the rules that control human behavior have lost their force. Society is in chaos.

Crime becomes rampant." This observation is echoed by Lunden (1953: 7) who wrote, "If social scientists desire an explanation of crime in high or low places the real explanation lies in Durkheim's 'Anomie'." Several studies lend support to this observation.

One of the more interesting studies of the relationship between social disorganization and crime is Cressey's (1949) analysis of Harlan County, Kentucky. He noted some of the problems of social disorganization that arise from the "sudden impact of industrial civilization upon a self-sufficient isolated agricultural society" (p. 339). Prior to the development of coal mining Harlan County was relatively isolated. An area where the main currency was bartering and cattle and timber were the main sources of income. The society was stable in which the family and the local community were the basic social units. But the industrial revolution suddenly arrived in Harlan in 1911 and the coal industry became a dominant force in the people's lives. Population grew rapidly (tripled from 1910-20 and doubled from 1920-30) as a result of the arrival of the coal industry which also destroyed the quaint stable culture of the county. The economic life was disrupted so that (1949: 390) "instead of security provided by the older self-sufficient agriculture there was substituted the instability of industrial employment."

Money replaced bartering and social equality disappeared since men became either bosses or workers. The old community structure broke down such that the "restraints of the family clan and the neighborhood ceased to be effective." The disorganizing impact of these changes is reflected in the rapid increase in rate of divorce. Crime and vice increased greatly (e.g., the murder rate between 1920-25 was higher than any county in the U.S.). Eventually conditions slowly stabilized when significant expansion of coal mining ceased and population growth stabilized. Crime and vice also stabilized but it did not return to its level prior to the advent of coal mining.

A study of over 3,000 delinquent cases in Baltimore by Lander (1954) found a relationship between his measure of anomie and the crime rate. In an effort to achieve a better understanding of differential rates in delinquency Lander examined various independent variables as predictors of the delinquency rate. After examining partial correlations between delinquency rate and physical aspects of housing no real or substantive relationship was found. However, home ownership was significantly associated with the rate of juvenile delinquency. The frequency of home ownership is interpreted by Lander as an indicator of community stability or anomie. Thus, the importance of housing as a factor in delinquency is not in its physical

aspects or the economic situation but basically in its social aspects--as a measure of anomie. He suggests, based on these findings, the following (1954: 39):

We hypothesize an explanation of the differential delinquency rate in terms of the concept of anomie. When the group norms are no longer binding or valid in an area or for a population sub-group, in so far as individual behavior likely to lead to deviant behavior. Delinquency is a function of the stability and acceptance of the group norms with legal sanctions and the consequent effectiveness of the social controls in securing conforming juvenile behavior.

In essence, Lander's analysis indicates that where cohesion breaks down the end result is a high rise in the crime rate (at least for one city).

Bordua (1953-59) replicated Lander a few years later and also found home ownership to be the best predictor of delinquency rates. In general, his evidence supports Lander's findings. A later study by Chitton (1964) also led to similar conclusions. However, an analysis (Gordon, 1967) of the anomie measure used in these studies suggested that it is not a genuine construct. Gordon contended that when examined by factor analysis the anomie variables did not have their highest correlations with each other. He concluded that there is no evidence that the anomie measure utilized by Lander, Bordua, and Chitton "jointly define any theoretical construct." Despite this criticism Lander's

findings have been accepted by some authors (Lunden, 1958; Jacobson, 1975) as support for Durkheim's theory.

Powell (1966; 1970) contending that the true explanation of crime lies in Durkheim's concept of anomie examines the relationship between crime and anomie in Buffalo, New York from 1810-1970. Unlike most analyses of Durkheimian theory, Powell included an essential dimension--history--in his study. Powell does not specify a clear-cut indicator of anomie other than a reference to historical conditions. He generally describes anomie present when (1970: 3) "the ends of action are blurred and ambiguous" and suggests meaninglessness as its synonym. He seems to see anomie as the result of a change in institutions or institutional dislocation. For instance, he wrote (1966: 171) that,

. . .when there is a near collapse of the institutional order or a situation where expectations exceed the possibility of fulfillment a condition of anomie exists and a high crime rate is expected.

Most likely Powell viewed unemployment as an external indicator of anomie since as he indicated in his studies of suicide (1958; 1970) that occupation provides meaning (e.g., a social function and a social status) the lack of an occupation could result in an anomic state for the individual. War is also an indicator of anomie for Powell since he suggests (1970: 125) that "war is the ultimate



anomie: the substitution of naked force for the rule of law." Revolution and racial disturbances have a common ground in anomie as well. However, Powell seemed to recognize war as the main attribute of anomie.

His analysis of the crime rate in Buffalo, over a 134 year period, revealed a close relationship between anomie (i.e., war) and crime. Immediately before the American Revolution there was evidence, from accounts of that period, that crime increased at an alarming rate and continued for sometime after the revolution. The same pattern followed before and during the Civil War with a tremendous leap occurring after the war. Violent crimes decreased from this period until the turn of the century when it increased until 1918. From then until 1940 it receded. There was a stabilization of crime until the 1960's (no record of World War II years) when the Vietnam War was in full force. In this analysis, Powell found little or no relationship between population increase and the crime rate and no clear-cut relationship between industrialization and crime. Economic conditions also seemed to have little impact as well as urbanization. However, war consistently correlated with the crime rate. Racial disturbances in this century tended to cluster during war periods. Rather than producing solidarity (e.g., against a "common enemy") war produces vast social

upheaval. For instance, Powell (1970: 125-126) argues convincingly:

Under the pretext of military necessity every civil right can be suspended. Men can be impressed into military service, denied freedom, deprived of property and life itself. The Civil War established an official lawlessness in America, which has slowly and sporadically grown since that time. It brought the force of an alien and distant government into the everyday life of the average man. Citizens were conscripted to fight in war, and the burden as always fell disproportionately on the poor. For \$500 the rich could hire a stand-in to fight for the preservation of the Union. The war brought draft riots--of truly mammoth proportions in New York City, Boston, and Philadelphia--which in turn stimulated upper-class demands for police protection from the 'dangerous' lower class. Fortunes were made during the war, as big business defrauded the government, which in turn defrauded the people. The practice continued afterward with the land grab by the railroads, mining syndicates, and land speculators . . . Most of America's sixty ruling families in the twentieth century had their origin in Civil War graft.

Thus, in Powell's study, war is viewed as that abrupt social change which brings about anomie in society. This anomie, in turn, leads to an increase in the crime rate. This increase in the crime rate, he also argues, grows out of anomie not only because there is more criminal activity but also because there is more police activity. During these periods of anomie the police forces increased in number and size. He reasons that (1970: 109) this increase is due to the establishment during times of

social upheaval, "threatened by loss of a supporting consensus, resorts to law to maintain its order." Thus, Powell's effort adds to Durkheim's model. For one thing, war is suggested as an indicator of anomie (Durkheim proposed divorce rates and bankruptcies) and also, the crime rate is both a function of increased criminal activity and police activity.

A number of other studies, less comprehensive than Powell's, have been conducted which deal with anomie and crime. Schuessler (1962) analyzed the relationship among selected crime rates and social characteristics of all American cities of 100,000 or more in 1950. The index of anomie was home ownership, marital status and female employment and showed a close relationship with rate of crime. A later study by Schuessler and Slatin (1960) found a close relationship between property offenses and anomie.

Fisher (1975) found some evidence that anomie in urban life is a factor in deviance. Others found relationships between certain factors of change and rate of crime. Clinard (1964) discovered a close relationship between degree of urbanization and crime increase in a series of studies. Wilks (1967) tested the relationship among changes in technology, sustenance organization and demographic composition and rates of crime. She found a very clear-cut relationship between change, especially technological change,

and high rates of crime. Areas undergoing technological change, demographic and sustenance change had higher crime rates than areas experiencing only demographic and sustenance change. Palmer (1973) suggests that degree of social integration may be a factor in the form of deviance. He suggests that societies of high social integration (e.g., the Hopi, etc.) where "all proceeds with robot-like precision," are likely to be as frustrating for members as those where social integration is low. In highly integrative societies frustration is often directed inward. For example the Hopi have a high suicide rate and the Hutterites have high rates of suicide and alcoholism. On the other hand, in regions of low social integration, "severe forms of outward aggression, criminal homicide and assault result."

Generally, the above-mentioned studies lend support to the notion that anomie is related to the fluctuation in the rate of crime. However, none of the studies entirely included all of the ingredients necessary to provide a Durkheimian prediction of crime rates. Some studies merely documented the relationship between anomie and increase in crime while others presented social change as a factor. One element ignored in all of the studies reviewed is the division of labor. The development of the division of labor is a major factor in the development of social solidarity

in more complex societies. As indicated earlier, Durkheim postulated that if certain other factors are not present in addition to divided labor (e.g., close and continuous relations, interdependence, spontaneity of division of labor, legitimacy attributed to new solidarity, etc.) then anomie will probably result.

The studies summarized above show that there is a great deal of disagreement concerning the measurement of anomie. In order to avoid the pitfalls of attempting to directly measure this elusive concept this study will focus on crime rates. High crime rates may be viewed as symptomatic of the condition of anomie rather than as anomie itself. As indicated earlier structural changes can have an effect on the social solidarity of a community or society. Thus, the central focus of this study is the relationship between certain structural changes in a society and the rates of crime.

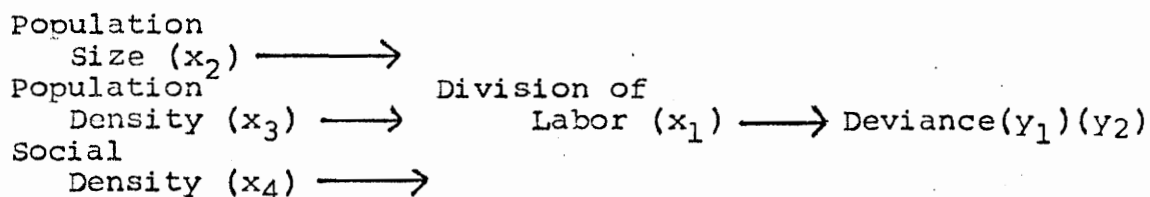
#### Division of Labor and Crime

Little attention has been given to the impact of the division of labor on crime rates. There are two studies which are especially relevant to the central problem of the present study. One deals with how change in the division of labor can have an impact on the rate of suicide and the other deals with how the extent of the

division of labor influences the extent of crime. Summaries of each follow. Miley and Micklin (1972) offer a Durkheimian model which closely resembles the one proposed in this study. However, they examined suicide rates rather than crime rates. Utilizing Durkheim's discussions in both Suicide and The Division of Labor they tested the relationship between rapidity of change in social structure (i.e., division of labor) and suicide. They observe (1972: 660) that the rapid increase in the division of labor, "tends to break down the mechanical basis of organization which forms the substratum for specialization and functional interdependence. . . weak social integration results from such rapid advances." Piecing together the Division of Labor and Suicide a theory of the relationships among the division of labor variables, social integration, and suicide can be formulated. The rate at which the division of labor develops influences social integration. Their findings indicate that the highest correlation is between change in the division of labor and suicide. However, there is no relationship between change in the division and status integration.

A study by Webb (1972) tested the relationship between the division of labor and crime. Based on the assumption that as society moves toward organic solidarity the strength of the collective conscience recedes such that

one can expect a significant increase in deviance. His conceptual model, thus derived is as follows:



Deviance was measured by the number of crimes known to the police as reported in the 1960 Uniform Crime Reports. Division of labor was measured using a formula similar to Gibbs and Martin's (1962) and population size was the number of residents of a community and physical density was the population per square mile. An index of "the degree of transportative and communicative efficiency" was used to determine social density. Communities consisted of political, urban places made up of 25,000 or more inhabitants of which 682 were studied. Hypotheses were tested using Pearson's  $r$ .

Only a very small variation in crime was explained by the division of labor. Population size showed the strongest relationship to crime rates. The sum effects of the independent variables in predicting crime rates are only of moderate efficiency. The author concluded that Durkheim's model is neither verified or rejected. One explanation by Webb offered for the nature of the results is the units analyzed consisted of cities of

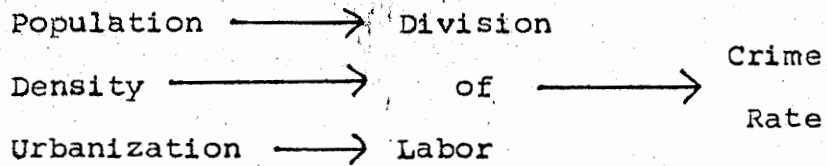
25,000 or more. Durkheim was concerned with units of all sizes in his theoretical model. Also, the cities were examined at only one point in time, ignoring the evolutionary and historical element of Durkheim's model. Webb also suggested that the model tested may have been incomplete, lacking several important and relevant variables.

Webb is essentially correct in specifying the ignoring of social change as a factor in his results as well as examining only urban areas. Social change is a prominent feature of Durkheimian theory and to ignore it is to commit a gross error. No Durkheimian model can be validly tested without the inclusion of the change variable. The inclusion of units with more ecological diversity is also necessary since this part of the Durkheimian model as well.

In sum, the studies reviewed, although limited in certain areas both methodologically and conceptually, suggest that a Durkheimian model of the relationship between change in the division of labor and its antecedents and change in crime rates is practical. No test of this specific conceptual model is known to exist and it is the aim of this study to conduct such a test as can best be performed utilizing the data available. Schematically the conceptual model can be illustrated as follows:



Degree of change in:



This model will be tested using the data available and the most appropriate methods of measurement and testing. This process will be outlined in the next section.

## CHAPTER III

### METHODOLOGY

This study is an effort to explain the variation in crime rates rather than why crime exists. Actually Durkheim (1937) contended that crime is "normal" and is present in all societies. What is of interest, however, is why do crime rates fluctuate? In physiological or psychological terms the explanation would have to ultimately rest upon the sudden increase in the number of "pathological" persons in society. On the other hand, a sociological explanation would involve a change in the social structure (e.g., anomie).

Thus, the independent or predictor variables would be examined in terms of change. Since, according to Durkheim, modern societies (i.e., organic) are characterized by solidarity based on the division of labor (i.e., functional differentiation and functional interdependence) the rate of change could be measured in terms of the change occurring in the division of labor and its antecedents. If this change is very great then one would expect an increase in the rate of crime. In sum, the basic proposition of this study is: The greater the change in the division of labor and its antecedents the greater the

chance of an increase in crime rates. The variables to be measured in this study, then, are population size, population density, urbanization, and crime rates as well as the degree of change in these variables.

### Operational Definitions

Population Size was measured by the number of inhabitants of the county as reported by the United States Bureau of Census.

Density is operationalized as the population per square mile of land area in a county. As Durkheim (1964) proposed physical or material density is an indirect measure of denamic (or social) density since it indicates greater opportunity for the development of regular social relations.

Urbanization is considered as a factor in the division of labor since Durkheim suggested that one of the changes occurring in society is the formation of towns. For this study the measure of urbanization will be the percentage of the total population of a county who reside in urban places as defined by the United States Bureau of the Census.

Division of Labor. Durkheim (1964) described the division of labor in terms of the function an individual fills--his occupation. He indicated that (Giddens, 1972:143)

. . . individuals are no longer grouped according to their relations of lineage, but according to the particular nature of the social activity to which they devote themselves. Their natural and necessary milieu is (now) . . . that given by occupation.

Thus a measure of the division of labor as described by Durkheim would need to include the number of occupations and the number of individuals dispersed among these occupations. The closest approximation and the most popular measure is the one devised by Gibbs and Martin (1962) called the measure of industrial diversification (MID). Their formula is:

$$D = 1 - (\sum x_i^2 / (\sum x_i)^2)$$

where D is the degree of division of labor among industries and  $x_i$  is the number of persons in each industry. The value of D is at the maximum when the workers are evenly dispersed among industries.

Gibbs and Poston (1975) conducted a thorough investigation of various division of labor formulas and made conclusions as to which formula is most applicable to Durkheimian theory. They propose a measure which most closely includes the dimensions of Durkheim's definition-- structural differentiation (i.e., the number of particular functions in a society) and functional dispersion (i.e., the distribution of individuals among these functions).

The formula utilized in this study for the measurement of the division of labor is,

$$DL = 1 - (\sum x_i^2 / (\sum x_i)^2) / Nc$$

where  $x_i$  = the number of individuals in any one or more occupational classes (i.e., functional dispersion),  $Nc$  = the number of classes (i.e., structural differentiation), and  $DL$  = the division of labor in society. Here occupational classes were used instead of industrial categories. Gibbs and Martin (1962) contend that either occupational categories or industrial categories may be used in the formula without any significant difference in the outcome. However, Gibbs and Poston (1975) suggest that intra-industry occupational categories are more applicable. As indicated above, Durkheim specifically mentioned occupations in his discussion of the division of labor. This measure will be called the measure of occupational diversification (MOD) since occupational categories are used.

Crime Rate data are the number of crimes known to the police in each county which the Uniform Crime Reports office provided at the author's request. These data have been the responsibility of the FBI since 1930. The FBI collects and compiles the data from those police agencies that voluntarily report the volume of crimes known to

the police, offenses cleared by arrest, persons held for prosecution, and persons released or found guilty of offenses to the FBI.

There have been several criticisms of official crime data in general and the FBI statistics in particular. Many of these criticisms center on the fact that the official crime rate is a function of more than the reporting of an offense to the police. A substantial number of offenses are not reported to the police--some estimates exceed 50%--and thus do not become official statistics (Clinard, 1974). In addition, those that are reported are not always given official status by the police agency. Unless the police determine that it is a valid complaint the alleged offense does not become official. For example, Black (1970) found that in only 64% of crime situations studied did patrol officers file a written report concerning the offenses. In addition, the police tended to give official status more frequently to the more serious crimes. The nature of the complainant-police interaction also often influenced the status given the complaint such as the deference given the policeman by the complainant. In effect, the number of official crimes underrepresents the actual amount of crime which has occurred. There is also a tendency to record the more serious offenses which results in an overrepresentation of the serious offenses.

Another problem is that offenses against persons are recorded in terms of the number of persons killed or injured in an act while offenses against property are counted only in terms of the number of distinct acts regardless of how many people were involved (President's Commission on Law Enforcement and Administration of Justice, 1967). For example, if three people robbed a tavern the incident would be counted as a single offense but if one person killed three people the event would be counted as three offenses. This makes it difficult either to compare crimes against the persons with crimes against property or to combine all the crimes for an overall crime rate. In one case, the point of reference is the number of victims of the crime and in another case it is the number of offenses regardless of how many people participate. The dilemma is--which is a more accurate indicator of the crime rate? The former tends to be a record of victimization--how many people were victims of crimes against the person occurred--while the latter is a record of the number of offenses committed. For the purposes of this study the number of offenses is more appropriate. However, as a means of improving the interpretation of the findings each of the major crime rates will also be examined regarding their relationship to the independent variables.

The first criticism outlined above was that official crime rates are often underrepresentative of the actual rate of crime. This criticism is based on actual observations (Black, 1970) and on various victimization studies. In the first case the eventual status of an offense depended a great deal on the discretion of the police. However, in an anomic condition the police may be more likely to deal with the offense formally in an effort to restore order within the community. In other words, rather than see the offense as a minor infraction not worthy of official sanction the police may be more likely to view the offense as serious enough to warrant official action. Hence, the act becomes an official crime. In a community which is experiencing anomie the likelihood is greater that illegal acts will become official crimes. With regard to the victimization studies there is no assurance that these studies are any more accurate than the official crime rates. For instance, in one national study (President's Commission on Law Enforcement and Administration of Justice, 1967) it was found that frequently over 20% of the people who were known to have contacted the police about an offense did not report the same offense to the surveyor.

The tendency of the police to record only the more serious offenses is no major problem in this study since



the only crimes included are the seven major crimes (i.e., the index crimes defined by the FBI).

One other factor also can be cited which further limits the inappropriateness of official crime data for this study. This factor is the process involved in an offense becoming an official rate. The nature of the process may be influenced by the degree of social solidarity in a community. For instance, Wheeler (1967: 318) argues that there are three elements in the rate producing process,

- 1) the offender who commits an act specified by statute to be illegal, 2) pool of citizens who may be either victims or reporters of the acts of the offenders, and 3) officers of the law who are formally charged with the obligation to respond to the action.

In effect the official rate is largely a function of the interaction of these elements. Assuming Wheeler's characterization is accurate then it would follow that in a community with low social solidarity the chances of an offense occurring, being reported, and being officially recorded ought to be greater. In an anomic community the probability is greater that an offense will occur since there is less legitimacy attributed to the standards of the community. There is also less likelihood that the offense will be handled informally in the community (since the collective has less influence), hence it becomes known to

the police. The police, in turn, are less likely to deal with the reported offense informally and thus it becomes official and the offender subject to official sanction. In a study recounted by Wheeler (1967) this was apparently the case in two communities. In one community they found a high rate of delinquency and a low rate of community cohesion and in another community they found a low rate of delinquency but a high rate of community cohesion. Thus, in the cohesive community informal social controls were apparently effective such that official action was unnecessary while in the less cohesive community there was less informal social control which eventually necessitated official action. The implication is that high official crime rates may be a function of a low level of cohesion and low official crime rates a function of a high level of cohesion. Official crime rates like those utilized in this study, then, are not necessarily inappropriate for the problem under study. If higher crime rates are a reflection of a higher level of anomie then the official rates appear to be quite applicable here. Official crime rates can be viewed as an index of the solidarity of a community since a change in solidarity may effect the behavior of the offender, the person who reports the offense, and the social control agent. As Kitsuse and Cicourel (1963: 139) point out, "official statistics are sociologically

relevant data" if used within the right context. Furthermore, the data collected for this study consists of offenses known to police agencies which consistently reported to the FBI during the years of 1940, 1950, 1960, and 1970. Thus, data from those agencies which are more consistent in their reporting practices are included in the study. However, Tittle (1969) may have the most valid reason for using official crime data--there are no other sources of data available. In addition, the data have been collected on a large, and to a certain extent nationwide, scale for over three decades. Data have been collected for both rural and urban areas, allowing for more ecological diversity. Since the degree of change in the crime rate is of primary importance in this study certain limitations on the exact accuracy of the statistics ought to be less important.

Nevertheless, any conclusions made concerning this study ought to be made with the above limitations in mind. Although some criticisms may not be directly applicable to this study there is still enough doubt concerning the accuracy of criminal statistics to warrant caution. Official statistics of course are not a complete reflection of the actual crime rate but they are the best indicators available for measuring the changes in rates of crime. They are no better or no worse than the data obtained from

surveys which are also subject to the whims of individual behavior. The main concern should always be whether the data are the best available for the problem under study since it is the problem which determines what data are appropriate, not the reverse.

The crime data utilized were originally collected in raw form--i.e., in the form in which it was reported to the FBI by the police agencies. This necessitated converting the actual number of offenses known to the police into rates so that the data could be compared across the different time periods and counties. The data were converted into number of crimes per 1000 population using the following formula:

$$\frac{\text{Number of crimes in year x}}{\text{Population in year x}} * 1000$$

It is believed that rates per 1000 population is a better indicator than rate per 100,000 (used by the FBI) since many of the counties have populations under 1000.

#### Unit of Analysis

The basic unit of analysis to be utilized in this study is the county. Counties, although independent geographical units, are usually considered subdivisions of the state with less political autonomy than that allowed cities (Fairlie, 1930). Durkheimian theory is applicable to

units which include both rural and urban areas. Cities of various sizes exist within the boundaries of the county and, because of this, the county provides for more ecological (urban vs. rural) diversity. Empirical studies of Durkheimian theory in the past have tended to concentrate upon urban areas as units of analysis. Such a tendency may, as Clemente and Sturgis (1972) point out, effect the size of the division of labor measure since employing centers may concentrate in one city. By using counties more ecological diversity is present since cities of varied sizes as well as rural sectors are included. This should, in turn, allow for more diversity of manufacturing and industrial centers which ought to provide a more telling indicator of changes in the division of labor.

Not only should more divergent levels of change be present but also a more valid indicator of change can be obtained since counties ought to vary more as units along the rural-urban continuum. Population of counties vary from 202 to over 7 million according to the 1970 census (Kane, 1972). Counties vary in size from 22 square miles (New York County, New York) to 20,131 square miles (San Bernardino County, California). The mean average size county is 961 square miles, the median size is 600 square miles, and the mode is 500 square miles. About two-thirds of the counties are between 300-900 square miles in size

(Fairlie, 1930). With such a variation in size and population then density of the counties ought to vary as well.

The first counties in the United States appeared in 1634 in Virginia and Maryland and by 1870 counties had been established in all the states and organized territories. The only county created in the United States after 1925 was Los Alamos, New Mexico which appeared in 1949. Thus, counties are relatively stable units in that they have not changed in size since 1925 and in all but two states (i.e., Connecticut and Rhode Island) they exist as units of local government (Stephan, 1971).

In sum, for the testing of a Durkheimian model counties are more ideal than cities since Durkheim in his writings referred to states or countries in which a greater diversity of rural and urban factors are present. In addition, data have been collected or are available for counties with regard to all the variables of concern (e.g., population, density, crime rates, etc.).

#### Selection of Counties

The total number of counties in the United States is 3096 but crime data are not available for all of these counties for the years under study. The method of selection then is limited by the availability of the data. To

ensure that a minimum number of counties (300-500) will be included in the analysis all counties for which adequate data are available for the period under study will be included.

. The first step in the selection process involves determining which counties the FBI has collected crime data for the years 1940, 1950, 1960, and 1970. Using data furnished by the FBI (on microfilm) for the years 1940-1955 an initial list of counties was compiled in which crime data were available for the years 1940 and 1950. The list contained 1071 counties. Identification numbers were then assigned to the counties based on their alphabetical order by state. This list was then mailed to the Uniform Crime Reports office of the FBI requesting that they furnish crime data that are available for the counties listed for the remaining years (1960 and 1970). The Uniform Crime Reports office agreed to do so by letter. Afterward, a list of counties in which crime data are available for the entire study period (ten year intervals from 1940-1970) was compiled.

One further step was necessary. The county crime data usually includes only those crimes reported to the police in rural areas. As a result crime data must be collected for the urban areas within each county selected so that a composite picture of crime rates for each county

can be made. This task is partially alleviated since the county agencies also report the population under their jurisdiction. By comparing the population under jurisdiction with the total population of the county the proportion of the county population represented by the county crime data can be determined. For those counties in which the population under jurisdiction reported differs from the total population by more than 2,500 the crime data for the urban areas within the county were included. Using maps of the afore-mentioned counties and census data on the population of the counties and urban areas a list of the urban areas within such counties was determined. The crime data reported for those urban areas were then added to the crime rate data for the county. Those counties in which the population under jurisdiction for both urban and rural areas of the county totals less than 60 per cent were eliminated. Thus, the final list of counties used in this study includes only those counties which include crime rate data for most of the rural and urban population for ten year intervals between 1940-1970. This final list totals 300.

### Propositions

Two versions of the Durkheimian model of crime will be tested. The first is the static model which is akin



to Webb's (1972) version and the second is the change model which centers on the relationships between changes in the variables during certain time periods. Two different situations will be examined--one which looks at the change in the variables (i.e., do they change together?) and the other which looks at whether high crime rates are more likely in a society based on mechanical solidarity (with low levels of division of labor, population size, etc.) or in an organic society (with high levels of division of labor, population size, etc.). If the hypothesized relationships are generally supported in both models it would imply that the rate of crime is more likely to be high in more complex communities (static model). Also, the rate of crime is more likely to increase in those communities which experienced a greater transformation to a more complex state. With regard to the static model it would suggest that the new (organic) solidarity is less effective than mechanical solidarity in maintaining social solidarity since a higher rate of crime is indicative of a higher level of anomie. Nevertheless, it is contended that the change model is more akin to Durkheimian theory since the change element is central to his theory (see Chapter II).

The following set of propositions will be tested which deal with static relationships among the variables.

These propositions comprise the static model which is more in line with previous studies regarding Durkheimian theory (Webb, 1972; Gibbs and Martin, 1962; Clemente and Sturgis, 1972). These propositions, which will be tested for four time periods (i.e., 1940, 1950, 1960, 1970) are as follows:

Major Proposition I: There is a direct relationship between the combined action of population size, population density, urbanization and the division of labor.

1. There is a direct relationship between population size and the extent of the division of labor.
2. There is a direct relationship between the extent of population density and the extent of the division of labor.
3. There is a direct relationship between the extent of urbanization and the extent of the division of labor.

Major Proposition II: There is a direct relationship between the combined action of population size, population density, urbanization, the division of labor and the rate of crime.

1. There is a direct relationship between population size and the crime rate.
2. There is a direct relationship between population density and the crime rate.
3. There is a direct relationship between the level of urbanization and the crime rate.
4. There is a direct relationship between the division of labor and the crime rate.

The next set of propositions deal with the change relationships among the variables (i.e., the change model). A basic assumption of this study is that if the level of anomie in a county is high then this level will be reflected in the crime rate of that county. A high level of anomie is more likely if the rate of change in the division of labor and its antecedents is greater. Each of the propositions will be tested for four time periods (1940-1950; 1950-1960; 1960-1970; 1940-1970) and for each of the major crimes (e.g., murder, robbery, assault, etc.). These propositions are as follows:

Major Proposition I: There is a direct relationship between the combined action of changes in population size, population density, urbanization from time 1 to time 2 and the change in the division of labor from time 1 to time 2.

1. There is a direct relationship between the change in population size from time 1 to time 2 and the change in the division of labor from time 1 to time 2.
2. There is a direct relationship between the change in population density from time 1 to time 2 and the change in the division of labor from time 1 to time 2.
3. There is a direct relationship between the change in urbanization from time 1 to time 2 and the division of labor from time 1 to time 2.

Major Proposition II: There is a direct relationship between the combined action of changes in population size, population density, urbanization, the division of labor from time 1 to time 2 and change in the crime rate from time 1 to time 2.

1. There is a direct relationship between change in population size from time 1 to time 2 and change in the crime rate from time 1 to time 2.
2. There is a direct relationship between change in population density from time 1 to time 2 and change in the crime rate from time 1 to time 2.
3. There is a direct relationship between the change in urbanization from time 1 to time 2 and change in the crime rate from time 1 to time 2.
4. There is a direct relationship between change in the division of labor from time 1 to time 2 and change in the crime rate from time 1 to time 2.

In addition, as part of the change model, a set of propositions have been formulated with regard to the lag effect of the independent variables. This effort is to estimate if changes in the independent variables in an earlier period (e.g., 1940-1950) have an impact on changes in the dependent variables in a later period (e.g., 1950-1960). In other words, there may be a period of time before the changes in the independent variables have an effect upon changes in the dependent variables. The propositions of the lag version of the change model are as follows:

Major Proposition I: There is a direct relationship between the combined action of change in population size, population density, urbanization from time 1 to time 2 and change in the division of labor from time 3 to time 4.

1. There is a direct relationship between change in population size from time 1 to time 2 and change in the division of labor from time 3 to time 4.
2. There is a direct relationship between change in population density from time 1 to time 2 and change in the division of labor from time 3 to time 4.
3. There is a direct relationship between change in urbanization from time 1 to time 2 and change in the division of labor from time 3 to time 4.

Major Proposition II: There is a direct relationship between the combined action of changes in population size, urbanization, population density, the division of labor from time 1 to time 2 and change in the crime rate from time 3 to time 4.

1. There is a direct relationship between change in population size from time 1 to time 2 and change in the crime rate from time 3 to time 4.
2. There is a direct relationship between change in population density from time 1 to time 2 and change in the crime rate from time 3 to time 4.
3. There is a direct relationship between change in urbanization from time 1 to time 2 and change in the crime rate from time 3 to time 4.
4. There is a direct relationship between change in the division of labor from time 1 to time 2 and change in the crime rate from time 3 to time 4.

Statistical Procedure

The statistical procedure utilized in this study is regression analysis. Multiple regression is a statistical technique designed to analyze the relationship between a dependent variable and a set of independent variables. It is capable of measuring the collective and separate contributions of two or more independent variables to the variance of a dependent variable. In effect, multiple regression involves the idea of being able to predict information concerning the dependent variable knowing the independent variable, or, more specifically being able to reduce the error of predicting the value of the dependent variable given knowledge of the independent variable. A basic requirement is that all variables are measured on an interval or a ratio scale.

The basic equation of simple regression analysis is:

$$Y = a + bX$$

where Y is the predicted score of the dependent variable, a is the intercept constant, b is the regression coefficient, and X is any score of the independent variable. The score Y is, in essence, a function of a number (x) or a set of numbers ( $X_1, X_2, X_3, \dots, X_K$ ). This relationship can be symbolized as  $Y = f(X)$ . The nature of this function is specified by a rule which is called an equation. A basic

assumption of regression analysis is that the relationships among the variables are linear.<sup>10</sup> The graph of a linear function of  $X$  is a straight line and thus the term linear function. In the above equation  $a$  is the point where the regression line intercepts the  $Y$  axis and  $b$  is the slope of the straight line such that a line can be completely specified by giving both its slope and its intercept. Both  $a$  and  $b$  are constants so that a change in the  $Y$  value is dependent upon the value of  $X$ . More specifically, a unit change in  $X$  produces a change of  $b$  units in  $Y$ . If  $b$  is positive then the relationship is positive, if negative then the relationship is negative. Thus  $b$  indicates the nature of the relationship while  $a$  tells the location of the slope.

Multiple regression is basically an extension of simple regression. The extension involves the addition of independent variables in an effort to improve prediction of the dependent variable. A multiple equation is written as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 \dots b_kX_k$$

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<sup>10</sup>The relationships examined in this study were tested for curvilinearity (see Nie, et al., 1975) and in only two cases (the overall crime rate, 1950; the division of labor, 1970) did the tests indicate that the relationships are nonlinear.

More independent variables are taken into account in predicting the variation in the dependent variable and each independent variable has a corresponding regression coefficient (b) which aids in explaining the dependent variable.

However, the above equations deal only with static relations among the variables and not with relations among change overtime in the variables which is the central factor in this study. In order to incorporate the measurement of change into regression analysis the use of finite first difference equations are utilized. First difference equations allow for measuring the relationships in the change among the variables over a time period such as in longitudinal studies (cf. Goldberg, 1967; Land and Felson, 1977). For example, if Y specifies a population function (e.g., the size of the population in census year x) then a new function specifying the change in population from one census period to the next is the difference between the population at time 1 and time 2. This new value is called  $\Delta Y$  and written thusly,

$$\Delta Y = Y_{t_2} - Y_{t_1}$$

where  $\Delta Y$  is the amount of change in Y values from time 1 to time 2 and  $t_1$  is the value at time 1 and  $t_2$  is the value at time 2. The symbol then indicates the difference



operator. The equation says that the amount of change in Y from  $t_1$  to  $t_2$  is a function of the value of the difference between Y at  $t_2$  and at  $t_1$ .

The first difference of Y can be interpreted as a linear function of the change in another variable (X). As indicated above, with simple re-regression analysis Y can be seen as a function of X values ( $Y = f(X)$ ) and also as a linear function of X ( $Y = a + bX$ ). By the same token, the finite first difference of Y may be seen as the function of the change in X ( $\Delta X$ ) which is written,

$$\Delta Y = f(\Delta X)$$

As a linear function the equation would be,

$$\Delta Y = a + b \Delta X$$

where  $\Delta Y$  is the finite first difference in Y,  $a$  is the intercept constant,  $b$  the slope, and  $\Delta X$  the amount of change in X. The amount of change in Y values from time 1 to time 2, then, is a linear function of the change in values of X from time 1 to time 2. Expansion of this equation to include multiple regression would involve (as with regression analysis) the addition of more independent variables ( $\Delta X$ ) such that it would read,

$$Y = a + b_1 \Delta X_1 + b_2 \Delta X_2 + b_3 \Delta X_3 \dots b_k \Delta X_k$$

For interpretation purposes the important coefficients are the beta or standardized regression coefficients, the multiple correlation coefficient (R), and the coefficient

of multiple determination ( $R^2$ ).<sup>11</sup> The beta coefficient indicates how much change in the dependent variable is produced by a standard change in each independent variable with the other independent variables partialled (i.e., the net impact). The multiple correlation coefficient measures the degree to which the dependent variable can best be predicted from the independent variables operating together. The last coefficient ( $R^2$ ) indicates how much of the total variation in the dependent variable can be explained by the combined action of the independent variables.

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<sup>11</sup>The coefficient of multiple determination is  $R^2$  corrected for degrees of freedom which allows for comparing the strength of the additions of more variables into the equation.

## CHAPTER IV

### ANALYSIS AND FINDINGS

The data indicate that there is a wide variance in terms of population size, population density, urbanization, the division of labor, and crime rates among the counties selected for study. The smallest population represented in 1940 was 323 and the largest was 2,785,643. The range was similar for subsequent years as well. The smallest population in 1950 was 242; in 1960, 203, and in 1970, 202. The largest population is in Los Angeles county which reaches 7,032,075 in 1970. The level of population density for the selected counties also reflects a great deal of variance. The lowest density for the respective years under study was .300 (persons per square mile) in 1940, .100 in 1950, .200 in 1960, and .200 in 1970. The highest levels of density were 1937 in 1940, 2221 in 1950, 2642 in 1960, and 5103 and 1970. Urbanization also shows a similar degree of variability ranging from 0% to 94.3% in 1940 to 0% to 99.7% in 1970. The division of labor scores (MOD) also vary a great deal. For example, in 1960 the MOD ranged from .567 to .900 which is indicative of the range in other years. This suggests that both higher and lower levels of the division of labor (i.e., mechanical

solidarity and organic solidarity) are present in the counties studied. The average MOD was .312 in 1940, .333 in 1950, .340 in 1960, and .350 in 1970. Crime rates also showed wide variance. For instance, in 1940 the mean overall crime rate was 5.73 (per 1000 population), in 1950, 5.49; in 1960, 7.93, and in 1970, 16.25.

### Static Model

#### Antecedents and the Division of Labor

First propositions in the static model will be tested. Results in Appendix B, Tables 33-34 indicate that there is a direct relationship between population size and the division of labor for every year except 1970. However, the only year in which the relationship is statistically significant is 1940 ( $r = .12$ ). The relationship tends to be weaker and weaker during successive time periods until 1970 when it is a very weak, negative association. From these results it appears that there is little support for the first hypothesis of a direct relationship between population size and the division of labor. This is in slight disagreement with previous studies. Webb (1972) found a slightly stronger relationship ( $r = .17$ ) and Clemente and Sturgis (1972) found a relatively strong association ( $r = .39$ ) between the variables. One factor in the difference in results may

be the measurement units used in the respective studies. Clemente and Sturgis used urban places of 10,000 or over and Webb used urban places of at least 25,000 while the present study used counties with a population range of 280 to over 7 million. Nevertheless, the evidence provides very weak support for the first hypothesis. The second hypothesis concerning the relationship between population density and the division of labor also receives very little support. Although it is in the hypothesized direction for every year but 1970, the association is quite weak. Again the only statistically significant correlation is in 1940 ( $r = .12$ ). The relationship decreases in strength until it becomes negative in 1970 ( $r = -.06$ ). These results are similar to those of Webb (1972) who found no relationship ( $r = .00$ ) between population density and the division of labor in 1960. The relationship between these variables in the counties sampled during 1960 was negligible ( $r = .05$ ). However, Clemente and Sturgis (1972) found a relatively strong correlation ( $r = .27$ ) between the variables. In any case, the results of this study show that among 300 counties in the United States there is very little relationship between population density and the division of labor.

There appears to be more support for the third hypothesis which predicts a relationship between level of

urbanization and the extent of the division of labor. For every time period the correlation is statistically significant ranging from slightly moderate ( $r = .16$ ) in 1970 to relatively strong ( $r = .43$ ) for 1940. Although weaker, these associations are in line with the findings of Gibbs and Martin (1962) who found a very strong ( $r = .91$ ) correlation between urbanization and the division of labor.

However, the more important question at this point concerns the combined action and relative contributions of the antecedent variables (i.e., population size, population density, and urbanization) with regard to the division of labor. It was hypothesized that there is a direct relationship between the combined action of population size, population density, urbanization and the division of labor. The central concern is the joint effect of the three antecedent variables on the division of labor. The data in Table 1 (p.103) show that for 1940 and 1950 the relationship is moderate ( $R = .44$ ;  $R = .45$ , respectively) but weaker in 1960 and 1970 ( $R = .29$ ;  $R = .23$ ). In addition, all of these relationships are statistically significant at the .001 level. In 1940 and 1950 the antecedent variables explained 19% of the variance in the division of labor while in 1960 and 1970 only 8% and 4% of the variation in the division of labor is explained by the antecedents. However, for every year the beta's

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TABLE 1

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN ANTECEDENT VARIABLES  
AND THE DIVISION OF LABOR

(Static Model)

	<u>Population size</u>	<u>Population density</u>	<u>Urbanization</u>	<u>R</u>	<u>R<sup>2</sup></u>
1940	-.01	-.16* (.001)	.51* (.001)	.44* (.001)	.19
-----					
1950	-.03	-.19* (.001)	.54* (.001)	.45* (.001)	.19
-----					
1960	-.03	-.12* (.05)	.34* (.001)	.29* (.001)	.03
-----					
1970	-.03	-.17* (.001)	.26* (.001)	.23* (.001)	.04

reveal that urbanization accounts for a large part of the relationship. Actually, urbanization has the only positive impact on the division of labor. The factor of population density tends to have a negative impact within each time period and population size has little or no impact. In general, it can be argued that the hypothesis receives adequate support for 1940 and 1950 periods but only weak support for the 1960 and 1970 time periods. In every period, urbanization is the critical factor in explaining the division of labor in the counties.

#### Predictor Variables and Overall Crime Rate

The next set of propositions deal with the variables of population size, population density, urbanization, and the division of labor and the rate of crime. These propositions were tested for all time periods (1940, 1950, 1960, and 1970) for the overall crime rate.

The first proposition in this set states that there is a direct relationship between population size and the rate of crime. The data shown in Appendix B (Tables 33 and 34) indicate that for all time periods except 1940 the hypothesis is apparently supported. In 1940 there is almost no correlation between the variables ( $r = -.02$ ) but in subsequent years the relationship becomes stronger.



The strongest relationship is in 1961 ( $r = .33$ ) but the associations during the other two years ( $r = .30$ ;  $r = .20$ ) are strong enough to lend support to the fourth hypothesis of the static model. All correlations after 1940 are statistically significant ( $p < .001$ ).

The next hypothesis in the static model concerns the relationship between population density and the crime rate. Again, for the overall crime rate, the associations are in the predicted direction for every period except 1940 ( $r = -.03$ ). The following years the correlations are statistically significant ( $r = .39$ ;  $r = .33$ ;  $r = .24$ , respectively) and thus provide support for the hypothesis.

The proposition concerning a direct relationship between urbanization and the overall crime rate is supported during every time period except 1940. As the data in Appendix B (Tables 33 and 34) show, the correlations are statistically significant ( $p < .01$ ) in 1950, 1960, and 1970. The strongest correlation is in 1950 ( $r = .37$ ).

The hypothesis of a direct relation between the division of labor and the overall crime rate receives support only in 1950 and 1960. During the other two time periods the correlations are almost zero. The correlations in 1950 ( $r = .15$ ) and 1960 ( $r = .12$ ) are quite moderate but they are in the predicted direction as well as being statistically significant ( $p < .05$ ). Nevertheless, it

appears that the factors of population size, density and urbanization are more closely related to the rate of crime than is the division of labor.

The major proposition states that there is a direct relationship between the combined action of population size, population density, urbanization, the division of labor and the rate of crime. The data shown in Table 2 (p.113) indicate that the results are mixed concerning this proposition. In 1940 ( $r = .10$ ) and 1950 ( $r = .05$ ) the relationship is extremely weak and the beta coefficients reveal that the predictor variables have little or no positive impact on the overall rate of crime. The picture is different in 1960 and 1970, especially the former period. In 1960 the relationship, although only moderately strong ( $R = .43$ ), is statistically significant ( $p < .001$ ) with population density ( $\beta = .21$ ) apparently having the greatest net impact. In fact, joint action of the predictor variables explain 17% of the total variance in the rate of crime. This is similar to Webb's (1972) findings except that population size had more impact than population density. In the present study the division of labor has little or no influence in either time period. The relationship is weaker in 1970 but of sufficient magnitude ( $R = .26$ ) to indicate that something is going on between the predictor variables and the crime rate.

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TABLE 2

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS OF TOTAL CRIME RATES  
AND PREDICTOR VARIABLES

(Static Model)

	<u>Population size</u>	<u>Population density</u>	<u>Urban- ization</u>	<u>Division of Labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
1940	.01	.02	-.13	.07	.10	.00
-----						
1950	-.01	-.02	.06	-.01	.05	.01
-----						
1960	.16* (.001)	.21* (.001)	.13* (.01)	.07	.43* (.001)	.17
-----						
1970	.03	.16* (.001)	.05	-.02	.26* (.001)	.05

However, only 5% of the variation in crime rates is explained by the predictor variables operating together. Again, population density (beta = .16) appears to have the greatest net effect on crime rates.

The data lend little support to the static model of crime rates. Although the zero-order correlations are frequently statistically significant when the joint effect of the predictor variables is considered the amount of variance explained is usually quite low or zero. Although the relationship is statistically significant in 1970 ( $R = .26$ ) the only relationship of sufficient magnitude is in 1960 ( $R = .43$ ). For instance using  $R^2$  as an indicator the nature of the relationship becomes more clear. In 1970 only 5% of the variance in the rate of crime is explained by the joint impact of the predictor variables while in 1960, 17% is explained. In addition, the beta coefficients are stronger in 1960 than in 1970 indicating that the relationship is more in line with the Durkheimian model in the former time period. In any case, it can be concluded that, at best, the data provide very weak support for the static version of the Durkheimian model. Apparently other factors are affecting the rate of crime more so than the elements of Durkheim's theory.

Predictor Variables and Personal/Property Crime Rates

For purposes of comparison with Webb (1972) personal and property crime rates were also examined. Personal crimes include homicides, robberies, and assaults and property crimes include burglaries, grand larcenies (i.e., theft of \$100 or more), petty larcenies (i.e., theft of less than \$100), and auto thefts. The zero-order correlations, shown in Appendix B (Tables 33 and 34) indicate that the results are mixed concerning relationships between the predictors and personal/property crime rates. In 1940 there is apparently no relationship between the variables but beginning in 1950 the relationships become stronger regarding property crime rates. In 1950 each of the predictor variables is associated with property crime rates at a statistically significant level ( $p < .01$ ). The same is true for property crime rates in 1960 and in 1970 the only variable which does not have a statistically significant relationship with property crime rates is population size ( $r = -.02$ ). All the significant relationships are in the predicted direction and thus the data lend support to the Durkheimian model. Although only slightly stronger, the relationship between urbanization and property crime rates is the strongest in every time period.

The division of labor is most strongly correlated with property crime rates in 1960 ( $r = .32$ ).

Personal crime rates are not strongly related to any of the predictor variables until 1960 in which relationships with all predictors except the division of labor ( $r = .09$ ) is statistically significant ( $p < .001$ ). In both 1960 and 1970 population size and population density have the strongest relationships with personal crime rates. Also, population size and population density are more closely associated with personal crime rates in 1960 ( $r = .41$ ;  $r = .40$ ) and in 1970 ( $r = .40$ ;  $r = .57$ ) than with property crime rates during the same time periods. On the other hand, the division of labor is more strongly correlated with property crime rates in every time period since 1950.

Webb (1972) found that the division of labor in 1960 is only modestly related to both personal ( $r = .10$ ) and property crime rates ( $r = .21$ ). The strongest correlations with both personal ( $r = .35$ ) and property crime rates ( $r = .44$ ) involve population size in the Webb study. The relation between population density and personal/property crime rates in 1960 is much weaker ( $r = .13$ ;  $r = .18$ ; respectively) in Webb's analysis than in the present study ( $r = .40$ ;  $r = .31$ ). One element in the differences in findings may be that Webb included only those cities of

25,000 or more in population while the present study included counties with populations from under 1,000 to several million. However, one result which appears in both studies is that the division of labor is more strongly related to property crime rates. The level of complexity as reflected in the division of labor, then, is apparently more closely associated with property crime rates than with personal crime rates.

However, when the joint effects of the predictor variables are compared to the rate of crime the results indicate that the division of labor has little or no net impact on the rate of personal/property crimes. In general, the Durkheimian model is not much more effective in predicting personal and property crime rates than it is in predicting overall crime rates. The data in Table 3 (p.118) show that in 1940, zero variance is explained by the predictors and in 1950 zero variance in personal crime rates is explained while 21% in property crime rates is explained. The model is a better predictor of personal crime rates in 1960 ( $R^2 = .21$ ) and in 1970 ( $R^2 = .33$ ) but a better predictor of property crime rates in 1950 ( $R^2 = .21$ ). Population density and population size tend to have the greatest net impact on both personal and property crime rates over all the time periods. Density has its greatest effect on personal crime rates in 1970

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TABLE 3

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN PREDICTOR  
VARIABLES AND PERSONAL/PROPERTY  
CRIME RATES

(Static Model)

	<u>Population size</u>	<u>Population density</u>	<u>Urban- ization</u>	<u>Division of Labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
<u>1940</u>						
Personal	.00	.04	-.12	.06	.09	.00
Property	.01	.02	-.11	.06	.09	.00
-----						
<u>1950</u>						
Personal	.04	.05	-.04	-.07	.11	.00
Property	.11* (.05)	.20* (.001)	.23* (.001)	.06	.47* (.001)	.21
-----						
<u>1960</u>						
Personal	.26* (.001)	.23* (.001)	.05	.06	.47* (.001)	.21
Property	.14* (.001)	.20* (.001)	.13* (.01)	.07	.41* (.001)	.15
-----						
<u>1970</u>						
Personal	.13* (.001)	.47* (.001)	.06	.00	.53* (.001)	.33
Property	.03	.14* (.01)	.05	-.02	.23* (.01)	.04



(beta = .47) and population size on personal crime rates in 1960 (beta = .26). Urbanization has a small or a negative impact on the crime rates except in 1950 (beta = .23) and in 1960 (beta = .13) concerning property crime rates. The division of labor has a weak, sometimes negative, impact on the crime rates in all time periods.

Comparing the results of this study for 1960 with those of Webb (1972) it appears that the findings are in many ways similar. Webb found that the predictors explained 16% of the total variance in property crime rates and 19% of the total variance in personal crime rates. In this study, the data indicate that 21% of the variance is explained by the predictors in personal crime rates and 15% of the variance in property crime rates is explained by the predictors. Population size was more of a factor in Webb's study and density much less a factor. The division of labor is more of a factor in predicting property crime rates in his study. However, the results can not be compared directly since Webb used different predictors (a measure of social density and no measure of urbanization) in his study than used in the present study. Also Webb's data were collected from communities of 25,000 or more population.

Rural-Urban Comparisons

One factor ignored by earlier studies of Durkheimian theory is the rural-urban dimension. All previous studies have concentrated on the urban areas and excluded rural areas. For instance, Webb (1972) included only urban places of 25,000 or more. Since Durkheim's theory of the division of labor includes two types of solidarity--one more likely to be present in a rural community (i.e., mechanical solidarity) and one more likely to be present in urban areas (i.e., organic solidarity)--a better indicator of the impact of the levels of complexity in the predictor variables can be attained by examining the relationships between the variables in rural communities and in urban communities. In order to examine such relationships the 300 counties were divided into rural counties and urban counties. All counties of 25,000 population or more were classified as urban counties and all counties of less than 25,000 were classified as rural counties. The cutting point of 25,000 was selected since the FBI publishes only crime rates from urban communities of 25,000 population or more. As a result, only those counties in which rural police agencies report remain in

the under 25,000 category effectively excluding all urban crime rates.<sup>12</sup> The data regarding crime rates in rural vs. urban counties are shown in Appendix C (Tables 39-44). The classification scheme yielded 170 rural counties and 130 urban counties.

In the rural counties the relationship between the antecedents and the division of labor is about the same as in the counties as a whole, but in the urban counties the relationship is much weaker. The most notable difference is in 1970 where the relationship is much stronger in rural counties ( $R = .40$ ) than in all the counties with population size ( $\beta = .31$ ) and urbanization ( $\beta = .17$ )

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<sup>12</sup>It is recognized, of course, that the cutting point of 25,000 in population is somewhat arbitrary and that excluding counties under the cutting point from the urban category does not necessarily exclude all urban counties. However, other studies, such as Webb (1972), included only communities (i.e., cities) of 25,000 or more and thus did not include the more rural areas. By splitting the counties into these two categories--rural and urban--a more effective test of the Durkheimian model ought to be achieved. For instance, does a Durkheimian model of crime rates operate more efficiently in more rural counties or in more urban counties? In effect, the rural/urban categorization presented above provides for estimating if the model is a better indicator in societies which exhibit more rural characteristics or in ones which exhibit more urban characteristics.

having the greatest impact. It appears that the urban counties are slightly modifying the relationship between the antecedents and the division of labor. In addition, in the rural counties the greater the level of urbanization the greater the division of labor while in the urban counties the impact of urbanization is often negative. Actually in the urban counties the antecedent variables tend to have either a negative or virtually no impact on the division of labor. The slightly stronger relationship in rural counties is not necessarily in contrast to the Durkheimian model since the antecedents are factors in the development of the division of labor and thus would tend to have more impact in the less developed areas.

When the relationship between the predictor variables and the total crime rate is examined in rural and in urban counties it is apparent that in the rural counties the relationship is much weaker. In two years, 1940 and 1970, zero variance in the crime rate is explained by the predictor variables and in the other two time periods no more than 9% is explained. On the other hand, in the urban counties the relationships are much stronger, especially after 1940, with the strongest relationship occurring in 1970 ( $R = .74$ ). Actually in 1940 all the variables except population size have a negative impact on crime in the

urban counties. In every period urbanization has the greatest net effect on the total crime rate. The division of labor has the least impact in every period and it often has a negative effect. In the rural counties, however, the division of labor has a positive influence in every year but 1960.

Webb (1972) used urban places of 25,000 or more in 1960 and comparing his results with those obtained in this study for counties of 25,000 or more it appears that there is some difference. In 1960 the variables of population size, density, urbanization and the division of labor explains 40% of the variance in the crime rate in the urban counties while in Webb's study no more than 19% of the variance in crime rates is explained. Furthermore, in the urban counties 39% of the variance in personal crime rates is explained and 38% of the variance in the property crime rates is explained by the predictors. In 1970, 52% of the variance in personal and in property crime rates is explained by the predictor variables. Webb dealt strictly with urban places and his Durkheimian model apparently is not as efficient in predicting crime rates as when counties are used in which there is a rural-urban dimension included.

There is also a rural-urban difference in the efficiency of the model. In rural counties only in 1950

does the model appear to be a very good predictor of crime rates and that is only with regard to property crime rates ( $R^2 = .13$ ). Also in this period the division of labor has a positive impact (beta = .26). However, in the urban counties the model is a good predictor of both types of crime rates in every year but 1940 and 1950 with regard to personal crime rates. The relationships are especially strong in 1960 and 1970 in which 38% and 39% of the variance in the crime rates is explained in the earlier period and 52% in both personal and property crime rates in the later period.

Population size is the most important factor in the rural areas while urbanization is the most consistently important factor in the urban counties. Urbanization is especially important in predicting property crime rates in the urban counties. For instance, in 1970 for every unit change in urbanization there is a .6 unit change in property crime rates. Density and population size are more important elements in urban counties than in rural counties.

In sum, it appears that relationships are stronger in the urban counties between the predictor variables and crime rates, both overall and personal/property. This indicates that the rural counties may be moderating the relationships between the predictors and the crime rates.

The results show that in the more urban counties the level of population size, density, urbanization, and the division of labor operating together do have a substantial impact on the rate of crime. However, the division of labor has little positive impact in the urban counties.

#### Summary

The results elaborated above provide very weak support for the static model. The antecedents apparently do have some impact on the division of labor but urbanization is the only variable which has a positive impact. Population size, in effect, has no impact and density has a negative impact during every time period. In addition, no more than 19% of the variance in the division of labor is explained by the predictors in any one time period. However, the predictors tend to have very little, if any, impact on the rate of crime. Only in 1960 does the relationship attain any degree of strength ( $R^2 = .17$ ). Probably the most critical element in the model, the division of labor, apparently has no influence on the rate of crime. When personal and property crime rates are examined, the relationships are only slightly stronger than those concerning the overall crime rate. The most consistent relationships involve property crimes which suggests that levels of structural complexity is more

likely to have a positive influence on the property crime rate than on the personal crime rate. In sum, the data do not clearly refute or clearly support the static model.

However, when rural counties are compared with urban counties some important differences emerge. In the rural counties the relationship between the antecedent variables and the division of labor tends to be stronger than in the urban counties. On the other hand, the relationship between the predictor variables and the crime rate is much stronger in the urban counties than in the rural counties. Thus, in the counties which are more rural in character the Durkheimian model is a better predictor of the division of labor but in counties which are more urban in character the model is a better predictor of crime rates. In effect, these findings concerning rural/urban differences "modifies" the Durkheimian model according to the ecological character of the community.

#### The Change Model

The central concern of this study is to test a Durkheimian model of crime rates in which the transformation of societies is the critical element. The presence or absence of crime itself is not of interest here, nor is it the presence or the absence of an elaborated division



of labor as an explanatory factor in crime. Rather, the main concern is the nature of the transformation itself, and, if it has an impact on the change in the crime rate. In methodological terms, is there a correlation between the joint effects of the change in population size, population density, urbanization, and the division of labor and the crime rate? In order to examine this relationship a series of propositions (presented in Chapter III) concerning relationships between changes in the variables were formulated and these propositions comprise the change model. This model is concerned with the covariation between changes in variables from one point in time to another. This procedure, then, is a means of analyzing what really happened over a particular time period. In this study three distinct time periods were analyzed-- 1940-1950, 1950-1960, 1960-1970, as well as 1940-1970 (the latter period to assess the effects of long-term change). As indicated earlier, finite first difference equations were used to measure the changes and regression analysis to measure the relationship between these changes.

The data in Appendix A (Tables 30 and 32) on the degree of change in the variables during the time periods indicate that a certain amount of change did occur in the variables. For instance from 1940-1950 population size,

on the average, increased by 7%, population density by 10.5%, and urbanization by 12.8%, and MOD by 2.8%. The range of percent change in these variables was quite wide. In the 1960-1970 time period the population size change ranged from -51% to 960% while for population density the range was from 30.3% to 230% and the division of labor from -22% to 52%. Percent change in urbanization ranged from -100% to 289%. Overall crime rates also registered a large increase during these time periods averaging over 100% within each period. Personal crime rates showed a large increase in every time period except 1950-1960 in which the change was -1.4% while property crime rates changed substantially in all time periods.

The change model is seen as a more direct test of Durkheimian theory since, by definition, it measures the relationships among change in the variables. In this way, the model is a measure of how changes in one part of a society's structure is related to changes in another part of the same society.

### △ The Division of Labor

The first propositions to be tested will be those which deal with relationships between changes in population size, density, urbanization and changes in the division of labor. The first proposition posits a relationship

between change in population size and change in the division of labor. The results in Appendix B (Tables 35-38) show that for none of the time periods is there even a positive relationship between the variables. The strongest zero-order correlation is in the 1940-1970 period ( $r = -.16$ ) and it is negative. It appears, then, that the change in population size has little effect upon the change in the division of labor in the short term and in the long term (1940-1970) it has a negative effect. Population size does not even seem to have a delayed effect. When the changes in population size in one time period are compared with the change in the division of labor in another time period all relationships are negative, as well as, negligible. The implication here is that, operating alone, change in population size has no positive impact upon change in the division of labor.

The relationship between changes in population density and change in the division of labor is almost identical to the situation concerning population size. In all time periods and lag situations the relationships are negative and extremely weak. The strongest relationship is in the 1940-1970 period ( $r = -.15$ ) and it too is negative. Again the implication is the change in population density has no positive relationship with change in the division of labor and may in fact be negatively

related. In other words, the greater the change in population density the less the change in the division of labor.

The same seems to apply with regard to urbanization. In every time period the correlations are either zero or negative. The closest association is in the 1940-1970 period ( $r = -.19$ ) but it is also negative. Change in urbanization also appears to have a lag influence on change in the division of labor but it too is negative ( $r = -.15$ ;  $r = -.10$ ).

An examination of the joint effects of change in population size, in population density, in urbanization upon change in the division of labor show similar results to those outlined above. The data in Tables 4 and 5 (pp. 131 and 132) show that the relationships in every time period are very weak except for 1940-1970 and although statistically significant ( $p < .001$ ) it is a moderate one ( $R = .24$ ). In that period only 5% of the variance in MOD change is explained by changes in the predictor variables. The beta's also indicate that the variables have a negative impact individually on change in the division of labor. In the long-term change period (1940-1970) the beta's of population size change (beta =  $-.11$ ) and urbanization change (beta =  $-.16$ ) are statistically significant (at .05

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TABLE 4

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN ANTECEDENT  
VARIABLES AND DIVISION OF LABOR

(Change Model)

<u>1940-1950</u>				
<u>Population size</u>	<u>Population density</u>	<u>Urbanization</u>	<u>R</u>	<u>R<sup>2</sup></u>
-.03	.00	-.05	.07	.00
-----				
<u>1950-1960</u>				
-.06	-.04	-.02	.03	.00
-----				
<u>1960-1970</u>				
-.05	-.05	.00	.03	.00
-----				
<u>1940-1970</u>				
-.11* (.05)	-.06	-.16* (.001)	.24* (.001)	.05

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TABLE 5

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN ANTECEDENT  
VARIABLES FROM TIME 1 TO TIME 2  
AND DIVISION OF LABOR FROM  
TIME 3 TO TIME 4

(Change model)

<u>1940-1950</u>					
	<u>Population size</u>	<u>Population density</u>	<u>Urbanization</u>	<u>R</u>	<u>R<sup>2</sup></u>
1950- 1960	-.03	-.04	-.15* (.001)	.17* (.05)	.02
-----					
<u>1940-1950</u>					
	<u>Population size</u>	<u>Population density</u>	<u>Urbanization</u>	<u>R</u>	<u>R<sup>2</sup></u>
1960- 1970	-.03	-.06	.00	.03	.00
-----					
<u>1950-1960</u>					
	<u>Population size</u>	<u>Population density</u>	<u>Urbanization</u>	<u>R</u>	<u>R<sup>2</sup></u>
1960- 1970	-.03	-.06	-.12	.15	.01

and .001 levels respectively) as well as negative. The lag impact of the predictor variables is also negative as evidenced by the beta's in Table 9. In nearly all these cases change in urbanization tends to have the greatest net effect on change in the division of labor.

The results tended to differ in the static model. Nearly all zero-order relationships were positive in which the closest associations were with urbanization. However, when the joint effect of the antecedents are considered the net impact of population size and density becomes negative and urbanization continues to have quite a strong positive impact. The implication is that the greater level of urbanization the greater the extent of the division of labor while the greater the level of population size and of population density the lower the extent of the division of labor. That is, in those counties in which there is a high level of urbanization yet a low level of population size and of population density there is a high division of labor. However, the findings with regard to the change model indicate that those counties which experienced a large change in the antecedents tended to experience a small change in the division of labor. Thus, as the antecedents change rapidly the division of labor changes slowly. These results, then, indicate that the antecedents to the division of labor (i.e., population size,

density, urbanization) do not have a positive effect on the division of labor. Also, except for 1940 the correlations between the division of labor and each of the antecedents are weak or almost nonexistent. The implication is that the antecedents to the division of labor are not antecedents at all. This follows Kemper's (1972) argument that the division of labor may have existed all along and thus, does not necessarily follow the changes in population size, density, and urbanization as Durkheim contended. The question which arises at this point is: if changes in population size, density, and urbanization do not lead to changes in the division of labor then what is the factor (or factors) which brings about a more elaborate division of labor? Is it the industrial changes themselves which originate in the pursuit of profit that leads to a more elaborate division of labor (i.e., the demand for more labor and greater specialization)? This need in turn may lead to an increase in population, density, and the formation of towns and cities. In other words, it may be that the division of labor is an outgrowth of the industrialization and commercial expansion of a society or a community which in turn brings about a demographic change. Other factors may effect changes such as accessibility to transportation facilities (as Cooley



pointed out) or the availability of other resources in the region conducive to industrialization. In such areas there was an increase in types of occupations<sup>13</sup> because of the new industry or industries (here we see the transformation occurring in the occupational structure--from one agrarian-based to one based on industrial considerations) leading to a more elaborate division of labor.<sup>14</sup> In addition, because of the demand for labor and the opportunities provided for those willing to sell their labor there was an increase in population and density. Also because the industry provided commercial opportunities and because the immigrants to the areas established households the formation of town (or urbanization) occurred. Actually, the formation of towns in the region is more closely associated with changes in the division of labor

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<sup>13</sup> Note that the measure of the division of labor (MOD) used in this study utilizes occupational categories.

<sup>14</sup> Remember that in Cressey's (1949) study of Harlan County the first change in the region was technological so that the coal mines in the area could be exploited. This change transformed the division of labor and the demographic and social structure of the county.

and thus, urbanization may be more clearly a function of the industrial changes than are population changes and density changes. Nevertheless, the data do raise some doubt about the Durkheimian model.

### △ Predictor Variables and △ The Overall Crime Rate

In examining the relationships concerning the predictor variables and crime rates it appears that the predictors are not efficient indicators of change in the rate of crime. The first relationship concerns how changes in population size are associated with change in the rate of crime. It was hypothesized that the relationship is a positive one and the results in Appendix B (Tables 35-38) do not tend to support this proposition in any period. Actually, none of the correlations are statistically significant.

The relationships are similar with regard to population density. The correlations are weak and positive for every period except 1940-1950, but only two correlations are statistically significant ( $p < .05$ ). One occurs in 1960-1970 and the other association occurs when change in population density from 1950-1960 is compared with change in the crime rate from 1960-1970 ( $r = .14$ ).

The results in Appendix B (Tables 35-38) show that the relationship between change in urbanization and change

in the rate of crime is almost nonexistent. None of the correlations are statistically significant and the strongest association is ( $r = .04$ ) during the 1940-1970 period. A similar pattern operates when change in the division of labor is compared with change in the crime rate. In one period the relationship is zero, in another extremely weak and negative, while in another extremely weak and positive. From this information one might conclude that there is no relationship at all between changes in the two variables if not for one notable exception. When change in the division of labor from 1940-1950 is compared with change in the crime rate from 1960-1970 the correlation, in addition to being much larger ( $r = .23$ ) and statistically significant ( $p < .001$ ), is in a positive direction. Thus, the change in the crime rate from 1960-1970 is positively associated with change in the division of labor from 1940-1950, clearly indicating a two-period lag in operation. It should be noted that when the predictor variables are considered together the net effect of change in the division of labor on change in the crime rate is strongest when comparisons are made across different time periods. This actually is the strongest relationship between any of the predictors and the overall crime rate ( $\beta = .23$ ). In effect, the division of labor

has a delayed impact on the rate of crime. Looking ahead, briefly, to the major crime rates the division of labor has its greatest impact when comparisons are made across different time periods, while other predictors appear to be more effective in the other comparisons. In essence, the effects of a change in the division of labor upon change in the crime rate tend to be delayed while the effects of changes in the other predictor variables on the change in the crime rate tend to be more immediate.

The data in Tables 6 and 7 indicate that the predictor variables operating together have little or no impact on the overall rate of crime. In only two comparisons is more than zero variance in the change in the rate of crime explained by change in the predictors. One comparison is when change in the predictors from 1940-1950 is related to change in the total crime rate from 1960-1970. Only 5% of the variance in the change in crime rates is explained and change in the division of labor (beta = .23) is the only variable which has any positive impact on the rate of crime. The other comparison is change in the predictor variables from 1950-1960 with change in the crime rate from 1960-1970. The results indicate that only 2% of the variance in the change in the crime rate is explained by the change in the predictor

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TABLE 6

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES AND  $\Delta$  TOTAL  
CRIME RATE

(Change Model)

<u>1940-1950</u>					
<u>Population size</u>	<u>Population density</u>	<u>Urbaniza- tion</u>	<u>Division of Labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
.00	-.01	-.02	.00	.03	.00
<hr/>					
<u>1950-1960</u>					
.00	.04	.00	-.04	.06	.00
<hr/>					
<u>1960-1970</u>					
.06	.10	.01	.00	.13	.00
<hr/>					
<u>1940-1970</u>					
.01	.01	.03	-.02	.05	.00

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TABLE 7

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES FROM TIME 1 TO TIME 2  
AND  $\Delta$  TOTAL CRIME RATES  
FROM TIME 3 TO TIME 4

(Change Model)

<u>1940-1950</u>						
	<u>Population size</u>	<u>Population density</u>	<u>Urbaniza- tion</u>	<u>Division of Labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
1950- 1960	.06	-.02	-.01	.03	.06	.00
-----						
<u>1940-1950</u>						
	<u>Population size</u>	<u>Population density</u>	<u>Urbaniza- tion</u>	<u>Division of Labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
1960- 1970	.08	.05	.02	.23* (.001)	.25* (.001)	.05
-----						
<u>1950-1960</u>						
	<u>Population size</u>	<u>Population density</u>	<u>Urbaniza- tion</u>	<u>Division of Labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
1960- 1970	.03	.13* (.01)	-.07	-.07	.18* (.05)	.02

variables and change in population density ( $\beta = .13$ ) is the only variable which has any positive effect on the change in the rate of crime.

### △ Personal/Property Crime Rates

The data in Appendix B (Tables 35-38) indicate that only in a very few comparisons is there a statistically significant relationship between any of the variables and personal/property crime rates. In the 1950-1960 time period the change in population size is negatively correlated ( $r = -.13$ ) with the change in the personal crime rate. However, in the 1960-1970 period the personal crime rate is positively correlated ( $r = .24$ ) with population size. Also during the same time period, density is positively related to personal crime rates ( $r = .53$ ) and again in the 1940-1970 period the variables are positively correlated ( $r = .14$ ). Finally change in personal crime rates from 1960-1970 is positively related to change in population size ( $r = .25$ ) and population density ( $r = .55$ ) from 1950-1960 and negatively related to ( $r = .14$ ) change in the division of labor from 1950-1960. The only comparison in which change in property crime rates is positively related to any of the predictors involves change in density from 1950-1960 and change in the property crime rate from 1960-1970 ( $r = .12$ ).

There is very little relationship between change in the predictor variables and change in the personal/property crime rates during every time period according to the results in Tables 8 and 9 (pp.143-144 ). Actually, the only relationship at all involves change in personal crime rates in 1960-1970 ( $R = .53$ ) in which 27% of the variation is explained by the predictors. As the data in Tables 8 and 9 show, density is the most important factor ( $\beta = .50$ ). When comparisons are made across different time periods the relationships change slightly. When change in the predictor variables in 1940-1950 is compared with change in personal crime rates in 1960-1970 the relationship is moderate ( $R = .36$ ) and when they are compared with change in property crime rates the relationship is weaker ( $R = .25$ ). However, an interesting occurrence is that with change in personal crime rates population size, density, and urbanization have about equal impact with the division of labor having very little effect but with regard to change in property crime rates the reverse is true. Change in the division of labor ( $\beta = .24$ ) is clearly the most important factor while the other variables have little or no impact. The strongest relationship in these comparisons (shown in Table 9) involves change in personal crime rates. When change in the predictor variables from 1950-1960 is related to change in personal crime rates from 1960-1970



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TABLE 8

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES AND  $\Delta$  PERSONAL/  
PROPERTY CRIME RATES

(Change Model)

	<u>Population size</u>	<u>Population density</u>	<u>Urbaniza- tion</u>	<u>Division of labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
<u>1940-1950</u>						
Personal	.03	.01	-.09	-.05	.10	.00
Property	.01	.01	.01	-.03	.04	.00
-----						
<u>1950-1960</u>						
Personal	.04	.03	.00	-.13	.14	.00
Property	.00	.03	.00	.00	.03	.00
-----						
<u>1960-1970</u>						
Personal	.06	.50* (.001)	.04	-.03	.53* (.001)	.27
Property	.05	.07	.00	.05	.10	.00
-----						
<u>1940-1970</u>						
Personal	.04	.14	-.09	-.02	.17	.02
Property	.01	.00	.03	-.02	.05	.00

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TABLE 9

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES FROM TIME 1 TO TIME 2  
AND  $\Delta$  PERSONAL/PROPERTY CRIME  
RATES FROM TIME 3 TO TIME 4

(Change Model)

	<u>Population</u> <u>size</u>	<u>Population</u> <u>density</u>	<u>Urbaniza-</u> <u>tion</u>	<u>Division</u> <u>of labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
<u>1940-1950</u>						
<u>1950-60</u>						
Personal	.06	.00	.03	.06	.09	.00
Property	.04	-.03	-.02	.02	.05	.00
-----						
<u>1940-1950</u>						
<u>1960-70</u>						
Personal	.19* (.001)	.16* (.001)	.19* (.001)	.07	.36* (.001)	.12
Property	.07	.04	.00	.24* (.001)	.25* (.001)	.05
-----						
<u>1950-1960</u>						
<u>1960-70</u>						
Personal	.00	.54* (.001)	-.03	-.10* (.01)	.56* (.001)	.30
Property	.03	.11	-.08	-.07	.16	.01

the association is relatively strong ( $R = .56$ ) in which density is the most effective element ( $\beta = .54$ ). It is interesting that in this same comparison, change in the division of labor has a negative, although weak, impact on both personal crime rates ( $\beta = -.10$ ) and property crime rates ( $\beta = -.07$ ). The results indicate that in the change model the division of labor either has a negative or a zero impact on the personal/property crime rates except in the comparisons across two time periods. That is, it takes a while for a change in the division of labor to have a positive impact on change in personal/property crime rates. In addition, change in density is apparently the most important factor in predicting personal/property crime rates.

#### △ Rural-Urban Comparisons

Rural-urban comparisons have been made for the change model as well as the static model. The data in Appendix D (Tables 53-56) show that there is no difference in the nature of the relationship between change in the antecedents and change in the division of labor in either rural or urban counties. In all time period comparisons the pattern is essentially the same. Change in the antecedents has either a zero or an inverse effect on change in the division of labor.

When the relationships are examined in rural and in urban counties regarding change in the total crime rate the greatest differences occur in the 1940-1950 and the 1960-1970 time periods. In the 1940-1950 period the correlation in all 300 counties is virtually zero ( $r = .03$ ) but when urban counties are examined the correlation becomes a moderate one ( $R = .39$ ). In both periods the relationships are extremely low in the rural counties such that in all time periods zero variance in the change in crime rate is explained by change in the predictors. In the urban counties change in population size and change in density are the most important factors with change in urbanization and change in the division of labor exerting virtually no positive impact on the rate of crime.

When comparisons are made across time periods the pattern changes to a certain degree. The relationship is stronger in the rural counties ( $R = .26$ ) than in the urban counties ( $R = .14$ ) when change in predictors from 1940-1950 is compared with change in crime rate from 1950-1960. However, when change in the predictors from 1940-1950 is compared with change in crime rates from 1960-1970 there is no difference in the strength of the associations in rural and in urban counties. An interesting difference is that in the rural counties change in the division of labor is

the most important factor (beta = .32) while in the urban counties the variables of change in population, density, urbanization share about equal importance. The impact of change in the division of labor in rural counties is reflected in the counties as a whole where change in the division of labor has the greatest net effect (beta = .23). In the last comparison (1950-1960 with 1960-1970) change in predictor variables has virtually no influence in change in the rate of crime, while in the urban counties the combined effect of the predictors is much stronger ( $R^2 = .18$ ). However, the strength of the relationship is largely a function of change in density (beta = .39) which is the only predictor variable that has any positive impact of note. This impact is reflected in all the counties but, due to the limiting influence of the rural counties, to a much smaller degree.

When rural-urban comparisons are made regarding change in personal/property crime rates the data (shown in Appendix D, Tables 61-64) indicate that the relationships are much stronger in urban counties than in either rural counties or in all the counties studied. For instance, in the urban counties every relationship is statistically significant except with regard to change in property crime rate in 1950-1960. The strongest involves change in personal crime rates in 1960-1970 ( $R = .69$ ) in which 46% of the variance

in the crime rate is explained by the predictors. Consistently the most important element is change in density in the urban counties, followed by change in population size. Change in urbanization and change in the division of labor have little, if any, impact on change in personal/property crime rates.

The relationships are stronger in the rural counties when change in the dependent variables of a later time period are compared with change in the predictors of an earlier time period. Nevertheless, the relationships are still stronger in the urban counties for all change model comparisons. The closest associations occur when change in the predictor variables from 1950-1960 are compared with change in personal/property crime rates from 1960-1970. Change in personal crime rates is very strongly associated ( $R = .71$ ) with change in the predictor variables and change in property crime ( $R = .39$ ) moderately associated. Change in density is the most important factor in this period ( $\beta = .69$ ;  $\beta = .32$ ) as it is generally in other time periods. Change in population size is also an important factor while change in urbanization and change in the division of labor usually have a weak positive or a negative impact. As in other comparisons change in the division of labor has its greatest impact in the rural counties.

Summary

Findings concerning the change model provide almost no support for the model. In every time period no more than 5% variance in the change in the division of labor is explained by change in the antecedents. In addition, all statistically significant beta's are negative--clearly implying that the antecedents are not antecedents at all. Evidently, other factors operate to bring about a change to a more elaborate division of labor.

The change version of the Durkheimian model is no better predictor of change in crime rates than change in the division of labor. In no time period does change in the predictor variables explain any more than 5% of the variance in the crime rate. The factor which has the greatest positive net impact on the rate of crime is the division of labor (beta = .23) in the 1940-1950/1960-1970 comparison.

The results concerning change in personal/property crime rates provide little support for the Durkheimian model. Comparisons within change periods indicate that in only one period (1960-1970) is there a statistically significant relationship. This relationship involves personal crime rates in which population density is the only factor of importance. There is more support for the model when

comparisons are made across time periods. In two periods change in personal crime rates is closely related to change in the predictors ( $\Delta$  1940-1950 with  $\Delta$  1960-1970; and  $\Delta$  1950-1960 with  $\Delta$  1960-1970) and in one period ( $\Delta$  1940-1950 with 1960-1970) change in property crime rates is moderately related to the predictors. An interesting pattern is that the division of labor tends to have a positive impact on property crime rates and a negative impact on personal crime rates.

Comparisons of rural and urban counties indicate that there is no difference in the relationships involving the antecedents and the division of labor. The results concerning crime rates, however, show some differences between rural and urban counties. For both overall and personal/property crime rates the relationships are stronger in urban than in rural counties. Change in population density and change in population size tend to have the greatest impact in urban counties and change in the division of labor in rural counties. In general, the data suggest that the change version of the Durkheimian model of crime rates is more applicable to urban communities than to rural communities.



## CHAPTER V

### ANALYSIS OF MAJOR CRIME RATES

The results summarized in Chapter IV yielded little support for a Durkheimian model of crime rates. In only a very few comparisons, in both static and change models, are the relationships statistically significant and usually such relationships are only moderate in strength. This section is an effort to determine if the Durkheimian model is more applicable to certain types of crimes rather than a general rate of crime. The crimes included in this analysis are homicide, assault, armed robbery, grand larceny (i.e., theft of \$100 or more), petty larceny (i.e., thefts of under \$100 in value), and auto thefts. These crimes, along with forcible rape,<sup>15</sup> make up what the FBI calls the "Seven Major Index Crimes."<sup>16</sup> In addition, these

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<sup>15</sup> Forcible rape was excluded since data concerning this offense are missing for the 1950 time period.

<sup>16</sup> Petty larceny is usually not classified as a major crime but it is included here since it is one of the offenses reported by the FBI. In addition, the inclusion of petty larceny may provide some index of the less serious property offenses.

crimes together make what was referred to in Chapter IV as the overall crime rate. The relationships between the predictor variables and the major crime rates will be examined for both static and change models.<sup>17</sup> First, the results concerning the static model.

### Static Model

The data in Appendix A (Table 31) indicate that in nearly every time period but 1970 petty larceny is the highest crime rate while the lowest involves homicide rates. Burglary exhibits the highest mean rate of crime ( $\bar{x} = 5.05$  per 1000) in 1970 and homicide the lowest mean rate ( $\bar{x} = .037$  in 1970) in 1970.

The zero-order correlations shown in Appendix B (Tables 33 and 34) indicate that the correlations are generally strong in every time period but 1940. No crime is associated with (to a statistically significant degree) either population size or the division of labor in 1940. Those relationships which are statistically significant ( $p < .05$ ) in 1940 are all negative. Density is negatively correlated with burglary ( $r = -.12$ ), grand larceny ( $r = -.13$ )

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<sup>17</sup>See Chapter IV for a description of the static and the change models of crime rates.

and petty larceny ( $r = -.12$ ) while urbanization is negatively correlated with burglary ( $r = -.19$ ) and grand larceny ( $r = -.18$ ).

However, in 1950 all statistically significant correlations are in the positive direction. In 1950, the strongest association is with petty larceny ( $r = .30$ ), in 1960 with auto theft ( $r = .48$ ) and in 1970 with auto theft again ( $r = .56$ ). In effect, although population size does not have a very strong relationship with every type of major crime rate it is closely associated with most of the major crimes for every year but 1940, the exceptions being robbery and the most violent crime--homicide.

The pattern regarding population density is similar to the correlations involving population size after 1940. In 1940, density is negatively related to burglary, grand larceny, and petty larceny to a statistically significant degree. Density is more closely associated with petty larceny in 1950 ( $r = .41$ ), auto theft ( $r = .49$ ) and robbery ( $r = .86$ ) and auto theft ( $r = .69$ ) in 1970. However, there are relatively moderate associations with several other crime rates. In 1950, population density is sufficiently associated with all rates of crime but homicide and robbery to lend some support to the hypothesis. In 1960, a fairly moderate correlation between density and the individual crime rates is present except for homicide

and in 1970 the exception is grand larceny.

The same pattern which operated with population size and density seems to be operating with urbanization as well. In 1940, urbanization is negatively correlated with all the major crime rates, some of which are statistically significant (e.g.,  $r = -.19$  with burglary,  $r = -.18$  with grand larceny). But in 1950 all associations are positive except for those with homicide and robbery and positive correlations are shown for all crime rates in 1960 and 1970. However, in 1970 two correlations--burglary and grand larceny--are not statistically significant. Urbanization is most closely associated with petty larceny ( $r = .41$ ) in 1960 and with auto theft ( $r = .53$ ) and robbery ( $r = .50$ ) in 1970. With the exception of the negative associations in 1940 and in 1950 there are comparatively weak correlations between some of the crime rates and urbanization. In 1960 urbanization has a very weak association ( $r = .05$ ) with homicide and in 1970 a weak association with burglary ( $r = .08$ ) and grand larceny ( $r = .03$ ). Otherwise, the correlations appear to be of sufficient magnitude to provide support for the hypothesis.

The next comparison in the static model concerns the relationship between the division of labor and the crime rate. In 1940 none of the correlations are statistically significant and in 1950 only three are significant--those

involving burglary, petty larceny, and auto theft. With regard to the major crimes, however, the results are more consistent for the division of labor than with the other independent variables. Very few of the correlations are of sufficient magnitude to lend support to the static model. The strongest association is in 1950 with auto theft ( $r = .20$ ). In two cases, assault and burglary, in 1950 there is no correlation at all between the variables. In general, with few exceptions, it appears that there is very little relationship between the division of labor and the major rates of crime. The only support to speak of for this hypothesis is with regard to the crimes of burglary ( $r = .13$ ), petty larceny ( $r = .15$ ) and auto theft ( $r = .20$ ) in 1950 and petty larceny ( $r = .12$ ) in 1960. Webb's (1972) results indicate that in 1960 the relationship between the division of labor and the personal crime rate ( $r = .10$ ) and the property crime rate ( $r = .21$ ) are relatively weak. As in Webb's study, the division of labor seems to be more closely associated with property crime rates (i.e., burglary, larceny, auto theft) than with personal crime rates. The results, then, provide some support for the model but for only a few crime rates.

Examining the joint effects of the predictor variables, the data in Tables 10-13 (pp.156 -159) show that the predictors become more closely related to the crime rates

TABLE 10

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS OF MAJOR CRIME RATES  
AND PREDICTOR VARIABLES, 1940

(Static Model)

	<u>Population size</u>	<u>Population density</u>	<u>Urbaniza- tion</u>	<u>Division of labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
Homicide	.00	-.02	-.17	.09	.17	.02
Robbery	.00	.04	-.11	.06	.09	.00
Assault	.00	.00	-.13	.07	.12	.00
Burglary	.03	-.02	-.24	.12* (.01)	.22* (.01)	.04
Grand larceny	.00	-.02	-.25* (.001)	.18* (.001)	.24* (.001)	.05
Petty larceny	.00	.02	-.10	.05	.08	.00
Auto theft	.05	-.07	-.09	.11	.14	.01

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TABLE 11

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS OF MAJOR CRIME RATES  
AND PREDICTOR VARIABLES, 1950

(Static Model)

	Population size	Population density	Urbaniza- tion	Division of labor	R	R <sup>2</sup>
Homicide	.00	.00	-.03	-.09	.11	.00
Robbery	.06	.09	-.10	.05	.11	.00
Assault	.06	.07	.12* (.01)	.00	.22* (.01)	.03
Burglary	-.02	-.02	.06	-.01	.05	.01
Grand larceny	.14* (.01)	.02	.16* (.01)	.01	.27* (.001)	.06
Petty larceny	.07	.20* (.001)	.30* (.001)	.00	.48* (.001)	.22
Auto theft	.13* (.01)	.12* (.05)	.11* (.05)	.12* (.05)	.34* (.001)	.11

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TABLE 12

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS OF MAJOR CRIME RATES  
AND PREDICTOR VARIABLES, 1960

(Static Model)

	Population size	Population density	Urbaniza- tion	Division of labor	R	R <sup>2</sup>
Homicide	.00	.10	-.03	.09	.12	.00
Robbery	.17* (.001)	.22* (.001)	.02	.03	.36* (.001)	.12
Assault	.25* (.001)	.14* (.001)	.06	.04	.39* (.001)	.14
Burglary	.19* (.001)	.17* (.001)	-.03	.04	.31* (.001)	.08
Grand larceny	.15* (.001)	.16* (.001)	.02	.08	.31* (.001)	.08
Petty larceny	.05	.16* (.001)	.18* (.001)	.06	.35* (.001)	.11
Auto theft	.28* (.001)	.23* (.001)	.18* (.001)	.00	.56* (.001)	.31



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TABLE 13

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS OF MAJOR CRIME RATES  
AND PREDICTOR VARIABLES, 1970

(Static Model)

	<u>Population size</u>	<u>Population density</u>	<u>Urbaniza- tion</u>	<u>Division of labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
Homicide	.03	.20* (.001)	.17* (.001)	.07	.34* (.001)	.11
Robbery	.10* (.001)	.76* (.001)	.10* (.001)	-.01	.87* (.001)	.75
Assault	.12* (.01)	.25* (.001)	.03	.01	.37* (.001)	.11
Burglary	.11* (.05)	.16* (.001)	-.05	.02	.22* (.05)	.03
Grand larceny	.04	.09	-.02	.00	.10	.00
Petty larceny	.07	.10	.20* (.001)	-.06	.31* (.001)	.03
Auto theft	.22* (.001)	.46* (.001)	.22* (.001)	-.04	.75* (.001)	.56

as the years progress. In 1940 the predictors are related to any degree only to burglary ( $R = .22$ ) and grand larceny ( $R = .24$ ). In both cases the division of labor has the greatest positive effect ( $\beta = .12$  and  $.18$ ) on the two crime rates. In 1950, the predictors are closely related to a greater number of crime rates than in 1940. Assault ( $R = .22$ ) and grand larceny ( $R = .27$ ) are very weakly related but stronger relations are evident for petty larceny ( $R = .48$ ) and auto theft ( $R = .34$ ). The predictor variables explain very little variance in the assault rate ( $R^2 = .03$ ) and the grand larceny rate ( $R^2 = .06$ ) but explain a greater amount of variance in petty larceny ( $R^2 = .22$ ) and auto theft ( $R^2 = .11$ ). Urbanization seems to have the greatest net impact ( $\beta = .16$ ). However, with regard to the latter, population size also has some influence ( $\beta = .14$ ). Urbanization ( $\beta = .30$ ) and population density ( $\beta = .21$ ) are most influential concerning petty larceny. All the variables have about the same impact on auto theft with population size ( $\beta = .13$ ) and the division of labor ( $\beta = .12$ ) having the greatest effect.

For 1960, the predictor variables are all related to each major crime rate to a statistically significant degree with the exception of homicide. The strongest relationship is with auto theft ( $R = .56$ ). The remaining crimes

are associated with the predictor variables to a moderate degree. The predictor variables operating together explain 31% of the variation in auto theft, 8% in burglary, 14% in assault, and 12% in robbery. Population density has the greatest impact upon robbery and grand larceny, population size upon assault, and auto theft, and urbanization upon petty larceny.

In 1970, moderate to very strong relationships with the predictor variables exist for all crime rates but grand larceny in which a very weak association is shown ( $R = .10$ ) and zero variation is explained. The strongest relationships are between the predictor variables and robbery ( $R = .87$ ) and auto theft ( $R = .75$ ). The other relationships are of a low to moderate degree. The predictor variables explain 75% of the variance in robbery, 56% of the variance in auto theft, 11% in homicide and assault, and very little in burglary ( $R^2 = .03$ ) and petty larceny ( $R^2 = .08$ ). Density has the greatest net impact on every crime rate except for petty larceny in which urbanization is the major factor. This is especially true with regard to robbery in which density is the only apparent factor ( $\beta = .76$ ).

The nature of the relationship and the net impact of each of the predictor variables is quite often dependent on the time period. In 1940 the relations are all weak,

the strongest being with grand larceny and the major factor being the division of labor. Petty larceny is most closely related to the predictor variables in 1950 ( $R = .48$ ) with urbanization and density being the major factors in this relationship. In 1960, auto theft has the closest relationship with the predictors ( $R = .56$ ) with population size being the major element. In 1970, auto theft ( $R = .75$ ) and robbery ( $R = .87$ ) appear to be most effected by the predictors in which population density exerted the greatest net influence.

#### Rural-Urban Comparisons

The data in Appendix C (Tables 45-52) show that when the major crime rates in rural counties are compared with those in urban counties some differences emerge. In 1940 there are few differences in relationships but in 1950 the associations are generally stronger in the urban counties, although the closest associations involve the same crime rates--robbery, burglary, grand larceny, petty larceny, and auto theft. The predictor variables are most strongly correlated with all these in the urban counties. As in all 300 counties the most important factor is urbanization in the urban counties while population size and the division of labor are the most important factors in the rural counties. However, in the rural counties population size tends to have

an inverse effect while the division of labor has a positive effect on the crime rates. Differences between rural and urban counties become more clear cut in 1960 and 1970 and the division of labor virtually disappears as an important element. In 1960 in the rural counties the only close relationships involve grand larceny ( $R = .29$ ) and auto theft ( $R = .35$ ) in which the most important factors--density and urbanization--have an inverse effect. On the other hand, in the urban counties the predictor variables are closely related to every major crime rate, with the strongest including auto theft ( $R = .70$ ), burglary ( $R = .66$ ), and grand larceny ( $R = .64$ ). Urbanization and population size are consistently the most important factors. The weakest relationship is with homicide ( $R = .31$ ) in which density has the greatest net impact ( $\beta = .34$ ). The pattern is similar in 1970 in which all of the relationships are close in the urban counties and in the rural counties the only close relationship involves burglary ( $R = .24$ ). In the urban counties the closest associations include robbery ( $R = .88$ ), auto theft ( $R = .83$ ), petty larceny ( $R = .72$ ) and grand larceny ( $R = .68$ ). The predictor variables, for instance, explain 77% of the variance in robbery rates and 68% of the variance in auto theft rates. The weakest correlation involves homicide rates ( $R = .42$ ) and 15% of the variance in homicides is

explained by the predictors. Again, as in 1960, urbanization is consistently the most important factor in predicting the major crime rates in the urban counties. Density is the best at explaining robbery rates (beta = .28), and urbanization at explaining homicide (beta = .28), burglary (beta = .36), grand larceny (beta = .56), petty larceny (beta = .70), and auto theft (beta = .42) rates. The division of labor has little or no positive impact in either rural or urban counties.

There are also differences when the major crime rates in the counties as a whole are compared with the major crime rates in the rural and the urban counties. Few differences are notable in 1940 but in 1950 there are more close relationships in both rural and urban counties than in all 300 counties. Robbery ( $R = .24$ ), burglary ( $R = .25$ ), grand larceny ( $R = .41$ ) and auto theft ( $R = .43$ ) rates are more closely associated with the predictors in the rural counties than in all the counties. Petty larceny is related to the predictors to the same degree ( $R = .48$ ) in all the counties as well as in the urban counties. The rural counties, then, seem to have weakened the overall relationship.

The pattern continues in 1960 in which the strongest associations are all in the urban counties. Actually every crime rate is related to the predictor variables to a

statistically significant degree in the urban counties. The strongest relationships in the rural counties involve auto thefts ( $R = .35$ ) and in the urban counties, auto thefts ( $R = .70$ ) as well as in all the counties ( $R = .56$ ). The pattern is duplicated in 1970.

The results along with those presented earlier regarding rural-urban differences suggest that the Durkheimian model is more applicable to urban than to rural areas. That is, the level of development of the predictor variables, excepting the division of labor, is a critical element in predicting rates of crime in urban communities.

#### Summary

The results concerning the predictor variables and the major crime rates show that the static model receives greater overall support in 1960 and 1970 than in 1940 and 1950. In 1940 only burglary and grand larceny are related to the predictors to a sufficient degree. The division of labor has the greatest positive impact during the 1940 period and urbanization the greatest negative impact. In 1950, the assault, grand larceny, petty larceny, and the auto theft rates are most closely associated with the predictor variables. The data show that in 1960 all crime rates but homicides are related to the predictors to an

acceptable degree. Grand larceny is the only crime rate with no relationship to the predictor variables while robbery and auto thefts are the rates most closely associated with the predictors. In all time periods, density is consistently the most important single factor in predicting major crime rates. While the division of labor is consistently the least important influence on major crime rates. With the exception of the division of labor, then, the static model is a fairly good predictor of major crime rates.

When rural-urban comparisons are made the relationships generally are much stronger in the urban counties than in the rural counties. Urbanization emerges as the main predictor in the urban counties while the division of labor is almost nonexistent as a factor. One interesting finding is that in the urban counties homicide is more closely related to the predictors than in the rural counties. In general, the rural counties have tended to modify the relationships. Evidently the level of the predictor variables, excepting the division of labor, has more of an effect in urban communities than in rural communities.



Change Model

Among the major crime rates the so-called violent crimes tended to decrease on the average while the property offenses tended to increase in these counties. Burglary had the greatest increase within each time period ranging from an average of about 140% in 1950-1960 to over 400% in 1960-1970. Homicide and robbery rates, on the average, decreased within each time period while grand larceny and petty larceny, as well as burglary increased during each time period.

The propositions which posited a direct relationship between change in each of the predictor variables and change in the crime rate do not hold for every crime rate in every time period according to the data in Appendix B (Tables 35-38). In the 1940-1950 period there is a positive relationship between change in population size and change in assault, grand larceny, and change in auto thefts ( $r = .14, .24, .19$ ). The same relations occur concerning population density but change in urbanization is positively related only to change in assault rates and change in grand larceny rates. Change in the division of labor is related only to change in auto theft rates ( $r = .13$ ) in the 1940-1950 period. In the 1950-1960 period change in population size is directly related to change in the assault rate

( $r = .14$ ) and in the auto theft rate ( $r = .24$ ). Change in population density is directly related only to change in the assault rate ( $r = .12$ ). Change in urbanization is not related to change in any crime rate to any significant degree, while change in the division of labor is inversely related to change in the homicide rate ( $r = -.14$ ).

Change in population size from 1960-1970 is directly related to changes in the major crime rates of robbery ( $r = .29$ ), assault ( $r = .16$ ), and auto theft ( $r = .31$ ). Density change is also directly related to changes in the crime rates of robbery ( $r = .69$ ), assault ( $r = .32$ ), and auto theft ( $r = .38$ ). Urbanization change appears to have no relation with any of the major crime rates while MOD change is inversely related to change in the rate of auto thefts ( $r = -.14$ ). In the long-term change (1940-1970) situation population change is positively correlated with changes in the major crimes of homicide ( $r = .13$ ), assault ( $r = .26$ ), and auto theft ( $r = .47$ ). The same pattern operates with population density while urbanization change is closely related only to change in the assault rate ( $r = .17$ ). Division of labor change again deviates by being inversely related to change in the crime rates of assault ( $r = -.13$ ) and auto theft ( $r = -.14$ ). Other than the positive association with change in grand larceny ( $r = .13$ ), change in the division of labor is not

positively correlated with any major crime rate.

When comparisons are made across different time periods the overall pattern remains essentially the same (See Appendix B, Tables 37-38). Change in population is positively related to assault and auto theft rates in every comparison and to grand larceny in the 1940-1950 with 1950-1960 comparison and to robbery in both the 1940-1950 with 1960-1970 and 1950-1960 with 1960-1970 comparisons. The same pattern operates with change in population density except in the first comparison (1940-1950 with 1950-1960) in which there are no statistically significant correlations involving density. Change in urbanization, however, tends to be associated with changes in fewer of the crime rates. The closest correlation is between change in urbanization (1940-1950) and change in robbery (1960-1970). Change in the division of labor in 1940-1950 is most closely associated with change in assault ( $r = .13$ ) in the 1950-1960 period and with change in grand larceny ( $r = .25$ ) in the 1960-1970 period. Change in the division of labor in 1950-1960 is positively related only to change in the assault rate in 1960-1970 ( $r = .13$ ). Change in density is most closely correlated with change in robbery in 1960-1970 ( $r = .73$ ) and change in auto theft in 1960-1970 ( $r = .52$ ). It is apparent that the strongest relationships involve change in population density whether in the straight-forward

change model or in the lag comparisons.

The more important concern, however, is how the joint effects of the changes in the predictor variables influence changes in the major crime rates. In general, it appears from the results in Tables 14-20 (pp.171 - 177) that the change version of the Durkheimian model is most consistent in predicting changes in auto theft and in assaults. In every change period the relationship between change in the predictors and change in auto theft and in assault rates are statistically significant (at either the .05, .01, or .001 level). However, the amount of variance explained in the change in these two crime rates by change in the predictors is usually quite low ( $R^2 < .07$ ) except with auto theft in 1960-1970 ( $R^2 = .18$ ), in 1940-1970 ( $R^2 = .37$ ) and in the lag periods of 1940-1950 with 1960-1970 ( $R^2 = .21$ ) and 1950-1960 with 1960-1970 ( $R^2 = .28$ ). Change in the robbery rate, however, is most strongly correlated with change in the predictor variables. In the 1960-1970 period, for instance, the R is .70 and  $R^2$  is .48 with density having the only effect of any substance ( $\beta = .67$ ). This is the most ideal situation in Durkheimian terms in that when change in the predictor variables is compared with change in the major crime rates in 1960-1970 every predictor has a statistically significant net impact (and all to about an equal degree) upon change in the robbery rate. It is also during this same change period

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TABLE 14

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES AND  $\Delta$  MAJOR CRIME  
RATES, 1940-50

(Change Model)

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	$\Delta$ population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
Homicide	-.01	-.01	-.03	-.06	.06	.00
Robbery	.03	.00	-.09	.04	.10	.00
Assault	.07	.14* (.001)	.13* (.001)	-.03	.23* (.01)	.04
Burglary	.00	-.02	.00	.00	.02	.00
Grand larceny	.19* (.001)	.09	.13* (.001)	.01	.28* (.001)	.07
Petty larceny	.04	.01	-.09	-.03	.10	.00
Auto theft	.14*	.14*	.02	.14*	.27*	.06

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TABLE 15

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES AND  $\Delta$  MAJOR CRIME  
RATES, 1950-60

(Change Model)

	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
Homicide	.01	.01	.03	.06	.06	.00
Robbery	.03	.03	-.02	.01	.06	.00
Assault	.11	.07	.00	-.04	.16	.01
Burglary	.09	.01	-.05	-.06	.13	.00
Grand larceny	.08	.05	.08	-.03	.15	.01
Petty larceny	-.10	.02	.00	.01	.09	.00
Auto theft	.24* (.001)	.00	.04	.07	.25* (.001)	.05

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TABLE 16

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES AND  $\Delta$  MAJOR CRIME  
RATES, 1960-70

(Change Model)

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	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
Homicide	.02	.04	.02	.01	.06	.00
Robbery	.05	.67* (.001)	.02	-.03	.70* (.001)	.48
Assault	.12* (.01)	.08	.12* (.01)	.03	.22* (.01)	.04
Burglary	.06	.07	.00	.00	.11	.00
Grand larceny	.02	.04	.01	.00	.05	.00
Petty larceny	.06	.04	.01	.00	.09	.00
Auto theft	.19* (.001)	.31* (.001)	.00	-.11* (.01)	.44* (.001)	.18

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TABLE 17

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES AND  $\Delta$  MAJOR CRIME  
RATES, 1940-70

(Change Model)

	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
Homicide	.06	.17* (.001)	.00	-.02	.21* (.01)	.03
Robbery	.02	.08	.11	.00	.13	.00
Assault	.12* (.01)	.32* (.001)	.06	-.05	.41* (.001)	.16
Burglary	.00	.00	.03	-.03	.05	.00
Grand larceny	.06	.08	.00	.15* (.001)	.18* (.15)	.02
Petty larceny	.03	.03	.03	.00	.06	.00
Auto theft	.29* (.001)	.45* (.001)	-.12* (.001)	-.06	.62* (.001)	.37



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TABLE 18

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES 1940-50 AND  $\Delta$  MAJOR  
CRIME RATES, 1960-70

(Change Model)

	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
Homicide	.05	.02	.00	.06	.09	.00
Robbery	.22* (.001)	.23* (.001)	.24* (.001)	.10* (.01)	.46* (.001)	.20
Assault	.13* (.01)	.08	.12* (.01)	.03	.22* (.01)	.04
Burglary	.08	.05	-.01	.23* (.001)	.25* (.001)	.05
Grand larceny	.03	.03	.01	.25* (.001)	.25* (.001)	.05
Petty larceny	.06	.00	.02	.16* (.001)	.17* (.05)	.02
Auto theft	.24* (.001)	.31* (.001)	.03	.09* (.05)	.47* (.001)	.21

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TABLE 19

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES 1940-50 AND  $\Delta$  MAJOR  
CRIME RATES, 1950-60

(Change Model)

	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
Homicide	.01	.01	.03	.06	.07	.00
Robbery	.05	.02	.00	-.06	.09	.00
Assault	.16* (.001)	-.05	.02	.14* (.001)	.20 (.05)	.03
Burglary	.10	.01	-.04	-.06	.12	.00
Grand larceny	.13* (.01)	.04	-.10* (.05)	.09* (.05)	.20* (.05)	.03
Petty larceny	-.04	-.05	.01	.05	.10	.00
Auto theft	.19*	.03	.03	-.19*	.30*	.03

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TABLE 20

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS  
AND CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES 1950-60 AND  $\Delta$  MAJOR  
CRIME RATES, 1960-70

(Change Model)

	<u><math>\Delta</math>Population size</u>	<u><math>\Delta</math>Population density</u>	<u><math>\Delta</math>Urbaniza- tion</u>	<u><math>\Delta</math>Division of labor</u>	R	R <sup>2</sup>
Homicide	.04	.07	-.13	-.04	.15	.01
Robbery	-.04	.75* (.001)	-.04	-.04	.73* (.001)	.53
Assault	.02	.31* (.001)	.00	-.11* (.01)	.34* (.001)	.10
Burglary	.04	.12* (.05)	-.10* (.05)	-.07	.18* (.05)	.02
Grand larceny	.01	.06	-.06	-.05	.10	.00
Petty larceny	.03	.08	-.06	-.07	.13	.00
Auto theft	.12* (.001)	.46* (.001)	-.10* (.01)	-.06	.54* (.001)	.28

that there are more statistically significant relationships with change in the predictors (the lone exception involving relationships with homicide). This pattern implies that the impact of change in the predictor variables may be more widespread when the dependent variables are lagged. This is also the period when change in the division of labor has the greatest overall impact. The beta's for the division of labor in this lag period are statistically significant with regard to every crime except homicide and assault. In three situations--burglary, grand larceny, and petty larceny--change in the division of labor is the only factor with a net impact of any importance. Thus, it appears that change in the division of labor is most effective in the lag situation than in the typical change situation. Overall, it is apparent that change in the major crime rates in the 1960-1970 period were most effected by change in the predictor variables in the two previous time periods (1940-1950 and 1950-1960). One thing is evident and that is the Durkheimian model is a poor predictor of changes in rates of homicide. In no period was the change in predictors of any substantial importance in change in the homicide rate.

In several situations, the change in predictors has a negative impact upon change in a crime rate. Change in the division of labor has an inverse net impact (beta =  $-.11$ )

upon auto theft in the 1940-1950 change period and in the 1940-1950 with 1950-1960 period ( $\beta = -.19$ ) but a positive effect in the 1940-1950 with 1960-1970 period ( $\beta = .09$ ). Urbanization has an inverse effect on grand larceny ( $\beta = -.10$ ) in the 1940-1950 with 1960-1970 period, an inverse effect on burglary ( $\beta = -.10$ ) and auto theft rates ( $\beta = -.10$ ) in the 1950-1960 with 1960-1970 period. Thus, in the first change period (1940-1950) the greater the change in the division of labor the greater the change in auto theft rates but in the third change period (1960-1970) and the first lag period (1940-1950 with 1950-1960) the greater the change in the division of labor the less the change in rate of auto thefts. However, in the second lag period (1940-1950 with 1960-1970) the greater the change in the division of labor the greater the change in the auto theft rate. Urbanization change operates as a negative factor only in lag situations and in the long-term change situation (with auto theft rates). In the first lag situation (1940-1950 with 1950-1960) the greater the change in urbanization the less the change in the petty larceny rate and in the third lag situation (1950 with 1970) the greater the change in urbanization the less the change in burglary and in auto theft rates. In essence, there are situations in which change in the predictors may actually

have a negative influence on the rates of certain crimes.

### Rural-Urban Comparisons

The pattern which is evident regarding overall and personal/property crime rates is also apparent regarding the major crime rates--that is the relationships are stronger in urban than in rural counties (see Appendix D, Tables 65-78). For instance, in the 1940-1950 change period all relationships in the urban counties except those involving homicide and assault are statistically significant. The associations in the rural counties are more like those in the counties as a whole suggesting again that the rural counties have a moderating influence on the overall relationship. The strongest relationships in the urban counties during this time period involve robbery ( $R = .52$ ), grand larceny ( $R = .45$ ) and burglary ( $R = .43$ ). Change in density and change in population size are the most influential factors in both rural and urban counties while change in the division of labor has no positive impact of note in either rural or urban counties. Change in urbanization is more of a factor in rural counties. Change in population in the less populated counties apparently has no positive influence on the major crime rates. The pattern repeats itself in subsequent time periods in which change in the predictors tends to have no influence on the variance in the change

in major crimes in the rural counties. On the other hand, in the urban counties only change in homicide rates and change in petty larceny rates are not influenced by the change in the predictor variables. The closest associations involve change in the burglary rate ( $R = .45$ ) and in auto theft rate ( $R = .40$ ). Change in population size is the dominant factor in the urban counties.

#### Summary

The data indicate that the change version of the Durkheimian model is a consistent predictor of change in auto theft rates and fairly good predictor of change in assault rates and change in grand larceny rates. However, the strongest relationships involve change in robbery rates in which the amount of variance explained reaches 53% in one period. The change model is not as efficient in predicting change in homicide, burglary, and petty larceny rates.

Change in density and change in population size are clearly the most consistent factors in predicting change in the major crime rates. Change in auto theft, assault, and robbery rates are effected most consistently by change in density and change in population size. The least important predictor apparently is change in urbanization. Its greatest impact tends to be on change in rates of assault. The only circumstance in which change in the division of labor

has a positive impact is when there is a two-period lag in its effect. For instance, when change in the division of labor from 1940-1950 is compared with change in each of the major crime rates from 1960-1970 the division of labor is the only variable which has any important influence on the rates of burglary, grand larceny, and petty larceny. In general, the effectiveness of the change model is often dependent on the time period as well as the crime itself.

Rural-urban comparisons reveal that the relationships tend to be stronger in the urban counties than in the rural counties. The strongest relationships in the urban counties for most of the time periods involve robbery, grand larceny, burglary, and auto theft rates. Change in density and change in population size have the greatest positive impact in urban counties while change in urbanization frequently has a negative impact in urban counties. In addition, change in population size quite often has a negative influence on the rate of crime in rural counties. The division of labor has its greatest positive impact in rural counties.

The crime rates which are least effected by the predictors either in rural or in urban counties are homicide and petty larceny. The strongest relationship of any period involves change in the robbery rate in 1960-1970 when this rate is related to change in the predictors from 1950-1960 ( $R = .83$ ).



In sum, the change model is most consistent in predicting changes in property-type offenses such as auto theft and grand larceny and least efficient in predicting change in the most violent crime rate--homicide--as well as the "least serious" rate--petty larceny. The change model is also more applicable to urban than to rural counties.

## CHAPTER VI

### SUMMARY AND CONCLUSIONS

#### Overview of Theoretical Model

This study is an effort to test a Durkheimian explanation of crime rates. Durkheim did not address himself to rates of crime but his theory of society does provide a framework from which such an explanation can be derived. Durkheim's central concern, particularly in Suicide (1951) and in The Division of Labor in Society (1964), was social solidarity, i.e., what holds society together without being too restrictive on the individual? In developing this framework he indicated how the nature of the social structure can influence social behavior. For instance, in Suicide (1951) he pointed out that suicide can result from too much social solidarity (i.e., altruism), too little solidarity (i.e., anomie), or its limited presence, (i.e., egoism). Here, the nature of the solidarity effects individual behavior. Durkheim also is primarily concerned with social solidarity in The Division of Labor in Society (1964). Two main types of solidarity exist--mechanical which is based in the collective conscience and very little differentiation (i.e., a low division of labor) and organic which is based on differentiation of functions (a high

division of labor) and interdependence among these functions. As societies evolve they change from mechanical to organic solidarity. Thus, in The Division of Labor in Society he formulates a theory of the transformation of societies. The main variables which change during this transformation are population size, population density, urbanization, and the division of labor. In essence, societies become more complex and so the basis of solidarity must reflect this complexity. During the transformation period the solidarity of a society is more likely to be weak since one type of cohesion (e.g., collective conscience) is receding while the other type is just being established. Unless this new solidarity is effective then a condition called anomie is more likely. Anomie, according to Durkheim, involves a lack of legitimacy attributed to the social order so that individuals are left without a "check-rein" to their desires and needs--without a means of constraining their behavior. During the transition period when there may be increased differentiation the likelihood of anomie is greater since the influence of the collective conscience has receded. It would follow, then, that if this change is greater then anomie is more likely since the transition period is shorter and there is less opportunity for the new solidarity to develop. This supposition follows Durkheim's discussion of anomie in Suicide (1951) in which he suggests

that certain transitions within society (e.g., economic crises, domestic crisis, etc.) lead to anomie. Thus, in both discussions Durkheim apparently sees a high level of change in society as a critical factor in the development of anomie. In other words, the greater the change in population size, density, urbanization and the division of labor the greater the change of anomie. This condition is reflected in the rate of crime.

However, this is not the only explanation of crime rates which can be derived from Durkheim's work. As mentioned above, Durkheim viewed societies as evolving from mechanical (less complex) to organic (more complex) stages. Assuming that societies with less complexity tend to handle criminal offenses in a more informal manner and more complex societies need to resort to formal means (e.g., police) and in a less discreet manner than in the more complex society the official crime rate ought to be higher. In effect, crimes in the more complex societies are more likely to be dealt with on a formal basis--that is, social stability must be maintained by means external to the community's normative structure. The central concern of the static model is--which type of solidarity (mechanical or organic) is most effective in limiting the crime rate. Since anomie is reflected in the crime rate then some idea of the effectiveness of the solidarity ought to be determined. For instance, if a

positive relationship is found between the level of complexity and the rate of crime then the implication is that in mechanical societies the solidarity is more effective in containing the rate of crime than in organic societies.

Thus, two Durkheimian models were tested--the static model which is concerned with whether crime rates are greater in mechanical (less complex) or in organic (more complex) societies. It was hypothesized that in more complex societies the crime ought to be higher. This model was offered largely as another explanation of crime rates based on earlier studies of Durkheim (e.g., Gibbs and Martin, 1962; Webb, 1972; Clemente and Sturgis, 1972). As an effort to clarify and further test this version the static model was developed and subjected to empirical test.

The second explanation, called the change model, is concerned with how the transformation of societies influence social behavior. More specifically, when societies change in population size, density, urbanization, and the division of labor is there a concomitant change in the rate of crime? The assumption is that since, in Durkheimian terms, the social structure influences behavior and since its transformation also influences behavior then a change in complexity ought to lead to a change in criminal behavior. The basic proposition of this model is that the greater the change in population size, population density, urbanization,

and the division of labor the greater the change in the rate of crime.

In other words, two models of Durkheimian theory were subjected to empirical testing. One, the static model, centers on whether crime rates are more likely to be higher in a more complex or less complex society while the other (change) model, centers on whether crime rates are more likely to change if there is a change in complexity. One explanation views crime rates with regard to level of complexity and the other with regard to change in complexity. The contention of this study is that the most valid explanation is the change model since crime is more likely to occur, according to the Durkheimian explanation, when there is a high degree of change in the social structure of a society. Both models were examined in terms of their basic propositions. Conclusions will be drawn regarding these findings as well as the general relevancy of each model and how they compare with one another. In addition, implications concerning the results as a whole will be made with regard to Durkheimian theory and with regard to explaining rates of crime. In an effort to provide a fuller exposition of the problem the major crime rates (e.g., homicide, robbery, assault, auto theft, etc.) were also examined. This practice ought to allow for better interpretation since more specific types of behavior are included than with overall crime rate.

SummaryStatic Model

Division of Labor. Results of tests of the static model (summarized in Table 21) indicate that there is a direct relationship between the antecedents and the division of labor in every time period. However, the beta's show that urbanization is the only variable which has a positive influence on the division of labor. Density has a negative impact in every time period and population size has no impact at all.

These findings indicate that the main hypothesized antecedents to the division of labor--population size and density--have no positive effect on the division of labor. Actually Durkheim seems to give more importance to these two factors than to urbanization yet urbanization is the only one which has an impact. What is it about urbanization, excluding population and size, which leads to a greater division of labor? Evidently, two elements of urbanization--population and density--are not important in developing a more elaborate division of labor so it must be other factors unique to urban areas. The measure of urbanization used here includes incorporated cities and towns of 2500 or more so that in many urban places the level of population size

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TABLE 21

STATISTICALLY SIGNIFICANT STANDARDIZED PARTIAL  
REGRESSION COEFFICIENTS AND CORRELATIONS  
BETWEEN ANTECEDENT VARIABLES AND  
THE DIVISION OF LABOR

(Static Model)

	<u>Population</u>	<u>Density</u>	<u>Urbanization</u>	<u>R</u>
1940	0	-	+	+
1950	0	-	+	+
1960	0	-	+	+
1970	0	-	+	+

TABLE 22

STATISTICALLY SIGNIFICANT STANDARDIZED PARTIAL  
REGRESSION COEFFICIENTS AND CORRELATIONS  
BETWEEN PREDICTOR VARIABLES AND  
TOTAL CRIME RATES

(Static Model)

	<u>Population</u>	<u>Density</u>	<u>Urbanization</u>	<u>Mod</u>	<u>R</u>
1940	0	0	0	0	0
1950	0	0	0	0	0
1960	+	+	+	0	+
1970	0	+	0	0	+

+ = a positive statistically significant relationship

0 = relationship not statistically significant

- = a negative statistically significant relationship



and population density may not be very high. As a result, other characteristics of cities and towns must be operating to influence the division of labor in a positive direction. One factor is that industries and commercial enterprises are more likely to locate, or be located, in a city or town where necessary facilities and resources are readily available or easily accessible. The measure of the division of labor, MOD, is based on occupational categories. Those counties with a greater dispersion of individuals among these occupational categories have a greater division of labor according to the MOD. Only a few of these categories can be classified as rural in orientation--farmers, farm laborers, etc. Most are more unique to urban areas (e.g., professionals, sales, clerical, operatives, etc.) such that a high MOD score would be the result of more "urbanized-occupations." In essence, counties with a higher level of urbanization ought to have a higher MOD. Thus, the nature of the findings may be a function of the measures utilized instead of the actual situation.

However, despite the measurement flaws outlined above the MOD is clearly a measure of complexity since it measures how much individuals are dispersed among a group of occupational categories. If the dispersion is greater, then, by definition, the county ought to experience a higher degree of complexity since individuals are not concentrated

in just a few occupations. Thus, it can be safely argued, as Clemente (1972) has done, that the MOD is a good measure of the distribution of individuals among different occupations. In less complex societies, in which the division of labor is less elaborate, individuals tend to be concentrated into a small number of sustenance-producing activities. On the other hand, in more complex societies the division of labor is more elaborate because of less concentration in a few occupational tasks. Thus, assuming the MOD is a good measure of structural complexity, the data do not fully support Durkheim since the two most critical antecedents do not have a positive impact on the division of labor.

When rural-urban differences are examined the relationships are stronger in the rural counties. Urbanization is still the main factor, however. Population size has a positive impact in rural counties during two time periods (1940 and 1970) while density has a negative impact in urban counties but no impact in rural counties. Thus, in the urban counties (i.e., more organic based, less mechanical solidarity) the division of labor apparently is not affected by population, density, and urbanization while in the rural counties urbanization is the only important factor. This implies that factors other than the antecedents specified by Durkheim influence the division of labor. It

may be that economic factors, as summarized above, which are unique to urbanized areas lead to a greater division of labor. In any case, it indicates the necessity of rethinking Durkheim's scenario concerning the division of labor. The factors of population size, density, urbanization and the division of labor may occur together but not in the context of a cause-effect process as envisioned by Durkheim. As Kemper (1972) suggested, Durkheim's concern with writing an answer to the utilitarians may have led him to ignore other critical factors which did not fit into his meta-theory.

Overall Crime Rate. The data summarized in Table 22 (p. 190) indicate that the relationships between the predictor variables and the overall crime rate are statistically significant in only two time periods (1960 and 1970). In 1960, all the predictors but the division of labor have an impact on the crime rate. Density is the only variable which has an impact in 1970.

The findings provide, at best, very weak support for the static model. In only one year (1960) is the model very strongly supported and the main component, the division of labor, has no impact on the crime rate. Nevertheless, some support is provided since density, an important antecedent, is the dominant factor in predicting the crime rate.

It is apparent that the time period is important in the nature of the relationship. The best support for the model is in 1960 while in 1970 the support is quite weak. It may be that certain factors relevant to the time period are "suppressing" the relationship.<sup>13</sup>

Rural-urban comparisons show that the relationships are much stronger in the urban counties than in the rural counties. The correlations are statistically significant in every time period and they increase in strength as the years progress. By 1970, 54% of the variance in the rate of crime is explained by the predictors in the urban counties. Throughout, the main predictor is urbanization. Population is the only other predictor variable which exerts any positive influence, and only in the two later time periods. Looking ahead, briefly, urbanization is also the main factor in predicting personal/property crime rates and major crime rates.

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<sup>13</sup> A factor which might be effecting the 1950 results is that the relationship may not be linear. As indicated in Chapter III, tests for curvilinearity indicate that the relationship between the crime rate in 1950 and the predictors is probably not linear.

What is it about urbanization that it has such a positive impact on the rate of crime in urbanized areas? Urbanization is not a factor in the more rural counties only in the more urban counties, i.e., those with a population in excess of 25,000. Cross-cultural studies (cf. Clinard, 1974) indicate that the rate of crime is much higher in urban than in rural areas. Differential reporting and opportunity are only minor factors, according to Clinard (1974) since the differences in the crime rates in rural and urban areas are so wide. The answer, then, must lie in the nature of urbanization itself.

If the cross-cultural studies show that the crime rates differ according to city size then the nature of urban life appears to be the crucial factor. Wirth (1938) characterizes urban life as involving a segmentalization of human relationships, secondary rather than primary associations, superficiality, anonymity, and anomie. There is close physical contact but great social distance such that there is a depersonalization of relationships. Clinard (1974) views urbanism as a way of life being characterized by normative conflict, rapid social and cultural change, fewer primary associations, and greater heterogeneity. Thus, urbanism is a much more complex concept than population size and density and, as a result, has much greater implications for social behavior. Urbanization encompasses a whole

context of factors in addition to population and density which can effect human behavior. As recounted above, urbanization is characterized by greater heterogeneity, segmental relationships, anonymity, rapid change, secondary associations, and anomie.

Durkheim (1964) indicated that more than the division of labor is required for social solidarity. The relationships among the differentiated functions must be interdependent, meaningful, and in line with natural differentiation (i.e., natural inequality). According to Wirth (1938) and Clinard (1974) these relationships are segmentalized but not solidary. A recent study by Fischer (1975) provides some foundation for this statement. In a secondary analysis of national survey data, Fischer concluded that there is some support for two types of explanations of deviant behavior in urban areas. One explanation is that deviance is due to deviant subcultures in cities and the other, is that deviance is due to anomie in cities. In addition, a study by Clinard (1964) found a relationship between the degree of urbanization and the extent of criminal behavior.

These studies coupled with the findings of the present study imply that the nature of urban life is an important element in predicting the rate of crime. In addition, urbanization apparently encompasses many of the elements

in the Durkheimian model, i.e., population size, density, and differentiation, greater opportunity for social contact, and segmental relationships. However, an essential ingredient missing appears to be a greater degree of solidary relationships.

Personal/Property Crime Rates. Some support for the static model is provided by the data summarized in Table 23 (p.193 ). However, this support is relative to the time period. There are no significant relationships in 1940 and in 1950 only property crime rates are related to the predictor variables. All relationships are significant in 1960 and in 1970. In every time period density is the main factor and population is frequently an important element. Urbanization rarely has an impact and the division of labor does not have an impact in any time period. The strongest relationships involve personal crime rates but more significant relationships involve property crime rates. Apparently time is a factor in the nature of these relationships. For instance, as the years progress the model is a better predictor of personal crime rates yet in the earlier periods it is a better predictor of property crime rates. Thus, it is difficult to assess for which type of crime rate the model is a better predictor. An examination of the rural-urban comparisons may aid in clarifying this dilemma.

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TABLE 23

STATISTICALLY SIGNIFICANT STANDARDIZED PARTIAL  
REGRESSION COEFFICIENTS AND CORRELATIONS  
BETWEEN PREDICTOR VARIABLES AND  
PERSONAL/PROPERTY CRIME RATES

(Static Model)

	<u>Population</u>	<u>Density</u>	<u>Urbanization</u>	<u>Mod</u>	<u>R</u>
<u>1940</u>					
Personal	0	0	0	0	0
Property	0	0	0	0	0
-----					
<u>1950</u>					
Personal	0	0	0	0	0
Property	+	+	+	0	+
-----					
<u>1960</u>					
Personal	+	+	0	0	+
Property	+	+	+	0	+
-----					
<u>1970</u>					
Personal	+	+	0	0	+
Property	0	+	0	0	+
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+ = a positive statistically significant relationship  
0 = relationship not statistically significant  
- = a negative statistically significant relationship



The relationships are much stronger in the urban counties than in the rural or in all the counties. In every time period, except 1940 for personal crimes, the relationships are significant and after 1940 there is no discernible difference in strength. Population size and density have a greater net impact on personal crime rates while urbanization has a greater impact on property crime rates. The static model, then, is a more efficient predictor of personal/property crime rates in the urban counties. Overall, urbanization is the most consistent predictor of both crime rates although it has its greatest impact on property crime rates. The division of labor is not an important factor at all. Again, as with overall crime rates, the urban setting is a critical element in predicting crime rates.

A concern here is which type of crime rate is best predicted by the static model. In the counties as a whole the strongest relationships involve personal crime rates but property crime rates are more often predicted by the predictor variables. Also in the urban counties there is almost no difference in the strength of the relationships. However, in the urban counties the level of urbanization is the main predictor of property crime rates. From this information it can be assumed that the static model is a slightly better predictor of property crime rates since

urbanization apparently includes the main components of the Durkheimian model. An examination of the major crime rates ought to provide for more clear cut conclusions.

Major Crime Rates. The summary data provided in Table 24 (p. 201) show that the hypothesized relationships between the predictor variables and the major crime rates receive more support during 1960 and 1970 than during 1940 and 1950. In 1940 only burglary and grand larceny are related to the predictors to a sufficient degree. The division of labor has the greatest positive impact during the 1940 period and urbanization the greatest negative impact. In 1950, assault rates, grand larceny rates, petty larceny rates, and auto theft rates are more closely associated with the predictor variables. Virtually no variance is explained in homicide, robbery, and burglary rates by the predictor variables in this period. Urbanization is the main predictor of assault rates, population size and urbanization the main predictors of grand larceny, density and urbanization of petty larceny rates, and all the predictor variables effect the rate of auto thefts to about an equal degree. All of these relationships are in the positive direction.

In 1960 all crime rates but homicides are related to the predictors to an acceptable degree. All relationships are of about the same strength ( $R > .30$ ) except with regard

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TABLE 24

STATISTICALLY SIGNIFICANT STANDARDIZED PARTIAL  
REGRESSION COEFFICIENTS AND RELATIONSHIPS\*  
BETWEEN PREDICTOR VARIABLES AND  
MAJOR CRIME RATES

(Static Model)

	<u>Population</u>	<u>Density</u>	<u>Urbanization</u>	<u>MOD</u>	<u>R</u>
<u>1940</u>					
Burglary	0	0	-	+	+
Grand larceny	0	0	-	+	+
<u>1950</u>					
Assault	0	0	+	0	+
Grand larceny	+	0	+	0	+
Petty larceny	0	+	+	0	+
Auto theft	+	+	+	+	+
<u>1960</u>					
Robbery	+	+	0	0	+
Assault	+	+	0	0	+
Burglary	+	+	0	0	+
Grand larceny	+	+	0	0	+
Petty larceny	0	+	+	0	+
Auto theft	+	+	+	0	+
<u>1970</u>					
Homicide	0	+	+	0	+
Robbery	+	+	+	0	+
Assault	+	+	0	0	+
Burglary	+	+	0	0	+
Petty larceny	0	0	+	0	+
Auto theft	+	+	+	0	+

+ = positive significant relationship  
0 = no relationship  
- = negative significant relationship

to auto theft which is much more strongly related to the predictor variables ( $R = .56$ ). All predictor variables have a positive impact on the crime rates. Population density has the greatest impact on robbery, on assault, on burglaries, and on grand larceny rates in 1960. Density and urbanization are the main factors regarding auto theft rates. Density, then, is the most important factor in predicting the major crime rates.

Again in 1970 density is the most consistently important factor in predicting the major crime rates and the division of labor the least important. Grand larceny is the only crime rate with no relationship to the predictors ( $R^2 = .00$ ) while robbery and auto theft rates are more closely associated with the predictors. Actually, in 1970 the predictor variables explain 75% of the variance in robbery rates and 56% of the variance in auto theft rates. The division of labor has a negative, albeit an extremely weak, impact on four of the crime rates--robbery, grand larceny, petty larceny, and auto theft. In fact the only period in which the division of labor has any significant positive impact is in 1940 (with grand and petty larceny) and in 1950 (with auto theft). So in an earlier period the division of labor effects certain crimes in the positive direction and in a later period, in a negative direction.

These findings, at first glance, appear to lend

support to the static model especially in the 1960 and 1970 periods. Density is found to be the most consistent predictor and the least important is the division of labor. The model is most efficient in predicting auto theft rates and robbery rates while it is least efficient in predicting homicide rates. The limited positive impact of the division of labor, however, presents a dilemma. Although the hypothesized relationships as a whole are supported by the data the small part played by the division of labor makes straightforward conclusions problematic. A basic assumption of this model is that the greater the complexity of a society the greater the crime rate. But if the main measure of complexity--MOD--has very little relationship to the crime rates but the antecedents to the division of labor are related to the crime rates then the interpretations are less broad.

To recapitulate, counties which are more densely populated in 1960 and 1970 are the ones which are more likely to have higher crime rates, especially robbery and auto theft. On the other hand, in 1940 counties with a more elaborate division of labor were more likely to experience a higher rate of burglaries and grand larcenies. As the years progress the division of labor recedes as an important positive factor and density emerges as a factor in the rate of crime. The counties may have changed more in demographic

terms than they did in terms of complexity.<sup>19</sup> Since the division of labor tended to change less and density more the outcome may be that in the later years changes in the demographic factors became more important than complexity. In any case, those counties with a higher level of population size, density, and urbanization tended to have a higher rate of crime and in 1970 those counties with a higher level of density tended to have a higher rate of crime. In 1960 and 1970 density is the most important factor overall in predicting the major rates of crime. In general, the antecedents to the division of labor are better indicators of the rate of crime than the division of labor itself. This tendency weakens the relevancy of a Durkheimian explanation of crime rates in static terms since the basis of such an explanation rests on the notion of complexity (i.e., the division of labor). Nevertheless, the finding that the factors of population size, density, and in some cases urbanization, are important elements in predicting most crime rates is in line with Durkheimian thinking in that the nature of structural components in a society can

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<sup>19</sup>The data in Appendix A (Table 30) show that this is the case. On the average the counties changed much more demographically than did the division of labor (MOD).

effect the nature of social behavior. In the counties studied it seems to influence crimes of theft (i.e., robbery, auto theft) more so than crimes of violence (i.e., homicide).

A conclusion from these results is that an elaborate division of labor does not necessarily effect the rate of crime (or its influence is so minuscule to be unimportant). It may, as Durkheim argued, be the basis of a more effective social solidarity. An additional implication then is that an elaborate division of labor does not lead to greater anomie--at least it is not evidenced in a higher crime rate. This is probably more in line with Durkheim's notion than the static version presented above. The static model was proposed more as an alternate Durkheimian explanation in the tradition of Gibbs and Martin (1962), Clemente and Sturgis (1972) and Webb (1972), which is in contrast to the change model proposed in the present study. On the other hand, the findings do show that a higher level of development regarding population density and, to a lesser extent, population size and urbanization may be factors in a higher rate of certain crimes.

These findings are not contrary to the earlier finding that population size and density actually have a negative impact on the extent of the division of labor while urbanization has a positive impact. Such results imply

that population size and density are not antecedents to the division of labor, at least they apparently don't have a positive impact as Durkheim suggested. Urbanization seems to be an antecedent to the division of labor and, as the data in Appendix B (Tables 33 and 34) show, they tend to correlate together quite strongly. Urbanization is also a less important factor than population size and density in explaining crime rates, especially in the later periods of 1960 and 1970. One could argue at this point that urbanization and the division of labor are not of great importance in predicting crime rates. The critical elements are population size and density which, it can be supposed, reach a higher level later and so their impact is greater in later periods of a community's development (e.g., 1960 and 1970). An alternate explanation might involve the growth of industrialization and commercial expansion as the precipitating forces. For example, the transformation of towns (i.e., urbanization) and the division of labor may occur first as a result of industrial and commercial development of an area. One outcome of this expansion is a large increase in population and in density since there is a greater demand for labor. This demand brings more people into these urbanized areas which, of course, are already populated. This influx of people not only increases the population size of the area but the density as well. An



outcome of this greater population and density is a greater crime rate since there are little or no new standards of behavior for dealing with this new social state.

On the other hand, the explanation may involve economic factors. The major crime rates examined in this study are traditionally crimes of the less affluent. It may be that those who are less affluent are also those who are more likely to live in highly dense areas. These less affluent include those individuals who were drawn to the area by the promise of employment opportunities but, for one reason or another, failed to take advantage of these opportunities and became, in Marxian terms, members of the lumpen-proletariat who are more likely to become involved in criminal behavior. Future studies of crime rates, thus, ought to consider economic factors<sup>20</sup> as well as demographic factors and the division of labor. Before more conclusive statements can be made, however, it may be necessary to examine the results concerning rural-urban comparisons.

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<sup>20</sup>For instance, in a separate analysis of the data it was found that in 1960 SES factors explained 20% of the variance in the overall crime rate and in 1970 such factors explained 17% of the variance in the crime rate with income levels having the greatest net impact for both time periods.

The relationships in rural and urban counties do not differ much in 1940. In 1950, the same relationships are statistically significant in both groups of counties but they are stronger in the urban counties. All but homicide and assault rates are related to the predictors. In 1960 and 1970 the difference in relationships is much more clear cut. Only grand larceny and auto theft rates are related to the predictors in the rural counties in 1960 and, in 1970 burglary is the only crime rate related to the predictors in the rural counties. In the urban counties all crime rates are related to the predictors. In 1960 the strongest relationships include the rates of auto theft, grand larceny, and burglary while in 1970 auto theft and robbery rates are most strongly related to the predictors. In both time periods the weakest correlations include homicide rates. In the urban counties urbanization is the most consistent predictor followed by population and density. The division of labor only has a significant impact in the rural counties during 1940. In essence, the static model is most efficient in predicting property-theft crime rates such as auto theft in urban counties and the most important factor is urbanization.

The earlier discussions concerning overall crime rates and personal/property crime rates indicated that the static model is most efficient in predicting crime rates in urban

counties in which urbanization is the primary predictor. However, these findings did not provide an adequate estimate of which crime rates are most effectively predicted. The results summarized above show that property crime rates, especially auto thefts, are more efficiently predicted by the model and crimes of violence such as homicide are least efficiently predicted. The effectiveness of the static model is not only relative to the ecological characteristics of the county (rural vs. urban) and the time period, but also relative to the type of crime. Thus, another dimension to the model is added--the nature of the crime itself. A more straightforward interpretation of these results may be attained by looking more closely at the crime rate most consistently predicted by the model (i.e., auto theft) and the crime rate least effectively predicted (i.e., homicide).

The Uniform Crime Reporting Program describes criminal homicide as willful killing without due process of law. These killings include murder and nonnegligent manslaughter. Traditionally, the homicide rate is the lowest rate of the major crimes included in the Crime Index (President's Commission on Law Enforcement and Administration of Justice, 1967). Crimes of violence tend to involve males of the same race and usually occur in inner-city areas. In addition, violent crimes almost entirely occur among the lower class population not only in the United States but in

several other countries as well (Clinard, 1974). Thus, homicide is a male-oriented, intraracial, inner-city and lower class crime.

Wolfgang (1967) points out that homicides are primarily crimes of passion and he estimates that less than 5% of all known homicides are premeditated and intentional. He also contends that anomie is not a valid explanation of homicide. Instead, he argues that there is a homogeneous subculture of violence which is not characterized by anomie.<sup>21</sup> In this subculture, physical violence is a "common subculturally expected response to certain stimuli" (Wolfgang and Ferracuti, 1967: 277). In essence, it is the value of violence which is an integral part of the subculture which encourages violent behavior.

Gastil (1971) has also found evidence of a culture of violence. Using a Southernness Index, Gastil found that more variance in homicide rates is explained by the Index than by such variables as urbanization, population size, and race.

What the studies by Wolfgang (1967) and Gastil (1971) suggest is that homicide rates may be better explained by a

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<sup>21</sup>Wolfgang defines anomie in terms of a conflict or a lack of norms. Since the members of a well-integrated subculture are most likely to commit violent crimes then the lack of norms or normative conflict is not a factor.

cultural theory than by a Durkheimian theory. A basic component of such a culture or subculture is that it is well-integrated and not characterized by lack of norms concerning certain behavior. Wolfgang (1967) points out that homicide is a crime of passion and is expressive in character and Clinard (1942) points out that offenses, such as homicide, are less an indicator of structural changes than are the more instrumental offenses (e.g., robbery, thefts, etc.). It would follow, then, that a Durkheimian model is not a good predictor of homicide. The finding that the static model is a poor predictor of homicide rates is not necessarily incongruent with existing theory and research.

Auto theft rates include the theft or attempted theft of a motor vehicle. There are two main types of auto theft. One type involves the intent to permanently deprive the owner of the car in which the car is kept or "stripped" of its parts. The other type involves borrowing the car for a "joy-ride" and abandoning it.

The majority of auto thefts are of the joy-ride variety<sup>22</sup> and are usually committed by teenagers. Such illegal behavior tends to terminate with adulthood. Another

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<sup>22</sup> For instance, Clinard and Quinney (1973) indicate that only about  $\frac{1}{4}$  of the autos stolen are resold, stripped of parts, or used in another crime.

characteristic of this particular offense ("joy-riding") is that the juveniles involved in it usually have no criminal record (unless a record of auto thefts) and they tend to come from middle-class homes. (Wattenberg and Balistrieri, 1952). Thus, it may appear that such offenders are committed to the general goals and values of society (except those concerning the theft of autos). However, the behavior patterns of such offenders reveal that they have not internalized the middle-class norms of behavior (Spiller, 1965) and so do not attribute legitimacy to the value system which places a heavy emphasis on the value of private property.

The evidence presented herein indicates that the strongest relationships exist in the urbanized counties in which urbanization is the main predictor of auto theft rates. The implication is that in the more urban environs there is a greater tendency for juveniles to reject the prevailing social standards of a society concerning private property. The result is a greater rate of auto theft in urban communities.

Broader implications would involve comparing violent crimes with property crimes. Although there is little difference in the predictive efficiency of the static model regarding personal/property crime rates there is a clear difference concerning homicides and property-theft crimes.

The previous discussion of homicides offered a cultural or subcultural explanation as an alternative explanation of violent crime rates. The discussion of auto theft rates suggests the lack of legitimacy given to prevailing social standards concerning private property as an explanation of thefts of property.<sup>23</sup> The evidence presented in this study tends to support such an explanation. In addition, analyses of the overall crime rate, personal/property crime rates, and major crime rates indicate that the static model is most efficient in the more urban counties. Also, urbanization emerged as a critical component in explaining crime rates. Following the arguments of Wirth (1933), Clinard (1974), and Fischer (1975) it is suggested that the urban environs, which encompass the basic elements of an organic based society, are most conducive to a high rate of property crime.

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<sup>23</sup>This explanation may be relevant only to auto thefts since other factors (e.g., socioeconomic) may prevail with regard to the other property offenses. The lack of legitimacy could be derived from the anomic conditions of the less affluent or from the alienating conditions of social inequality. Both explanations have merit.

Change Model

The change model is concerned with what happens to the crime rate when there is a transformation in a society. More specifically, it is concerned with the relationship between the change in complexity of a society or community and the change in the rate of crime. The static model raised some questions about the level of complexity but it could not address itself to how changes in a society effect social behavior. The findings in regard to the change model ought to shed some light on this issue, among others. First a brief summary of these findings.

Division of Labor. The results summarized in Table 25 (p. 215 ), indicate that change in the antecedent variables (i.e., population size, density, and urbanization) has very little relationship, if any, with change in the division of labor. The strongest relationship is in the 1940-1970 period in which only 5% of the variance in the division of labor is explained by change in the antecedents. In addition, the only variable which has a statistically significant impact, urbanization, has an inverse effect on change in the division of labor. Rural-urban comparisons did not reveal any different patterns.

The findings suggest, then, that when there is a large change in the antecedents there is a small change in the



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TABLE 25

STATISTICALLY SIGNIFICANT STANDARDIZED PARTIAL  
REGRESSION COEFFICIENTS AND CORRELATIONS  
BETWEEN  $\Delta$  ANTECEDENT VARIABLES  
AND  $\Delta$  THE DIVISION OF LABOR

(Change Model)

	<u>Population</u>	<u>Density</u>	<u>Urbanization</u>	<u>R</u>
1940-50	0	0	0	0
1950-60	0	0	0	0
1960-70	0	0	0	0
1940-70	-	0	-	+
-----				
<u>1940-1950</u>				
1950-60	0	0	-	+
1960-70	0	0	0	0
-----				
<u>1950-1960</u>				
1960-70	0	0	0	0
-----				

+ = positive significant relationship  
0 = relationship not statistically significant  
- = negative significant relationship

division of labor. These findings are congruent with those concerning the static model in which the data show a negative relationship between population size and the division of labor and between density and the division of labor. As indicated in Chapter IV, these results suggest that the division of labor may not necessarily result from an increase in population size and in density. Apparently other factors, such as industrialization, initially transformed the division of labor and not natural demographic changes in a society. In any case, the data suggest a reordering of at least a reassessment of Durkheim's model concerning the transformation of societies.

Overall Crime Rate. The more central issue in this study, however, is the impact of a transformation in society on the rate of crime. The elements in this transformation, following Durkheimian theory, are population size, density, urbanization, and the division of labor. The basic proposition is that the greater the joint change in population size, density, urbanization, and the division of labor the greater the change in the rate of crime.

The results shown in Table 26 (p. 217) indicate that only in the across time comparisons does change in the predictor variables have an impact on change in the overall rate of crime. However, in these comparisons very little

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TABLE 26

STATISTICALLY SIGNIFICANT STANDARDIZED PARTIAL  
REGRESSION COEFFICIENTS AND RELATIONSHIPS  
BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  TOTAL CRIME RATES

(Change Model)

	<u>Population</u>	<u>Density</u>	<u>Urbanization</u>	<u>MOD</u>	<u>R</u>
1940- 1950	0	0	0	0	0
1950- 1960	0	0	0	0	0
1960- 1970	0	0	0	0	0
1940- 1970	0	0	0	0	0
-----					
<u>1940-1950</u>					
1950- 1960	0	0	0	0	0
1960- 1970	0	0	0	+	+
-----					
<u>1950-1960</u>					
1960- 1970	0	+	0	0	+
-----					

+ = positive significant relationship  
0 = relationship not significant  
- = negative significant relationship

variance in the rate of crime is explained by the predictors. The indication is that change in the predictors is a very poor indicator of change in the overall crime rate.

When rural-urban comparisons are made the model is much more applicable to urban counties. Relationships are statistically significant in all but two time periods. Change in density remains the main predictor in the urban counties. In the rural counties the relationships are significant in only two time periods.

Personal/Property Crime Rates. The data summarized in Table 27 (p. 219) provide very little support for the change model as a predictor of change in personal/property crime rates. Of seven change comparisons, only three result in statistically significant relationships concerning change in personal crime rates. In these relationships density is the most consistent predictor. In only one comparison is there a statistically significant relationship involving property crime rates. Change in the division of labor is the principle factor in that relationship.

Rural-urban comparisons show that, as in the overall crime rates, the change model is a better predictor in the more urban counties. Change in personal crimes are more efficiently predicted by the model than are property crime rates. Density change and population change emerge as the main factors in these relationships.

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TABLE 27

STATISTICALLY SIGNIFICANT STANDARDIZED PARTIAL  
REGRESSION COEFFICIENTS AND RELATIONSHIPS  
BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  PERSONAL/PROPERTY  
CRIME RATES

(Change Model)

	<u>Population</u>	<u>Density</u>	<u>Urbanization</u>	<u>MOD</u>	<u>R</u>
<u>1940-50</u>					
Personal	0	0	0	0	0
Property	0	0	0	0	0
<u>1950-60</u>					
Personal	0	0	0	0	0
Property	0	0	0	0	0
<u>1960-70</u>					
Personal	0	+	0	0	+
Property	0	0	0	0	0
<u>1940-70</u>					
Personal	0	0	0	0	0
Property	0	0	0	0	0
-----					
<u>1940-1950</u>					
<u>1950-60</u>					
Personal	0	0	0	0	0
Property	0	0	0	0	0
<u>1960-70</u>					
Personal	+	+	+	0	+
Property	0	0	0	+	+
-----					
<u>1950-1960</u>					
<u>1960-70</u>					
Personal	0	+	0	-	+
Property	0	0	0	0	0
-----					

+ = positive significant relationship  
0 = relationship not significant  
- = negative significant relationship

Major Crime Rates. However, the results are more varied regarding the major crime rates. As the data summarized in Table 28 (pp. 221 and 222) show that change in the crime rates of auto theft and assault are most consistently predicted by change in the independent variables. The strongest relationships, though, involve the rate of robbery. Also in the 1960-1970 period all the predictors have about an equal impact on changes in the robbery rate. The period in which the hypothesized relationships receive the greatest support is when change in the predictors from 1940-1950 is compared with change in the crime rates from 1960-1970. In this comparison, homicide is the only crime rate not related to the predictors. These findings suggest that change in the predictor variables have their greatest impact when the dependent variables are lagged. This is especially true of the division of labor which has its greatest influence on change in the crime rates in the lag period. It is also interesting to note that the division of labor has much more of an impact when examined in the change situation than it does in the static model. This indicates that change in complexity has a greater effect, albeit a delayed one, than level of complexity on the rate of crime.

Nevertheless, the findings summarized above differ from a major assumption of this study--that the probability of crime is greater during the period of transition.

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TABLE 28

STATISTICALLY SIGNIFICANT STANDARDIZED PARTIAL  
REGRESSION COEFFICIENTS AND RELATIONSHIPS\*  
BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES

(Change Model)

	<u>Population</u>	<u>Density</u>	<u>Urbanization</u>	<u>MOD</u>	<u>R</u>
<u>1940-50</u>					
Assault	0	+	+	0	+
Grand larceny	+	0	+	0	+
Auto theft	+	+	0	+	+
<u>1950-60</u>					
Auto theft	+	0	0	0	+
<u>1960-70</u>					
Robbery	0	+	0	0	+
Assault	+	0	+	0	+
Auto theft	+	+	0	-	+
<u>1940-70</u>					
Homicide	0	+	0	0	+
Assault	+	+	0	0	+
Grand larceny	0	0	0	+	+
Auto theft	+	+	-	0	+

222  
TABLE 28  
(continued)

<u>1940-1950</u>					
	<u>Population</u>	<u>Density</u>	<u>Urbanization</u>	<u>MOD</u>	<u>R</u>
<u>1950-60</u>					
Grand					
larceny	+	0	-	+	+
auto theft	+	0	0	-	+
<u>1960-70</u>					
Robbery	+	+	+	+	+
Assault	+	0	+	0	+
Burglary	0	0	0	+	+
Grand					
larceny	0	0	0	+	+
Petty					
larceny	0	0	0	+	+
Auto theft	+	+	0	+	+
<u>1950-1960</u>					
<u>1960-70</u>					
Robbery	0	+	0	0	+
Assault	0	+	0	-	+
Burglary	0	+	-	0	+
Auto theft	+	+	-	0	+

\*Only statistically significant relationships (R) are included in this table.

+ = positive significant relationship  
0 = relationship not significant  
- = negative significant relationship



Instead, the results show that the change of an increase in crime rates is greater following the transition period than during the transition period. This is especially evident when there is a two period lag in which change in the predictors is significantly related with every crime rate except homicide.

The most consistent predictors of change in the crime rate are population change and density change. In the lag comparisons change in the division of labor predominates.

Rural-urban comparisons reveal that the change model receives more support in the urban counties. In every period the relationships are stronger in the urban counties and in all but one time comparison there are more significant relationships in the urban counties. The main factors in the urban counties are change in population size and change in density. Urbanization change and change in the division of labor often have an inverse effect on the crime rate in urban counties. In the rural counties change in the division of labor has the most positive impact on the crime rates in the across time comparisons. These crime rates are of the property-theft variety (i.e., burglary, grand larceny, and auto theft).

Five crime rates are most consistently predicted in the urban counties by the change model. These crime rates are auto theft, grand larceny, robbery, assault, and

burglary. Recall that in all the counties only three rates are predicted with any consistency--auto theft, assault, and grand larceny--while robbery rates are most strongly related to the predictor variables. With the exception of assault rates, the change model is better at predicting property crime rates than it is in predicting crimes of violence.

The crime rates which best fit the change model, then, are auto theft, assault, and grand larceny. With the static model auto theft and robbery rates are best predicted by the model. Thus, regardless of the model the Durkheimian explanation is most effective in influencing the rate of auto thefts. Regardless of the time period or the model homicide is the only crime rate which doesn't fit. The implication of this trend is that the Durkheimian models of crime rates, static and change, are not effective predictors of extremely violent behavior but are more efficient in predicting property crime rates. Both models are consistent in predicting assault rates, but usually at a very low level of efficiency.

What is of interest, however, is that both homicide and assault involve violence and often are viewed as similar types of crimes because of this characteristic. Clinard (1974) points out that the crimes are both similar in character and that they both tend to occur with high frequency in inner city slum areas. The demographic factors

of inner city life--high population and high density--are the most frequent factors which have an impact on the assault rate both in the static<sup>24</sup> and the change model. Also, in 1960 and 1970 both crime rates are positively correlated ( $r = .27$ ;  $r = .31$ ) although to a moderate degree. The interesting point is that these two crimes so similar in character and habitat are not influenced similarly by the Durkheimian model.

An alternative explanation concerning homicide rates was offered in the discussion of the static model. This explanation is that homicide may be best explained by a subculture or a culture of violence. This seems applicable to the change model as well except that in this model assaults are quite consistently related to the predictor variables. Wolfgang's (1967) subculture of violence, then, may not be as appropriate since it also encompasses assault rates. Gastil's (1971) regional culture of violence, which

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<sup>24</sup>However, this does not hold in the more urban counties in which urbanization is the main predictor.

refers only to lethal violence, appears to be more directly applicable to homicide rates.<sup>25</sup>

What is also apparent is that the Durkheimian model is a poor predictor of the level of assault rates but a fair predictor of change in assault rates. The relationship is even stronger in the urban counties suggesting that a Durkheimian explanation of change in assault rates is more applicable to urban areas.

In general, the change model most consistently predicts change in auto theft rates and change in grand larceny rates, whether comparisons are made in all 300 counties or in the urban counties. Also in both comparisons the strongest relationships involve change in robbery rates. Thus, the change model is a better predictor of property-theft rates (e.g., robbery, larceny, auto theft) rather than violent crimes. This suggests that the structural

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<sup>25</sup>This culture need not be limited to a particular geographical region. The attributes of this culture of violence may be found in all areas of the country. These attributes include: (1) a very large percentage of the population involved in violence; (2) lethal violence as a subtheme of the general culture of the area; (3) weapons and knowledge of them as an important part of the general culture. An increase in adherents to this culture in an area, or, an influx of adherents into an area, thus, may account for an increase in homicide rates.

changes which occur have a greater impact on the taking of property than on violent behavior. For instance, Clinard (1942) and Webb (1972) argue that since the property offense is more rational and instrumental behavior it is a better indicator of the violator's normative orientation. This normative orientation is more of a reflection of the nature of the social structure than personal crimes which are more spontaneous and are regarded as acts of passion.

However, Webb (1972) found very little difference in the amount of variance in the types of crimes explained by the predictor variables. In the present study, as pointed out earlier, personal crime rates are often better explained than are property crime rates. In both studies, however, personal crime includes robbery rates which are more closely correlated with the predictors than any other crime rate. It is very likely that the inclusion of robbery rates in the personal crime category inflated the relationship. Webb did not examine the major crime rates individually and thus may have "lost information" by categorizing the crimes into two categories--violent and property. In addition, in his study, Webb included robbery as a violent offense. Actually it is a unique offense in that it is both violent and theft oriented, yet it is apparently a more instrumental and premeditated type of offense than the more expressive offenses of homicide

and assault. The violence involved in robbery is often incidental,<sup>26</sup> although quite often a necessary element in carrying out the offense successfully. On the other hand, homicide and assault are offenses in which bodily injury is carried out merely for the sake of it and not as a means to a more instrumental end. In essence, the violence and the threat of it involved in robbery is frequently instrumental in nature whereas the violence in homicide and assault is expressive. Thus, the close association of change in the predictor variables with both change in robbery and change in auto theft is not necessarily incongruent.

The single most dominant factor in all robbery rate comparisons and in most auto theft comparisons is change in density. In the static model, urbanization emerged as the principle factor in the rate of property-theft crimes. Density is also an important factor in the static model but it declines in importance in the urban counties.<sup>27</sup> In the

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<sup>26</sup> For instance, Clibard and Quinney (1973) indicate that persons arrested for robbery usually have previous arrest records for theft instead of for acts of violence.

<sup>27</sup> The less important influence of the level of density in the more urban counties is not incongruent with past research. For instance, Hawley (1972) observes that since 1950 population density in the inner cities has been declining without a corresponding decrease in social pathology. In addition, a recent study by Gillis (1974) found that neither internal density (i.e., number of persons per room within a household) nor external density (i.e., the number of persons per square unit of space within a given land area) are good predictors of juvenile delinquency.

change model, density change is apparently the best predictor, followed by population change, of the property crime rates. Thus, it appears that changes in density and in population are more likely to lead to an increase in property crimes.

The finding that density and population are the main factors in the change model is not necessarily antithetical to the Durkheimian model. Population size and density are the primary antecedents to a more complex society.

A remaining problem is that the most important component of the Durkheimian model, the division of labor, has an impact only in very specific instances. Its greatest effect is in the across time comparisons in the rural counties in which it almost exclusively influences property crime rates. Thus, change in the division of labor has a delayed impact in the more mechanical-based counties. If change in the division of labor influences property crimes it is not an immediate one. This is in contrast to a basic assumption of this study that an increase in crime is more likely during the transition period than afterward. The division of labor deviates from its main antecedents by having an effect following the transition rather than during the transition period. The main implication for Durkheimian theory is that the ingredients of this theory do not operate as Durkheim envisioned. For one thing, the

division of labor is apparently not influenced positively by the main antecedents of population and density. In addition, the components of Durkheim's theory do not have the same impact on the rate of crime. Thus, on one hand a high degree of structural changes may lead to a large change in the extent of crime. On the other hand, the components of this model do not fit the pattern constructed by Durkheim. If the data presented herein are valid, then, at least a restructuring of the Durkheimian model is in order.

#### Conclusions

Conclusions concerning the tests of the static and the change versions of the Durkheimian model of crime rates are limited by certain factors. First generalizations to the United States must be made with extreme caution since the counties were not randomly selected. Instead, implications can be derived regarding the nature of the relationships among the variables within the 300 counties studied. In addition, the measurement of crime rates must be taken into consideration. Generalizations suggesting that the findings deal with the rate of crime per se ought to be downplayed. The data used are official rates of crime collected and processed by governmentally sanctioned police agencies. As a result the data are subject to some distortion and



modification. The statistics, then, are at best a rough estimate of the actual rate of crime. The crimes themselves also suggest limitations since they consist of what are commonly called "street crimes" and thus are not indicators of the total amount of crime which occurs in a society. Rather, they are indicators of only certain types of crime-- usually those which are attributed to the less affluent.<sup>23</sup>

There is also no complete assurance that the MOD is a valid measure of Durkheim's conceptualization of the division of labor. As Clemente (1972) pointed out this measure is more clearly a measure of functional dispersion (i.e., the dispersion of individuals among different occupational functions) than it is a measure of functional differentiation. However, Gibbs and Poston (1975) contend that such a measure takes into consideration both dimensions of the division of labor. In addition, Durkheim (1964) characterized the division of labor in terms of the differentiation of occupations and the use of occupational categories at least partially approximates Durkheim's notion.

The other measures are less problematic. The use of percent residing in urban places is a close approximation

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<sup>23</sup>This may not be true of every crime rate, however. As indicated earlier, auto thefts usually involve joy-riding in which middle-class youths are frequent participants.

of Durkheim's idea of the "formation of towns" since one would expect the proportion of the population living in incorporated cities and towns (of 2500 or more) to increase if there is an increase in the development of towns. Population size and population density are also fairly straightforward measures of Durkheim's concepts.

With the above caveats in mind concerning some methodological shortcomings of this study certain conclusions regarding Durkheimian theory can be made. One of the most interesting findings is not concerned with the rate of crime but, instead, with the relationship between the division of labor and its antecedents. According to the data, the division of labor is not positively affected by the two main antecedents--population size and population density--in either the static or the change models. Urbanization is the only factor in the static model and it has its greatest effect on the division of labor in the more rural counties. In the change model none of the hypothesized antecedents have a positive impact on the division of labor. The implication is that the transformation of societies may not occur as Durkheim thought. Instead, other factors apparently affect the structural complexity of a society. Future research ought to consider factors other than those proposed by Durkheim as antecedents to the division of labor. Another possibility is that the

division of labor is not preceded by growth in population, density, and urbanization but, instead, it may occur first. In any case, the findings of this study warrant a more thorough and critical examination of Durkheim's notion of the division of labor.

The data do not provide straightforward support for either the static model or the change model of crime rates. Although several of the hypothesized relationships are supported many of the specifics of each of the models do not hold up under empirical scrutiny. For one thing, the division of labor is rarely a factor in the rate of crime. Urbanization emerges as the critical factor in the static model. Previous research (Clinard, 1974; Sutherland and Cressey, 1974) also indicates a relationship between level of urbanization and the extent of criminal behavior. In addition, the crime rates most consistently predicted by the independent variables are the property crime rates, especially auto theft. The data, then, indicate that in the urban setting the rate of property crimes is more likely to be higher. The level of urbanization in this setting is the critical factor in the level of the property crime rate. Thus, in the more developed communities the property crime rate will be higher.

Findings of the change model show that change in the levels of population size and density tends to lead to a positive change in rates of property crime. However, the

most central component of the Durkheimian model, the division of labor, rarely has an impact on change in the rate of crime. In addition, the relationships involving population size and density are stronger and more consistent in the urban counties while the relationships involving the division of labor are stronger (in lag comparisons only) in rural counties. In effect, the predictors do not operate together in their impact on the rates of crime. What the data basically show is that change in population size and density leads to a greater rate of property crimes in urban communities while change in the division of labor leads to a delayed increase in the rate of property crimes. Thus, the change model is not supported as originally proposed. Either a modification of the model is in order or the substitution of an alternative explanation based on the evidence presented herein may be necessary. In any case, the findings of both static and change models seriously raise questions concerning Durkheimian explanations of the transformation of societies and of the rate of crime.

The aim of this study, of course, is not the presentation of the final definitive study of Durkheimian theory of society. Rather, its purpose is hopefully to raise some questions which future research ought to address. However, the results do provide a basis for certain

implications concerning Durkheimian theory in particular, and the prediction of crime rates, in general.

First of all, Durkheim's depiction of the development of the division of labor is not upheld. The critical antecedents of population size and density do not have a positive impact on the division of labor and they often have an inverse impact. Urbanization has a positive impact in rural counties concerning the static model, but not in the change model. Past research (Clemente and Sturgis, 1972; Webb, 1972) has also found little relationship between population size, density and the division of labor. Instead, the division of labor has tended to be closely related to urbanization and technological efficiency (Gibbs and Martin, 1962; Labovitz and Gibbs, 1964; Gibbs and Browning, 1966). The implication for Durkheimian theory is that the antecedents of the division of labor are not population size and population density but the industrial and technological development of a community or a society. Thus, it is suggested that Durkheim was wrong in assuming that population growth and density are necessary for the development of the division of labor. Instead, it is suggested that the economic incentives which foster the industrial and technological development of a society lead to a more elaborate division of labor.

As a predictor of crime rates the Durkheimian model

is more successful. However, certain modifications of the model are in order. The hypothesized antecedents to the division of labor are better predictors of the rate of crime than the division of labor itself. These antecedents are all elements of more urban areas. In addition, as pointed out above, two of these (i.e., population size and density) are not really antecedents to the division of labor at all. Thus, it is argued that what the data show is that property crime rates are more likely to be high in the more highly and densely populated urbanized areas. In addition, an increase in these crime rates is more likely to take place in those urban communities which experience a greater change in population size and in density (but not in urbanization). The implication is that the high crime rate is due to other factors related to population size and density in urban communities, e.g., SES, slum conditions, etc.<sup>29</sup>

Thus, crime is more likely to increase in areas of greater heterogeneity, population size, population density, greater social distance, and secondary associations. More straightforward support is not provided, however, since

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<sup>29</sup> For instance, Clinard and Abbott (1973) indicate that in both developed and developing countries most of the crimes are committed by slum dwellers.

the division of labor is not a factor in these urban communities.<sup>30</sup> Not only is the division of labor unrelated to its antecedents but it also is unrelated to the crime rates in the same fashion as its antecedents. In effect, an alternative explanation of crime rates is necessary which excludes the division of labor as an element in the rate of crime and proposes that the level of population and of density have their greatest impact in urban communities.

This explanation is not incongruent with other evidence (Clinard and Abbott, 1973; Sutherland and Cressey, 1974; Clinard, 1974; Hartjen, 1974) which indicates a close relationship among crime rates and population size and density in urban communities. The division of labor is excluded as a factor in urban communities. Since the elements of population size and density are major predictors in the urban areas then apparently smaller, less densely populated and urbanized communities are conducive to a lower rate of property crimes. Clinard and Abbott (1973), for instance, discovered that the components of community

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<sup>30</sup> Clinard and Abbott (1973) discovered that in slums of urban communities in both developed and developing countries functional integration (i.e., occupational or other ties with the urban society) has no significant impact on normative integration (i.e., the degree of conformity to group cultural standards as measured by the property crime rate).

life most important to normative integration<sup>31</sup> are communicative integration (i.e., the extent to which contacts permeate the group) and cultural integration (i.e., the internal consistency of cultural standards of a group). The former, communicative integration, is analogous to Durkheim's concept of social or dynamic density which refers to the opportunity for a greater number of social contacts in a community. The latter, cultural integration, deals with the degree of cultural homogeneity in a community. Thus, the probability of a low property crime rate is enhanced in those communities which have a higher degree of meaningful and intimate social contacts and which are characterized by greater cultural homogeneity.

Taking into consideration the evidence of Clinard and Abbott (1973) along with the evidence gathered herein, it is proposed that a new explanation of crime rates include the features of social density, social and cultural homogeneity, as well as density, size, and ecological character (rural/urban) of the community. In essence, this new model contends that the rate of property crime will be lower in a smaller, less dense, mechanical-based community in which there is frequent communication among its members

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<sup>31</sup> Their definition of normative integration is the degree to which group conduct conforms to cultural standards and is measured by use of the property crime rate.



and less cultural diversity. An additional proposition is that economic and industrial transformation effects societies such that there is an increase in the rate of property crimes.

However, this is not the only explanation of crime rates which can be derived from the data. The discussion by Chambliss (1974) suggests an alternative explanation of the increase in property crimes in urban communities or societies which he calls a conflict model of legal change. He contends that in the modern industrial society there is a conflict among the different social classes for control. The enactment of criminal laws concerning private property and their enforcement favor the economic elite. In effect, in the more urbanized and industrialized societies the rate of property crimes will increase by virtue of legal change based in class conflict.

Toby (1974) and Selznick (1963) suggest that crime is greater in modern societies because of inadequate or inappropriate socialization. Informal social control mechanisms are not as effective in modern societies due to the greater social and cultural heterogeneity. Formal means of social control (e.g., police, courts, etc.) become more important which results in a greater official recognition of crime rates. However, formal social control is, to a certain extent, ineffective unless carried to the

extremes of a police state. The end result is a greater rate of crime in urban industrial societies.

Another explanation is based on the Marxian notion of the lumpenproletariat. The conditions of more modern industrial societies promote the development of a group which consists of those individuals who failed in the economic struggle for survival. This group includes criminals, beggars, prostitutes, etc.--that is, those individuals who are more likely to commit the so-called "street crimes." The evidence of previous research (Clinard and Abbott, 1973; Clinard, 1974; Sutherland and Cressey, 1974) and the evidence presented herein indicate a very close relationship between urbanization and the rate of property crime. In addition, evidence (cf. Clinard and Abbott, 1974) shows that such crimes more often occur in slum areas and are committed more often by slum dwellers. Since it is apparent that the slum is the habitat of the lumpenproletariat then the indication is that a high rate of property crimes or an increase in property crimes can be explained by industrial and economic transformation which fosters the development of a lumpenproletariat.

Sutherland and Cressey (1974) offer another explanation of the greater crime rate in urban areas. They contend that the high crime rate is due to criminalistic traditions in such areas. This explanation is called a

differential association theory of crime. The principle element of this theory is that criminal behavior is learned when a person has contact with criminal patterns and isolation from criminal patterns. This contact is more likely to occur in urban areas than in rural areas.

Kituse and Cicourel (1963), who contend that the focus of study should be the process of manufacturing, assembling, and publishing statistical data, provide another explanation of the results. They propose that improved and more efficient record keeping by the police agencies result in a high official rate of crime. Thus, the rate of crime in urban communities is greater because the agencies have more efficient and sophisticated means of processing the offenses reported to the police.

In sum, the various explanations offered above suggest that an increase in the rate of crime may be the result of several elements of urban industrial society. Legal change fostered by, and in the interests of, an economic elite, inadequate or inappropriate socialization and social control, the rise of a lumpenproletariat class, the greater potentiality for exposure to criminal traditions, and greater emphasis on efficient record-keeping are all viable explanations of the nature of the findings of this study. Future research concerning the rate of property crimes ought to be conducted with these

explanations in mind.<sup>32</sup>

The above discussion concerned conclusions and implications regarding the prediction of crime rates in urban communities. This is based on the finding that densely and highly populated urban communities are more likely to have a high rate of property crime and/or experience a greater increase in the rate of property crime.

The findings concerning the division of labor indicate that the rate of property crimes is more likely to increase in rural counties if there is a change in the division of labor two decades earlier. In this situation the variables of population size, density, and urbanization have no impact on the rate of property crime but the division of labor has a statistically significant impact on every one of the property crime rates. Thus, change in the division

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<sup>32</sup>The two explanations which speak most directly to property crime rates (especially robberies and grand larcenies) are the Chambliss argument and the Marxian notion of the lumpenproletariat. In both, economic and industrial change is the antecedent to the factors which foster a greater rate of property crime. With regard to auto thefts the notion of inadequate or inappropriate socialization may be more applicable since the major offenders are middle-class juveniles who have not assimilated the middle-class values concerning private property (see Spiller, 1965 and Wattenberg and Balistreri, 1952). However, it may simply be the greater availability of automobiles in urban communities.

of labor has a delayed impact in the less urbanized counties. Rather than having an impact during the transition period, as postulated in the Durkheimian model, change in the division of labor has an impact on the property crime rate well after the transition has occurred.

These results have several implications concerning Durkheimian theory in particular and crime rates in general. For one thing, not only are the hypothesized antecedents of population size, density, and urbanization unrelated to a change in the division of labor but also they do not effect the rate of crime in the same manner as the division of labor. This further weakens the Durkheimian notion that the division of labor is preceded by an increase in population size, density and urbanization. The need for alternative explanations of the development of the division of labor is apparent.

Another implication is that in those counties which experienced an increase in the division of labor also experienced an increase in efficiency of record-keeping. However, this improved record-keeping did not come about until some time after the transition in the division of labor. In essence, the counties which experienced the transition did not improve their record-keeping efficiency until after the new division of labor had been established. In the same vein, change in the division of labor may be

reflected in more formal social control agents (i.e., police agencies). With the increase in police agencies there is a concomitant increase in the rate of crime. Since violent crimes are more likely to be reported regardless of the efficiency of the police agency than the crimes which are more likely to be reported and recorded when there is an increase in number and in efficiency of the record keepers are the property crimes. The development of more efficient record-keeping by these expanding agencies may require a period of time to occur. Hence, the delayed impact of the change in the division of labor.

In conclusion, the Durkheimian notion of the transformation of societies as well as the Durkheimian explanation of crime rates is not supported by the data analyzed herein. Although several of the hypothesized relationships are supported a closer examination reveals that for one thing, the division of labor is not preceded by a change in population size, density, and urbanization. Secondly, the variables in the Durkheimian model do not have a similar effect on crime rates. Population size and density have the greatest effect on change in property crime rates in urban communities while the division of labor has a delayed impact in rural communities on property crime rates. Therefore it is suggested that in the future explanations

other than Durkheimian theory may be more fruitful in explaining a change in the rate of crime.

APPENDIX A  
Descriptive Data



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TABLE 29

MEANS, STANDARDIZED DEVIATIONS,  
AND RANGES OF PREDICTOR  
VARIABLES

(N = 300)

<u>Variable</u>	<u>Year</u>	<u>Mean</u>	<u>Standard deviation</u>	<u>Minimum</u>	<u>Maximum</u>
Population	1940	58457	189453.04	323	2785643
Density	1940	78.9	209.16	.300	1937
Urbaniza- tion	1940	25.6	25.50	0.0	94.3
MOD	1940	.8121	0.06	.534	.396
Population	1950	73463	270193.26	241	4151687
Density	1950	90.6	237.08	.100	2221
Urbaniza- tion	1950	30.5	23.50	0.0	97.5
MOD	1950	.8329	0.06	.512	.393
Population	1960	97223	336303.25	208	6033771
Density	1960	117.1	316.13	.200	2641
Urbaniza- tion	1960	34.5	23.51	0.0	93.0
MOD	1960	.8400	0.05		
Population	1970	117724	457715.60	202	7032075
Density	1970	146.3	453.14	.200	5103
Urbaniza- tion	1970	37.1	29.50	0.0	99.7
MOD	1970	.8497	0.03	.517	.334

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TABLE 30

PERCENT CHANGE IN PREDICTOR VARIABLES

(N = 300)

<u>Variable</u>	<u>Time Period</u>	<u>Mean</u>	<u>Minimum</u>	<u>Maximum</u>
Population	1940-1950	7	-60.9	170
Population	1950-1960	12.5	-42.3	520
Population	1960-1970	15.1	-51.9	960
Population	1940-1970	11772.0	201.0	xxxxxxx
Density	1940-1950	10.5	-92.3	113
Density	1950-1960	15.5	37.5	110
Density	1960-1970	7.8	30.3	230
Density	1940-1970	146.8	19.9	5102.9
% Urban	1940-1950	12.8	-34.4	730
% Urban	1950-1960	5.8	-100.0	110
% Urban	1960-1970	6.0	-100.0	289
% Urban	1940-1970	37.0	-.03	997.0
MOD	1940-1950	2.8	-21.8	47.0
MOD	1950-1960	1.1	-27.9	51.4
MOD	1960-1970	1.4	-22.1	52.4
MOD	1940-1970	85.0	51.7	88.4

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TABLE 31

MEANS AND STANDARD DEVIATIONS OF CRIME DATA

(N = 300)

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(Rate per 1000 population)

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Variable	1940		1950		1960		1970	
	Mean	S. D.	Mean	S. D.	Mean	S. D.	Mean	S. D.
Total Crime rate	5.73	49.69	5.49	7.67	7.98	8.63	16.25	28.71
Personal Crime rate	0.70	7.45	0.57	2.21	0.37	0.62	1.24	1.74
Property Crime rate	5.14	49.83	4.92	7.12	7.57	8.36	15.04	27.65
Homicide	.043	0.08	.161	2.02	.045	0.11	.037	.06
Robbery	.535	7.41	.199	0.72	.129	0.34	.234	0.62
Assault	.121	0.35	.212	0.50	.203	0.41	.962	1.32
Burglary	.715	1.00	1.49	2.46	2.33	2.45	5.05	7.77
Grand larceny	.336	0.56	0.83	1.04	1.13	1.58	4.44	11.73
Petty larceny	3.8	49.60	2.10	4.78	3.38	5.38	4.73	9.07
Auto theft	0.24	0.49	.50	0.73	0.54	0.76	.905	1.80

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TABLE 32

PERCENT CHANGE IN CRIME RATES

<u>Variable</u>	<u>1940-1950</u>	<u>1950-1960</u>	<u>1960-1970</u>	<u>1940-1970</u>
Total rate	100.0	191	183	1529.2
Personal	270.9	-1.4	304.4	49.6
Property	705.0	660.4	183.4	1406.0
Homicide	-25.2	-38.8	-37.3	-37.7
Robbery	-31.1	-42.7	-27.3	-27.6
Assault	-28.8	-35.3	40.2	46.2
Burglary	199.9	139.6	406.5	1334.2
Grand larceny	4.8	47.7	350.0	365.3
Petty larceny	123.1	251.6	372.4	376.1
Auto theft	-22.7	228.6	2.5	17.9

APPENDIX B  
Zero-Order Correlations

TABLE 33

ZERO-ORDER CORRELATIONS BETWEEN PREDICTOR  
VARIABLES AND DEPENDENT VARIABLES

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	<u>Pop4</u>	<u>Dens4</u>	<u>Urban4</u>	<u>Mod4</u>
Mod4	.12*	.12*	.43***	1.00
Cocr4	-.02	-.03	-.03	.02
Pers4	-.02	-.02	-.07	.02
Prop4	-.02	-.03	-.07	.02
Hom4	-.07	-.11	-.15***	.01
Rob4	-.01	-.01	-.06	.02
Assalt4	-.04	-.07	-.11	.01
Burg4	-.06	-.12*	-.19**	.02
Larco4	-.09	-.13*	-.18**	.07
Larcu4	-.01	-.12*	-.06	.01
Auto4	-.02	-.09	-.07	.07

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	<u>Pop5</u>	<u>Dens5</u>	<u>Urban5</u>	<u>Mod5</u>
Mod5	.03	.09	.41***	1.00
Cocr5	.30***	.38***	.37***	.15**
Pers5	.05	.04	.02	-.03
Prop5	.31***	.39***	.41***	.18**
Hom5	-.01	-.02	-.07	-.11
Rob5	.07	.07	-.02	.01
Assalt5	.15**	.13**	.19**	.06
Burg5	.16**	.19**	.15*	.13*
Larco5	.22***	.19***	.23***	.09
Larcu5	.30***	.41***	.44***	.15*
Auto5	.24***	.26***	.28***	.20***

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\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

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TABLE 34

ZERO-ORDER CORRELATIONS BETWEEN PREDICTOR  
VARIABLES AND DEPENDENT VARIABLES

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	<u>Pop6</u>	<u>Dens6</u>	<u>Urban6</u>	<u>Mod6</u>
Mod6	.04	.05	.27***	1.00
Cocr6	.33***	.33***	.33***	.12*
Pers6	.41***	.40***	.29***	.09
Prop6	.12*	.31***	.36***	.32***
Hom6	.05	.09	.05	.09
Rob6	.30***	.33***	.22***	.06
Assalt6	.36***	.32***	.25***	.07
Burg6	.27***	.26***	.15**	.06
Larco6	.26***	.16**	.19***	.10
Larcu6	.21***	.29***	.31***	.12*
Auto6	.48***	.49***	.41***	.06

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	<u>Pop7</u>	<u>Dens7</u>	<u>Urban7</u>	<u>Mod7</u>
Mod7	-.03	-.06	.16**	1.00
Cocr7	.29***	.24***	.16**	-.02
Pers7	.40***	.57***	.34***	-.01
Prop7	-.02	.13**	.21***	.15**
Hom7	.20***	.29***	.29***	.08
Rob7	.54***	.86***	.50***	-.04
Assalt7	.27***	.33***	.20***	.00
Burg7	.18**	.19***	.08	.00
Larco7	.07	.09	.03	-.02
Larcu7	.20***	.24***	.26***	-.04
Auto7	.56***	.69***	.53***	-.04

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\* p < .05  
\*\* p < .01  
\*\*\* p < .001

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TABLE 35

ZERO-ORDER CORRELATIONS BETWEEN  
 $\Delta$  PREDICTOR VARIABLES AND  $\Delta$  DEPENDENT  
 VARIABLES

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	<u>Pop45</u>	<u>Dens45</u>	<u>Urban45</u>	<u>Mod45</u>
Mod45	-.04	-.01	-.06	1.00
Cocr45	.00	-.01	-.02	.00
Pers45	.02	.02	-.03	-.05
Prop45	.02	.02	.02	-.03
Hom45	-.01	.00	-.03	-.06
Rob45	.01	.01	-.09	-.03
Assalt45	.14*	.16**	.14*	-.05
Burg45	-.01	-.02	.00	.00
Larco45	.24***	.15**	.15**	.00
Larcu45	.04	.04	-.09	-.02
Auto45	.19***	.19***	.03	.13*

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	<u>Pop56</u>	<u>Dens56</u>	<u>Urban56</u>	<u>Mod56</u>
Mod56	-.07	-.06	-.03	1.00
Cocr56	.02	.04	.00	-.04
Pers56	-.13*	.04	.06	.02
Prop56	.00	.00	.03	.00
Hom56	.01	.01	.03	-.14*
Rob56	.05	.05	.01	.01
Assalt56	.14*	.12*	.01	-.06
Burg56	.10	.05	-.04	-.06
Larco56	.11	.10	.10	.09
Larcu56	-.09	-.02	.00	.02
Auto56	.24***	.11	.05	.05

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\*  $p < .05$   
 \*\*  $p < .01$   
 \*\*\*  $p < .001$



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TABLE 36

ZERO-ORDER CORRELATIONS BETWEEN  
 $\Delta$  PREDICTOR VARIABLES AND  $\Delta$  DEPENDENT VARIABLES

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	<u>Pop67</u>	<u>Dens67</u>	<u>Urban67</u>	<u>Mod67</u>
Mod67	-.07	-.06	.00	1.00
Cocr67	.09	.12*	.01	.02
Pers67	.24***	.53***	.04	-.07
Prop67	.08	.08	.01	-.01
Hom67	.03	.05	.02	.01
Rob67	.29***	.69***	.03	-.03
Assalt67	.16**	.32***	-.04	-.05
Burg67	.09	.10	.01	-.01
Larco67	.03	.05	.01	.00
Larcu67	.08	.07	.01	.00
Auto67	.31***	.38***	.00	-.14*

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	<u>Pop47</u>	<u>Dens47</u>	<u>Urban47</u>	<u>Mod47</u>
Mod47	-.16**	-.15**	-.19**	1.00
Cocr47	.02	.03	.04	-.03
Pers47	.09	.14*	-.05	-.02
Prop47	.03	.03	.04	-.03
Hom47	.13*	.20***	.06	-.06
Rob47	.05	.07	-.03	.00
Assalt47	.26***	.39***	.17**	-.13*
Burg47	.02	.01	.04	-.03
Larco47	.07	.03	.00	.13*
Larcu47	.05	.05	.04	-.01
Auto47	.47***	.54***	.05	-.14*

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\* p < .05  
 \*\* p < .01  
 \*\*\* p < .001

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TABLE 37

ZERO-ORDER CORRELATIONS BETWEEN  
 $\Delta$  PREDICTOR VARIABLES AND  $\Delta$  DEPENDENT VARIABLES

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	<u>Pop45</u>	<u>Dens45</u>	<u>Urban45</u>	<u>Mod45</u>
Mod56	-.06	-.04	-.15*	-.13**
Cocr56	.04	.00	.00	.03
Pers56	.06	.03	.04	.06
Prop56	.03	-.01	-.01	.02
Hom56	.01	.01	.03	.06
Rob56	.06	.04	.00	-.06
Assalt56	.14*	.01	.03	.13*
Burg56	.10	.04	-.02	-.06
Larco56	.13*	.09	-.09	.09
Larcu56	-.07	-.07	.00	.05
Auto56	.22***	.11	.07	-.20***
Mod67	-.05	-.07	.00	-.05
Cocr67	.09	.07	.02	.23***
Pers67	.27***	.22***	.21***	.05
Prop67	.08	.07	.00	.23
Hom67	.06	.05	.01	.06
Rob67	.33***	.31***	.25***	.03
Assalt67	.18**	.13*	.14*	.02
Burg67	.09	.08	-.02	.22***
Larco67	.04	.04	.00	.25***
Larcu67	.06	.03	.02	.16**
Auto67	.36***	.40***	.05	.07

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\* p < .05  
 \*\* p < .01  
 \*\*\* p < .001

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TABLE 33

ZERO-ORDER CORRELATIONS BETWEEN  
 $\Delta$  PREDICTOR VARIABLES AND  $\Delta$  DEPENDENT VARIABLES

	<u>Pop56</u>	<u>Dens56</u>	<u>Urban56</u>	<u>Mod56</u>
Mod67	-.06	-.09	-.10	-.42***
Cocr67	.09	.14*	-.05	-.03
Pers67	.25***	.55***	.06	-.14*
Prop67	.08	.12*	-.06	-.03
Hom67	.09	.07	-.12*	-.04
Rob67	.29***	.73***	.07	-.08
Assalt67	.17	.32	.05	-.13*
Burg67	.09	.12*	-.03	-.03
Larco67	.04	.06	-.04	-.06
Larcu67	.07	.09	-.04	-.07
Auto67	.33***	.52***	-.02	-.10

APPENDIX C  
Rural-Urban Comparisons  
(Static Model)

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TABLE 39

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN ANTECEDENT VARIABLES  
AND THE DIVISION OF LABOR

(Rural Counties)

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(N = 170)

	<u>Population size</u>	<u>Population density</u>	<u>Urbanization</u>	<u>R</u>	<u>R<sup>2</sup></u>
1940	.17* (.05)	.07	.29* (.001)	.45* (.001)	.19
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1950	.09	.04	.34* (.001)	.42* (.001)	.16
-----					
1960	.03	.12	.23* (.001)	.30* (.001)	.09
-----					
1970	.31* (.001)	-.04	.17* (.01)	.40* (.001)	.14

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TABLE 40

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN ANTECEDENT VARIABLES  
AND THE DIVISION OF LABOR

(Urban Counties)

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---

(N = 130)

	<u>Population size</u>	<u>Population density</u>	<u>Urbanization</u>	<u>R</u>	<u>R<sup>2</sup></u>
1940	.00	-.18	.18	.17	.00
-----					
1950	.01	-.30* (.001)	.11	.24* (.05)	.04
-----					
1960	-.02	-.14	-.07	.12	.00
-----					
1970	.01	-.26* (.001)	-.03	.27* (.01)	.05

---

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TABLE 41

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES  
AND THE TOTAL CRIME RATE  
(Rural Counties)

	<u>Population size</u>	<u>Population density</u>	<u>Urbaniza- tion</u>	<u>Division of labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
1940	.15	-.14	-.05	.10	.16	.00
-----						
1950	-.25* (.001)	-.13	.10	.19* (.001)	.33* (.001)	.09
-----						
1960	.18* (.001)	-.16	-.14	-.03	.30* (.01)	.07
-----						
1970	-.11	-.03	-.09	.03	.13	.00

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TABLE 42

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES  
AND THE TOTAL CRIME RATE

(Urban Counties)

	<u>Population size</u>	<u>Population density</u>	<u>Urbaniza- tion</u>	<u>Division of labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
1940	.11	-.14	-.24* (.001)	-.06	.32* (.05)	.07
-----						
1950	.09	.15	.43* (.001)	.10	.58* (.001)	.31
-----						
1960	.16* (.01)	.09	.49* (.001)	.06	.64* (.001)	.40
-----						
1970	.11	.15* (.01)	.57* (.001)	-.10* (.05)	.74* (.001)	.54



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TABLE 43

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES  
AND PERSONAL/PROPERTY CRIME RATES

(Rural Counties)

	<u>Population</u> <u>size</u>	<u>Population</u> <u>density</u>	<u>Urbaniza-</u> <u>tion</u>	<u>Division</u> <u>of labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
<u>1940</u>						
Personal	-.06	.16	-.10	.07	.16	.00
Property	.16	-.17	-.13	.09	.16	.00
-----						
<u>1950</u>						
Personal	.07	-.10	-.06	-.06	.13	.00
Property	-.33* (.001)	-.09	.15* (.05)	.26* (.001)	.39* (.001)	.13
-----						
<u>1960</u>						
Personal	.15* (.01)	-.29* (.001)	.03	.12	.27* (.05)	.05
Property	.17* (.001)	-.14	-.14	-.04	.29* (.01)	.06
-----						
<u>1970</u>						
Personal	.10	-.14	-.09	.07	.14	.00
Property	-.12	-.02	-.09	.08	.18	.00

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TABLE 44

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES  
AND PERSONAL/PROPERTY CRIME RATES

(Urban Counties)

	<u>Population size</u>	<u>Population density</u>	<u>Urbaniza- tion</u>	<u>Division of labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
<u>1940</u>						
Personal	.05	-.15	-.12	-.09	.24	.02
Property	.11	-.13	-.25* (.001)	-.05	.31* (.05)	.07
-----						
<u>1950</u>						
Personal	.13	.16	.10	.10	.32* (.05)	.07
Property	.08	.14	.43* (.001)	.10	.58* (.001)	.31
-----						
<u>1960</u>						
Personal	.34* (.001)	.25* (.001)	.18* (.01)	.00	.64* (.001)	.39
Property	.14* (.05)	.07	.50* (.001)	.07	.63* (.001)	.38
-----						
<u>1970</u>						
Personal	.14* (.01)	.52* (.001)	.18* (.001)	-.04	.73* (.001)	.52
Property	.10	.09	.60* (.001)	-.10* (.05)	.73* (.001)	.52

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TABLE 45

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES  
AND MAJOR CRIME RATES

(Rural Counties)

	1940				R	R <sup>2</sup>
	Population size	Population density	Urbaniza- tion	Division of labor		
Homicide	-.19* (.05)	-.05	.01	.17* (.01)	.23* (.05)	.03
Robbery	-.05	.16	-.11	.06	.16	.00
Assault	-.17	-.02	-.04	.15	.20	.02
Burglary	-.21* (.05)	-.08	-.05	.23* (.001)	.30* (.01)	.07
Grand larceny	-.21* (.01)	-.10	-.04	.29* (.001)	.34* (.001)	.10
Petty larceny	.16	-.16	-.13	.08	.15	.00
Auto theft	.03	-.20* (.01)	-.10	.27* (.001)	.23* (.01)	.06

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TABLE 46

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES  
AND MAJOR CRIME RATES

(Urban Counties)

	1940				R	R <sup>2</sup>
	Population size	Population density	Urbaniza- tion	Division of labor		
Homicide	.01	-.04	-.34* (.001)	-.10	.38* (.01)	.12
Robbery	.09	-.19	.04	-.11	.21	.01
Assault	.01	-.11	-.07	-.04	.16	.00
Burglary	.10	-.12	-.25* (.001)	-.04	.30* (.05)	.06
Grand larceny	.02	-.09	-.29* (.001)	-.03	.34* (.01)	.03
Petty larceny	.12	-.09	-.21	.02	.25	.03
Auto theft	.06	-.14	-.03	-.16	.23	.02

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TABLE 47

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES  
AND MAJOR CRIME RATES

(Rural Counties)

	1950					
	Population size	Population density	Urbaniza- tion	Division of labor	R	R <sup>2</sup>
Homicide	.20	-.13	-.09	-.11	.17	.00
Robbery	-.25* (.001)	.00	-.01	.12	.24* (.05)	.04
Assault	-.30	.15	.21	-.03	.22	.03
Burglary	-.20*** (.001)	-.03	-.04	.21* (.001)	.25* (.05)	.04
Grand larceny	-.33* (.001)	-.14	.29* (.001)	.14* (.001)	.41* (.001)	.15
Petty larceny	-.31* (.001)	-.07	.29* (.001)	.19* (.001)	.39* (.001)	.13
Auto theft	-.29* (.001)	-.17* (.05)	.01	.32* (.001)	.43* (.001)	.16

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TABLE 43

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES  
AND MAJOR CRIME RATES

(Urban Counties)

	1950				R	R <sup>2</sup>
	Population size	Population density	Urbaniza- tion	Division of labor		
Homicide	-.03	.17	.00	.07	.16	.00
Robbery	.24* (.001)	.25* (.001)	.23* (.001)	.13* (.001)	.53* (.001)	.31
Assault	.07	.10	.04	.07	.18	.00
Burglary	.14* (.05)	.17* (.05)	.43* (.001)	.12*	.63* (.001)	.37
Grand larceny	.26* (.001)	.05	.42* (.001)	.06	.61* (.001)	.35
Petty larceny	.04	.14	.37* (.001)	.08	.48* (.001)	.20
Auto theft	.12	.03	.46* (.001)	.12	.55* (.001)	.28

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TABLE 49

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES  
AND MAJOR CRIME RATES

(Rural Counties)

	1960					
	<u>Population size</u>	<u>Population density</u>	<u>Urbaniza- tion</u>	<u>Division of labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
Homicide	.12	-.26	.11	.13	.21	.02
Robbery	.10	-.10	-.10	.02	.18	.00
Assault	.09	-.25	.09	.12	.19	.01
Burglary	.13	-.06	-.12	-.10	.22	.03
Grand larceny	.16* (.01)	-.20	-.11	-.04	.29* (.01)	.06
Petty larceny	.14	-.11	-.08	-.03	.21	.02
Auto theft	.09	-.10	-.29* (.001)	.09	.35* (.001)	.10

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TABLE 50

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES  
AND MAJOR CRIME RATES

(Urban Counties)

	1960				R	R <sup>2</sup>
	Population size	Population density	Urbaniza- tion	Division of labor		
Homicide	.01	.34* (.001)	-.12	-.09	.31* (.05)	.06
Robbery	.24* (.001)	.24* (.001)	.13* (.05)	.00	.55* (.001)	.28
Assault	.35* (.001)	.15	.16* (.05)	.00	.55* (.001)	.28
Burglary	.29* (.001)	.09	.42* (.001)	.03	.66* (.001)	.42
Grand larceny	.23* (.001)	.13	.41* (.001)	.06	.64* (.001)	.39
Petty larceny	.02	.03	.44* (.001)	.07	.47* (.001)	.20
Auto theft	.29* (.001)	.15 (.05)	.41* (.001)	.06	.70* (.001)	.48



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TABLE 51

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES  
AND MAJOR CRIME RATES

(Rural Counties)

	1970					
	<u>Population size</u>	<u>Population density</u>	<u>Urbaniza- tion</u>	<u>Division of labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
Homicide	.10	-.10	-.02	.12	.15	.00
Robbery	-.05	-.02	.01	.02	.06	.00
Assault	.12	-.15	-.11	.07	.15	.00
Burglary	-.12	.00	-.17* (.01)	.12	.24* (.05)	.03
Grand larceny	-.12	-.03	-.05	.06	.16	.00
Petty larceny	-.10	-.03	-.06	.05	.15	.00
Auto theft	-.11	-.08	.12	.21	.02	

TABLE 52

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES  
AND MAJOR CRIME RATES

(Urban Counties)

	1970					
	Population size	Population density	Urbaniza- tion	Division of labor	R	R <sup>2</sup>
Homicide	.00	.21* (.01)	.23* (.001)	.03	.42* (.001)	.15
Robbery	.08* (.05)	.75* (.001)	.16* (.001)	.03	.88* (.001)	.77
Assault	.16* (.05)	.23* (.001)	.16* (.05)	-.09	.52* (.001)	.25
Burglary	.15* (.05)	.11	.36* (.001)	-.07	.55* (.001)	.23
Grand larceny	.06	.13* (.05)	.56* (.001)	-.05	.63* (.001)	.45
Petty larceny	.02	-.05	.70* (.001)	-.15* (.001)	.72* (.001)	.50
Auto theft	.19* (.001)	.33* (.001)	.42* (.001)	-.05	.83* (.001)	.68

APPENDIX D  
Rural-Urban Comparisons  
(Change Model)

TABLE 53

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  ANTECEDENT  
VARIABLES AND  $\Delta$  DIVISION OF LABOR  
(Rural Counties)

	<u>1940-1950</u>				
$\Delta$ MOD	<u><math>\Delta</math> Population size</u>	<u><math>\Delta</math> Population density</u>	<u><math>\Delta</math> Urbaniza- tion</u>	<u>R</u>	<u>R<sup>2</sup></u>
1940- 1950	.01	-.11	-.02	.12	.00
-----					
	<u>1950-1960</u>				
1950- 1960	.06	-.07	-.03	.05	.00
-----					
	<u>1960-1970</u>				
1960- 1970	-.07	-.03	.05	.13	.00
-----					
	<u>1940-1970</u>				
1940- 1970	-.23* (.01)	.05	-.11	.26* (.01)	.05

TABLE 54

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  ANTECEDENT  
VARIABLES AND  $\Delta$  DIVISION OF LABOR

(Urban Counties)

$\Delta$ MOD	<u>1940-1950</u>			<u>R</u>	<u>R<sup>2</sup></u>
	<u><math>\Delta</math> Population size</u>	<u><math>\Delta</math> Population density</u>	<u><math>\Delta</math>Urbaniza- tion</u>		
1940- 1950	-.02	.05	-.06	.07	.00
-----					
	<u>1950-1960</u>				
1950- 1960	-.07	.05	.11	.12	.00
-----					
	<u>1960-1970</u>				
1960- 1970	.01	-.06	.00	.06	.00
-----					
	<u>1940-1970</u>				
1940- 1970	-.06	.00	-.09	.12	.00

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TABLE 55

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  ANTECEDENT  
VARIABLES AND  $\Delta$  DIVISION OF LABOR

(Rural Counties)

	<u>1940-1950</u>				
	<u><math>\Delta</math> Population size</u>	<u><math>\Delta</math> Population density</u>	<u><math>\Delta</math> Urbaniza- tion</u>	<u>R</u>	<u>R<sup>2</sup></u>
<u><math>\Delta</math> MOD</u>					
1950- 1960	-.07	-.01	-.15	.19	.02
-----					
	<u>1940-1950</u>				
1960- 1970	-.10	.09	.07	.08	.00
-----					
	<u>1950-1960</u>				
1960- 1970	-.20	.06	-.03	.17	.01

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TABLE 56

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  ANTECEDENT  
VARIABLES AND  $\Delta$  DIVISION OF LABOR  
(Urban Counties)

	<u>1940-1950</u>			R	R <sup>2</sup>
	<u><math>\Delta</math> Population size</u>	<u><math>\Delta</math> Population density</u>	<u><math>\Delta</math> Urbanization</u>		
<u><math>\Delta</math> MOD</u>					
1950-1960	-.03	.01	-.10	.11	.00
-----					
	<u>1940-1950</u>				
1960-1970	.01	-.06	.00	.06	.00
-----					
	<u>1950-1960</u>				
1960-1970	.02	.01	-.24* (.001)	.23* (.05)	.03

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TABLE 57

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES AND  $\Delta$  TOTAL CRIME RATE

(Rural Counties)

	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
<u>1940-1950</u>						
$\Delta$ MOD						
1940- 1950	-.02	-.03	.02	-.03	.05	.00
-----						
<u>1950-1960</u>						
1950- 1960	-.10	.08	-.07	.01	.11	.00
-----						
<u>1960-1970</u>						
1960- 1970	.05	.00	.00	.01	.05	.00
-----						
<u>1940-1970</u>						
1940- 1970	.01	-.08	.06	.00	.08	.00



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TABLE 53

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES AND  $\Delta$  TOTAL CRIME RATE

(Urban Counties)

	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
<hr/>						
$\Delta$ MOD	<u>1940-1950</u>					
1940- 1950	.27* (.001)	.20* (.01)	-.03	.01	.39* (.001)	.12
-----						
	<u>1950-1960</u>					
1950- 1960	.09	.01	.07	-.05	.12	.01
-----						
	<u>1960-1970</u>					
1960- 1970	.15* (.05)	.30* (.001)	.01	-.05	.38* (.001)	.12
-----						
	<u>1940-1970</u>					
1940- 1970	.22* (.001)	.32* (.001)	-.10	-.11	.45* (.001)	.17
<hr/>						

TABLE 59

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES AND  $\Delta$  TOTAL CRIME RATE

(Rural Counties)

$\Delta$ MOD	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
	<u>1940-1950</u>					
1950- 1960	.34* (.001)	-.36* (.001)	-.15* (.01)	.06	.26* (.05)	.05
	<u>1940-1950</u>					
1960- 1970	-.03	.11	-.06	.32* (.001)	.33* (.001)	.09
	<u>1950-1960</u>					
1960- 1970	.05	.00	-.12	-.07	.12	.00

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TABLE 60

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR  
VARIABLES AND  $\Delta$  TOTAL CRIME RATE  
(Urban Counties)

$\Delta$ MOD	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
	<u>1940-1950</u>					
1950- 1960	.04	-.01	.12	-.05	.14	.00
	<u>1940-1950</u>					
1960- 1970	.19* (.01)	.16* (.01)	.13	-.07	.33* (.01)	.08
	<u>1950-1960</u>					
1960- 1970	.09	.39* (.001)	.03	-.09	.45* (.001)	.18

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TABLE 61

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  PERSONAL/PROPERTY CRIME RATES

(Rural Counties)

	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
<u>1940-1950</u>						
<u>1940-50</u> Personal	-.06	-.04	-.11	-.06	.16	.00
Property	-.02	-.03	.02	-.03	.05	.00
-----						
<u>1950-1960</u>						
<u>1950-60</u> Personal	-.15	.10	-.05	.00	.16	.00
Property	-.05	.04	-.05	.01	.06	.00
-----						
<u>1960-1970</u>						
<u>1960-70</u> Personal	.27	-.10	.02	.00	.23	.03
Property	.04	.00	.00	.01	.04	.00
-----						
<u>1940-1970</u>						
<u>1940-70</u> Personal	.20	-.01	-.12	.07	.19	.01
Property	.01	-.08	.06	.00	.08	.00

TABLE 62

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  PERSONAL/PROPERTY CRIME RATES

(Urban Counties)

	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
<u>1940-1950</u>						
<u>1940-50</u>						
Personal	.15* (.05)	.24* (.001)	.12	.08	.36* (.01)	.10
Property	.27* (.001)	.19* (.01)	-.04	.00	.38* (.001)	.11
-----						
<u>1950-1960</u>						
<u>1950-60</u>						
Personal	.22* (.001)	.24* (.001)	-.24* (.001)	.11	.41* (.001)	.14
Property	.00	.06	-.03	.09	.10	.01
-----						
<u>1960-1970</u>						
<u>1960-70</u>						
Personal	.03	.68* (.001)	.06	.00	.69* (.001)	.46
Property	.16* (.05)	.23* (.001)	.00	-.05	.32* (.01)	.08
-----						
<u>1940-1970</u>						
<u>1940-70</u>						
Personal	.15	.17	-.14	-.06	.20	.01
Property	.25* (.001)	.31* (.001)	-.04	-.10	.48* (.001)	.20

TABLE 63

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  PERSONAL/PROPERTY CRIME RATES

(Rural Counties)

	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
<u>1940-1950</u>						
<u>1950-1960</u>						
Personal	.30	-.21	.00	.03	.21	.02
Property	.25* (.01)	-.31* (.001)	-.16* (.01)	.03	.24* (.05)	.04
<u>1940-1950</u>						
<u>1960-1970</u>						
Personal	.22* (.05)	-.07	-.11	.20* (.001)	.26* (.05)	.04
Property	-.04	.11	-.05	.32* (.001)	.33* (.001)	.09
<u>1950-1960</u>						
<u>1960-1970</u>						
Personal	.17	-.08	-.11	-.09	.15	.00
Property	.04	.00	-.11	-.06	.12	.00

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TABLE 64

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  PERSONAL/PROPERTY CRIME RATES

(Urban Counties)

	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
<u>1940-1950</u>						
<u>1950-1960</u>						
Personal	.30* (.001)	.00	-.07	-.10	.31* (.05)	.07
Property	.03	-.01	.12	-.04	.14	.01
-----						
<u>1940-1950</u>						
<u>1960-1970</u>						
Personal	.19* (.001)	.21* (.001)	.36* (.001)	-.02	.50* (.001)	.22
Property	.13* (.01)	.14* (.05)	.09	-.07	.29* (.05)	.06
-----						
<u>1950-1960</u>						
<u>1960-1970</u>						
Personal	-.02	.69* (.001)	.05	-.11* (.05)	.71* (.001)	.43
Property	.10	.32* (.001)	.02	-.08	.39* (.001)	.13

TABLE 65

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES

(Rural Counties)

	1940-1950				R	R <sup>2</sup>
	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor		
Homicide	-.12	-.01	-.02	-.03	.15	.00
Robbery	-.02	-.05	-.11	-.04	.14	.00
Assault	-.14* (.05)	.16* (.01)	.12* (.05)	-.05	.23* (.05)	.03
Burglary	-.02	-.03	.04	-.02	.06	.00
Grand larceny	-.13* (.001)	.30* (.001)	.12* (.05)	.07	.33* (.001)	.09
Petty larceny	-.02	.02	-.13	-.02	.13	.00
Auto theft	.00	.06	.00	.20	.20	.02



TABLE 66

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES

(Urban Counties)

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	1940-1950					
	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
Homicide	.00	.22	.05	-.11	.25	.03
Robbery	.32* (.001)	.28* (.001)	.07	.12	.52* (.001)	.24
Assault	.07	.17	.12	.07	.25	.03
Burglary	.27* (.001)	.22* (.001)	.06	.09	.43* (.001)	.16
Grand larceny	.33* (.001)	.12	.04	-.04	.45* (.001)	.17
Petty larceny	.22* (.001)	.16* (.05)	-.08	-.02	.32* (.05)	.07
Auto theft	.18* (.01)	.19* (.01)	.04	.10	.33* (.01)	.08

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TABLE 67

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES

(Rural Counties)

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	1950-1960				R	R <sup>2</sup>
	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor		
Homicide	-.14	.18	-.11	-.02	.18	.00
Robbery	.02	-.10	.06	.04	.06	.00
Assault	-.13	-.22	.21	.06	.19	.01
Burglary	-.09	-.06	.01	-.02	.11	.00
Grand larceny	-.06	.06	-.03	.09	.13	.00
Petty larceny	-.01	.13	-.09	.02	.07	.00
Auto theft	.08	-.14	.04	.14	.15	.00

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TABLE 68

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES

(Urban Counties)

1950-1960						
	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
Homicide	.04	.23	-.25	-.01	.29	.05
Robbery	.12	.15	-.26* (.001)	.10	.31* (.05)	.07
Assault	.20* (.01)	.18* (.05)	-.10	.07	.31* (.05)	.07
Burglary	.39* (.001)	.13	-.18* (.01)	.08	.45* (.001)	.18
Grand larceny	.19* (.01)	.16	-.04	.13	.31* (.05)	.06
Petty larceny	-.12	.02	.01	.06	.13	.01
Auto theft	.39* (.001)	.05	-.11	.06	.40* (.001)	.14

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TABLE 69

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES

(Rural Counties)

<u>1960-1970</u>						
	<u><math>\Delta</math> Population size</u>	<u><math>\Delta</math> Population density</u>	<u><math>\Delta</math> Urbaniza- tion</u>	<u><math>\Delta</math> Division of labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
Homicide	-.11	-.15	.02	.06	.24	.03
Robbery	.05	-.02	.02	.02	.05	.00
Assault	.30* (.001)	-.09	.01	.00	.26* (.05)	.04
Burglary	.01	.08	.00	.04	.09	.00
Grand larceny	.05	-.02	.00	.00	.04	.00
Petty larceny	.05	-.04	.01	.01	.04	.00
Auto theft	.00	.02	.00	-.06	.06	.00

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TABLE 70

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES

(Urban Counties)

	1960-1970				R	R <sup>2</sup>
	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor		
Homicide	-.03	.06	.14	-.08	.17	.00
Robbery	.01	.79* (.001)	.01	-.02	.79* (.001)	.62
Assault	.04	.46* (.001)	.06	.06	.47* (.001)	.20
Burglary	.13	.17	-.03	-.07	.26	.04
Grand larceny	.12	.24* (.001)	.07	-.06	.32* (.01)	.07
Petty larceny	.11	.11	.01	.00	.17	.00
Auto theft	.18* (.001)	.36* (.001)	-.06	-.08	.47* (.001)	.20

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TABLE 71

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES

(Rural Counties)

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	<u>1940-1970</u>					
	<u><math>\Delta</math> Population size</u>	<u><math>\Delta</math> Population density</u>	<u><math>\Delta</math> Urbaniza- tion</u>	<u><math>\Delta</math> Division of labor</u>	<u>R</u>	<u>R<sup>2</sup></u>
Homicide	.00	-.17	.11	.10	.20	.02
Robbery	-.24	.19	-.11	.03	.22	.03
Assault	.33* (.001)	-.07	-.10	.06	.26* (.05)	.04
Burglary	.02	-.09	.06	-.01	.08	.00
Grand larceny	.15	-.02	-.06	.23* (.001)	.25* (.05)	.04
Petty larceny	-.07	.03	.06	.05	.08	.00
Auto theft	-.06	.05	-.06	.22* (.001)	.25* (.05)	.04

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TABLE 72

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES

(Urban Counties)

	1940-1970				R	R <sup>2</sup>
	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor		
Homicide	.06	.31* (.001)	-.10	-.06	.33* (.01)	.08
Robbery	.03	.12	-.16	-.05	.17	.00
Assault	.15* (.01)	.44* (.001)	.17* (.001)	-.09	.61* (.001)	.35
Burglary	.25* (.001)	.24* (.001)	-.03	-.05	.41* (.001)	.17
Grand larceny	.21* (.001)	.29* (.001)	.06	-.04	.45* (.001)	.20
Petty larceny	.19* (.01)	.23* (.001)	-.04	-.14* (.05)	.38* (.001)	.12
Auto theft	.30* (.001)	.49* (.001)	-.15* (.01)	-.09	.65* (.001)	.40

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TABLE 73

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES, 1940-50,  
AND  $\Delta$  MAJOR CRIME RATES, 1960-70

(Rural Counties)

	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
Homicide	.03	-.09	-.01	.05	.08	.00
Robbery	.06	-.01	.05	.29* (.001)	.30* (.01)	.07
Assault	.22	-.06	-.14	.11	.22	.03
Burglary	.05	-.01	-.09	.31* (.001)	.32* (.001)	.08
Grand larceny	-.01	.09	-.05	.32* (.001)	.32* (.001)	.08
Petty larceny	-.14	.23* (.05)	-.01	.27* (.001)	.30* (.001)	.07
Auto theft	.02	-.07	-.08	.27* (.001)	.29* (.01)	.06



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TABLE 74

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN PREDICTOR VARIABLES, 1940-50,  
AND  $\Delta$  MAJOR CRIME RATES, 1960-70

(Urban Counties)

	$\Delta$ Population size	$\Delta$ Population density	$\Delta$ Urbaniza- tion	$\Delta$ Division of labor	R	R <sup>2</sup>
Homicide	.06	.02	.00	.14	.15	.00
Robbery	.20* (.001)	.26* (.001)	.31* (.001)	.03	.49* (.001)	.22
Assault	.14* (.05)	.13	.32* (.001)	-.06	.41* (.001)	.14
Burglary	.15	.12	.05	-.01	.24	.03
Grand larceny	.14* (.05)	.18* (.01)	.18* (.01)	-.02	.33* (.01)	.08
Petty larceny	.10	.00	.03	-.11	.16	.00
Auto theft	.25* (.001)	.37* (.001)	.05	-.03	.52* (.001)	.24

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TABLE 75

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES

(Rural Counties)

	<u>1940-1950</u>				<u>R</u>	<u>R<sup>2</sup></u>
	<u><math>\Delta</math> Population size</u>	<u><math>\Delta</math> Population density</u>	<u><math>\Delta</math>Urbaniza- tion</u>	<u><math>\Delta</math> Division of labor</u>		
<u>1950-60</u>						
Homicide	.32	-.20	-.02	.07	.21	.02
Robbery	-.05	-.03	.05	-.04	.09	.00
Assault	.12	-.07	.00	.22* (.001)	.23* (.001)	.03
Burglary	.02	-.05	-.05	.06	.09	.00
Grand larceny	.21* (.01)	-.30* (.001)	-.17* (.01)	.07	.26* (.05)	.04
Petty larceny	.32* (.001)	-.36* (.001)	-.16* (.01)	.10	.23* (.01)	.06
Auto theft	-.02	-.04	-.04	-.16	.17	.00

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TABLE 76

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES

(Urban Counties)

	<u>1940-1950</u>				R	R <sup>2</sup>
	<u><math>\Delta</math> Population size</u>	<u><math>\Delta</math> Population density</u>	<u><math>\Delta</math> Urbanization</u>	<u><math>\Delta</math> Division of labor</u>	R	R
<u>1950-60</u>						
Homicide	.11	.02	-.07	-.07	.15	.00
Robbery	.17	.03	-.15	-.13	.25	.03
Assault	.26	-.04	.02	-.03	.25	.03
Burglary	.37* (.001)	.08	.05	-.13* (.05)	.43* (.001)	.16
Grand larceny	.24* (.001)	.11	.00	.09	.32* (.05)	.07
Petty larceny	-.09	-.05	.11	.00	.15	.01
Auto theft	.29* (.001)	.08	.15* (.01)	-.28* (.001)	.48* (.001)	.21

TABLE 77

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES

(Rural Counties)

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	<u>1950-1960</u>				<u>R</u>	<u>R<sup>2</sup></u>
	<u><math>\Delta</math> Population size</u>	<u><math>\Delta</math> Population density</u>	<u><math>\Delta</math>Urbaniza- tion</u>	<u><math>\Delta</math>Division of labor</u>		
<u>1960-70</u>						
Homicide	.26* (.01)	-.33* (.001)	-.20* (.001)	-.05	.23* (.01)	.05
Robbery	.00	.00	.00	-.04	.04	.00
Assault	.16	-.04	-.10	-.08	.14	.00
Burglary	.08	.00	-.16	-.08	.16	.00
Grand larceny	.04	.00	-.09	-.06	.10	.00
Petty larceny	.00	.02	-.08	-.05	.09	.00
Auto theft	.00	-.02	-.13	-.06	.14	.00

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TABLE 78

STANDARDIZED PARTIAL REGRESSION COEFFICIENTS AND  
CORRELATIONS BETWEEN  $\Delta$  PREDICTOR VARIABLES  
AND  $\Delta$  MAJOR CRIME RATES  
(Urban Counties)

	<u>1950-1960</u>				<u>R</u>	<u>R<sup>2</sup></u>
	<u><math>\Delta</math> Population size</u>	<u><math>\Delta</math> Population density</u>	<u><math>\Delta</math> Urbaniza- tion</u>	<u><math>\Delta</math> Division of labor</u>		
<u>1960-70</u>						
Homicide	.04	.04	.04	.07	.12	.01
Robbery	-.06	.87* (.001)	-.06	.01	.83* (.001)	.67
Assault	.01	.42* (.001)	.11	-.18* (.001)	.51* (.001)	.23
Burglary	.03	.24* (.001)	.00	-.04	.29* (.001)	.06
Grand larceny	.03	.35* (.001)	.03	-.06	.40* (.001)	.16
Petty larceny	.06	.14	.04	-.11	.22	.02
Auto theft	.14* (.05)	.55* (.001)	-.06	.04	.60* (.001)	.34

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DIVISION OF LABOR, ANOMIE, AND CRIME RATES:

A TEST OF A DURKHEIMIAN MODEL

by

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ABSTRACT

Two models of a Durkheimian explanation of crime rates were subjected to empirical test. One is the static model which posits that in a more complex society the crime rate ought to be higher. This proposition is based on the assumption that in more complex or organic societies the probability of anomie is greater which is reflected in the rate of crime. The research proposition of this model is that there is a direct relationship between the joint effects of the level of population size, population density, urbanization, the division of labor and the rate of crime.

The other model, the change model, is concerned with how the transformation of societies influence social behavior. This model is based on the proposition that crime is more likely in those societies or communities in which a greater degree of structural change from mechanical to organic solidarity occurs. The basic research proposition of this model is that there is a direct relationship between the combined action of change in population size, population density, urbanization, the division of labor, and change in the rate of crime.

Data concerning crime rates were provided by the Uniform Crime Reports Division of the Federal Bureau of Investigation and data concerning the independent variables were obtained from the United States Census Bureau volumes. The basic unit of analysis is the county, chosen largely because it encompasses both rural and urban dimensions of a society. Counties were selected according to the availability of the crime rate data. The total number of counties selected in this manner is 300. The basic statistical procedure used is multiple regression analysis. Finite first difference equations were used in testing the change model. The propositions were tested for four time periods: 1940, 1950, 1960, and 1970.

The results indicate that the rate of property-theft offenses (i.e., auto theft, robbery, grand larceny) are best predicted by both static and change models. Both models also are most effective in predicting these rates of crime in the more urban counties. The indication, thus, is that the probability of anomie is greater in the more complex (i.e., organic) communities than in the less complex ones (i.e., mechanical). The main factors in the static model in predicting the crime rates are urbanization, population size, and population density, while in the change model population size and population density predominate. The division of labor has very little influence in either model.



It is suggested that the models are only supported in part and that a reformulation of a Durkheimian explanation of crime rates is in order. This modification centers on the components of urban life which are more likely to foster an increase in crime. Communities which are smaller and less dense, homogeneous, and mechanical-based are apparently more solidary and as a result have a lower crime rate. It is proposed that this social solidarity is often eroded when such a community experiences an economic and industrial transition.