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ANOMIE, INSTITUTIONS, AND CRIME: THE ROLE OF SOCIAL INSTITUTUIONS IN THE RELATIONSHIP BETWEEN SOCIOECONOMIC CHANGE AND CRIME IN RUSSIA

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THE ROLE OF SOCIAL INSTITUTUIONS IN THE RELATIONSHIP
BETWEEN SOCIOECONOMIC CHANGE AND CRIME
IN RUSSIA

A Dissertation APPROVED FOR THE
DEPARTMENT OF SOCIOLOGY

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Abstract

This dissertation examines social change, social institutions, and crime in Post-Soviet Russia. Russia has experienced rapid social and economic change following the collapse of the Soviet Union, creating anomic conditions and social disorganization. Further, as the country moves toward capitalism, it is likely that Russians are beginning to adopt a capitalist ideology and an emphasis on individual economic success that may go unchecked in the accompanying anomic environment. However, while anomie and the ineffective social control may increase crime rates, the strength of non-economic social institutions such as family, education, and polity may condition the impact of social change on crime and violence. In order to test these hypotheses generated by Durkheim and by Messner and Rosenfeld's institutional anomie theory, I employ cross-sectional data from Russia's 89 regions in 2000 and OLS regression techniques to examine (1) how the varying pace of negative social change in the country has influenced crime and violence, (2) if social institutions influence the cross-sectional variation of crime rates in Russia, and (3) the conditioning role in this relationship played by the strength of social institutions. The findings show that socioeconomic change is consistently positively and significantly related to the variation of regional homicide rates, but not robbery and burglary rates, in Russia. Social institutions play a mixed role in homicide and property crime rates in Russia. The strength of polity is negatively and significantly related to both homicide and property crime rates, while education is negatively related to homicide and has no association with property crime. Finally, of the three institutional measures, only education appears to condition the effects of socioeconomic change

on homicide, while none of the non-economic institutions appear to condition the effects of socioeconomic change on property crime. In sum, the findings suggest that negative socioeconomic change in transitional Russia is important in explaining the variation of violence in Russia and that social institutions do not appear to condition the effects of negative socioeconomic change on crime and violence in the country.

Chapter 1:

Introduction

This dissertation examines social change, social institutions, and crime in post-Soviet Russia. Russia has experienced widespread social, political, and economic change during the transition. These rapid social changes have likely created anomic conditions and had a negative effect on social institutions, which in turn may have influenced many social phenomena including crime. Durkheim (1897/1979) argues that radical social change causes a loss of regulation of life (anomie), and that the standards by which needs are regulated no longer remain the same. These anomic conditions can lead to an increase in deviant behavior, including crime and violence. However, the work of Messner and Rosenfeld (1997a) and Chamlin and Cochran (1995) suggest that the relative strength of social institutions can serve to mediate the impact of social and economic change on crime rates. This dissertation tests the efficacy of these hypotheses in the Russian context.

In Russia, the communistic mode of production is now largely destroyed and is being replaced by free-market capitalism. A totalitarian government is also being replaced by a more pluralistic and democratic system. Since these changes began in 1992, Russia has experienced a wide array of social problems, including unemployment, inequality, decreasing production and income, poverty, poor health, and increased rates of crime. Durkheim's (1893/1984, 1897/1979) ideas seem ideally suited to explain the increase in crime in transitional Russia. He argues that during times of rapid social change, norms become unclear and society's control over individual behavior decreases. According to Durkheim, as peoples' aspirations become less limited, and as conventional social institutions weaken, deviance and crime are expected to increase. Large-scale changes have occurred since the Soviet

Union collapsed, and these dramatic changes have led to increased uncertainty, producing anomic conditions. In this anomic environment, it is difficult for social institutions to fulfill their roles. The conditions created when social institutions are out of balance are conducive to high rates of crime. Hence, the weakened strength of social institutions and the crime rate in Russia might be explained by a Durkheimian perspective.

As the country moves toward a free market, it is likely that Russians are beginning to adopt capitalist ideologies, including, as Robert Merton (1938, 1968) and other criminological theorists (e.g., Bonger, 1969; Currie, 1991; Messner and Rosenfeld, 1997a) note, an emphasis on individual economic success. This move toward a free market and a capitalist ideology suggests another potential reason for the rise in crime rates: The emphasis on individual economic success may go unchecked in the accompanying anomic environment. The "American dream" may now be the Russian dream. Thus, Messner and Rosenfeld's institutional anomie theory (1997a) also appears to be relevant. Several other theories also focus on the relationship between social organization and crime, emphasizing social institutions (Bellar, Madsen, Sullivan, Swidler, and Tipton, 1991; Lafree, 1998), social capital (Bourdieu, 1986; Coleman, 1990), and collective efficacy (Sampson, Raudenbush, and Earls, 1997), all of which are likely relevant to Russia's current transitional period. Consequently, the main theoretical framework for this research will be based on Durkheim's anomie theory and on the institutional theories of Messner and Rosenfeld's (1997a) institutional anomie theory and Chamlin and Cochran's (1995).

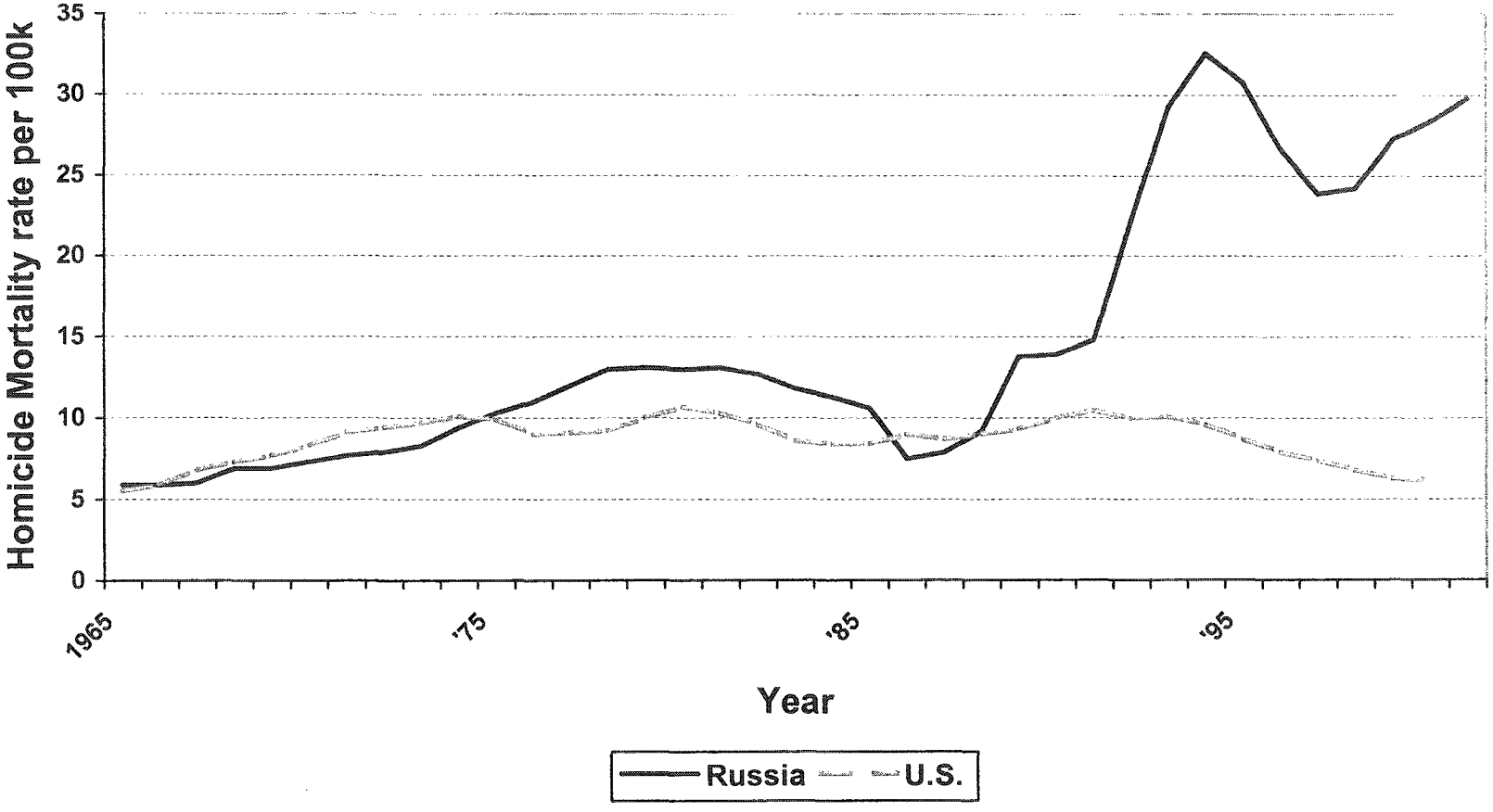
As yet, whether the same general patterns of and causal models for crime hold in different societies, or whether different models are needed to explain crime in each type of society has been largely unexplored. While research on crime in Western societies is abundant, there are only a handful of studies that rigorously examine crime in other type of societies, such as the post-socialist societies of Eastern Europe and Russia. Although new research on crime in the post-socialist countries is beginning to appear, there is currently no research that explicitly tests sociological theories such as Durkheim's (1893/1984, 1897/1979) anomie theory or its Messner and Rosenfeld derivation (1997a), institutional anomie theory.

Crime in transitional Russia

Violent crime. One of the benefits from Russia's transformation toward a democratic political system is the increasing availability of data on Russian social indicators, such as population, economics, education, the health of citizens, and crime. Under the totalitarian regime, these data were strictly controlled, usually unavailable, and often falsified. Now, the current government has increased the availability as well as validity of data sources (Pridemore, 2000).

These new data show that since the break-up of the Soviet Union, crime has risen sharply in Russia and other former Soviet countries. The homicide victimization rate, for example, tripled between 1988 and 1994 (Pridemore, 2003a). According to the data from the Ministry of Health of the Russian Federation, Russia's annual homicide rate now is nearly five times that of the United States (Pridemore, 2003a). The 2001 rate of 29.8 homicides per 100,000 people was 3 times what it was a decade earlier and nearly 5 times the U.S. rate (Pridemore, 2003a).

Figure 1.1. Homicide rates in Russia, 1965-2001.



The tremendous social, economic, and political changes experienced by Russia during the transition are well known. It seems likely that the shrinkage in economic well-being, the aggravating social problems, and the increasingly anomic environment and social disorganization resulting from rapid social change have all played a role in the increase in and cross-sectional variation of the homicide rate during the 1990s. In other words, widespread social, political, and economic transformation have led to dramatic increase in uncertainty and individual stress, and these conditions produce a more anomic environment. This may have led to the rapid increase in and the cross-sectional variation of the homicide rate. It might be true, however, that the effects of the pace of change on the homicide rates might be mediated by the strength of non-economic institutions such as family, polity, and education.

Violent crime in Russia is often committed in groups, and a greater proportion of violent offenders, as compared to nonviolent offenders, either are intoxicated or are individuals with serious drinking problems (Shelley, 1991). "The Russian tendency to act in groups, reinforced by Soviet educational and socialization practices that emphasize collective activity, helps account for this distinctive pattern of violence" (Shelley, 1991, p. 262). Chervyakov, Shkolnikov, Pridemore, and Mckee (2002) show that the characteristics of homicide events and participants in Russia are also changing during the transition. For example, a greater proportion of homicides are now committed to conceal another crime or in association with robbery or rape. Violence in groups is also growing during the transition.

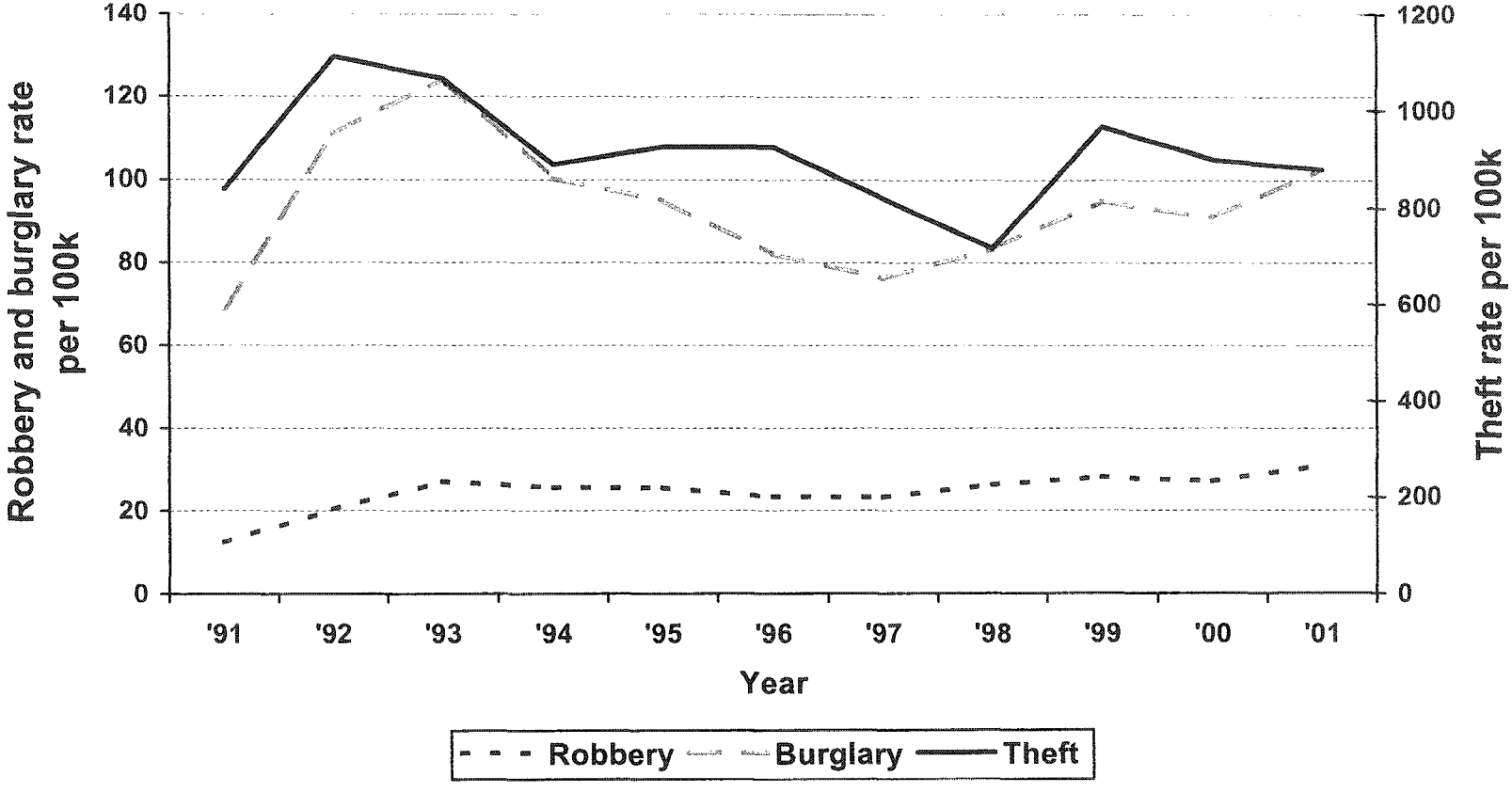
Some scholars have assumed that crime rates were indeed somewhat lower under state socialism than in democratic countries with capitalist economies. A higher degree of social justice and social integration in socialist countries are reasons given for this assumption. Such low crime rates might also be explained by other factors, such as tight social control practiced through a dense network of secret police activities and the considerable power difference between members of the Communist party and nonmembers (Savelsberg, 1995).

However, Pridemore (2001) argues against the belief that the Soviet Union had achieved low rates of violence. According to him, newly available data reveal the inaccuracy in this claim. Not only is the current Russian homicide victimization rate several times higher than in the U.S, but he employs newly available vital statistics data to show that it has been comparable to or even higher than the U.S. rate for at least the past 40 years (Pridemore, 2001).

Property crime. The new data from the Russian Ministry of the Interior show that property crime, such as burglary and robbery, has also risen steeply, though not as much as homicide, in Russia since the collapse of the Soviet Union. Figure 1.2 shows the trends of theft, burglary, and robbery rates in Russia from 1991 to 2001, and indicates generally similar patterns during this time.

There were increases in the early 1990s, and a peak around 1992 and 1993. It is interesting that the peak time of property crime is different from homicide, which peaked later in 1994. Robbery rate rose more than 2.2 times (from 12.4 to 27.0 per 100,000 people between 1991 and 1993). There was a similar pattern in the burglary

Figure 1.2. Property crime rates in Russia, 1991-2001.



rate. It rose 81% from 68.8 to 124.3 per 100,000 people from 1991 to1993. The theft rate also followed a similar pattern even though not as dramatic trend. It quickly jumped in the early 1990s. It rose 33% from 818.8 to 1110.2 per 100,000 people between 1991 and 1992. After these steep increases, these robbery, burglary, and theft rates stabilized until late 1990s before beginning to increase again in 1998. The timing of these increases coincides with the market collapse of 1998. The 2001 rate of 30.9 robberies per 100,000 people was 2.5 times what was a decade earlier, and the 2001 rate of 68.8 burglaries per 100,000 people was 1.5 times what was in 1991. However, the theft rate has dropped since it jumped again in 1998, and thus the 2001 rate of 879.16 thefts per 100,000 was about the same as in 1991.

As in the case of violent crime, the swiftness of social and economic change might play a role in the changes in property crime rates following the dissolution of the Soviet Union. The lack of preparedness for this rapid social and economic change may create anomic situation, and thus exacerbate social disorganization. Poverty and unemployment rates have increased during the transition, and have been followed by high levels of social stratification and income inequality. These poor economic situations and backward social welfare services might affect property crime rates. As the proportion of people living in dire economic circumstances increases, acquisitive crime might be expected to rise. These conditions may push people into committing more instrumental crimes that bring monetary rewards.

Social change and social institutions

Durkheim (1979) argued that deviance rises when normlessness, or anomie, increases. During rapid social change, norms become unclear, and society's hold

over individuals lessens. Aspirations become less limited than before, and crime and other forms of deviance are expected to increase. Social disorganization theory (e.g., Bursik and Grasmick, 1993; Shaw and Mckay, 1969) makes the same predictions. When conventional social institutions are weakened, as in times of rapid social change, deviance and crime are expected to increase. Russia is a very large nation, and the pace of social and economic change varies widely throughout the country, as do rates of violence. We might expect that the varying pace of change - and thus the level of anomie - has an impact on the variation of homicide rates. It may be, however, that this impact is mediated by the strength of local non-economic institutions, such as the family, education, and polity. Given the changes and differentiation, post-Soviet Russia provides a unique opportunity to test the claims of Durkheim (1984, 1979), Messner and Rosenfeld (1997a), and Chamlin and Cochran (1995).

Social and economic transition

Massive social change has occurred since the Soviet Union collapsed. While it is debatable whether or not the Soviet Union was a true communist country, the communistic mode of production is now a remnant of the past and is being replaced by free-market capitalism. A totalitarian government is also being replaced by a representative democratic system. Since the dissolution of the command economy and the transition toward a free market began in the beginning of 1990s, economic instability has occurred, such as decreasing production and an increasing unemployment rate and poverty.

According to the data from Gokhberg, Kovaleva, Mindeli, and Nekipelova (2000), by the end of 1997, 8.2 million Russians, or 11.2% of the economically active population, were unemployed. In 1992, it was 3.6 million (4.7%). Hence, in only five years, the unemployment rate doubled. By the end of 1997, 63.3% of the registered unemployed were women. During the last few years, about 40% of the unemployed were below 30 years old. The unemployment level varies considerably by region.[1] Hence, there is a group of regions with a critical situation in the labor market, where the scales of unemployment are many times as high as Russia's average indicators.

One of specific features of the Russian labor market is the disguised form of unemployment, displaying itself in two principal types: forced leaves initiated by the administration of enterprise, and unpaid (or incomplete paid) and part-time work (Gokhberg et al., 2000). The scale of disguised unemployment exceeds the unemployed population officially registered by employment agencies. The main reasons for this phenomenon are, on the one hand, the high cost of dismissal because of the mandatory dismissal pay stipulated by the law and, on the other hand, anticipation of a revival of production and increasing demand for manufactured products. At the end of 1997, the number of employees at large and medium-sized enterprises, who had to be in a state of incomplete employment, was 4.1 million. This is 5.6% of the economically active population, or 6.4% of the total employment (Gokhberg et al., 2000).

[1] For example, while in the 11 most prosperous regions the level of unemployment varies within the range of 0.9-2%, in 20 regions it is above 6%, and in 7 regions above 7% in 1997 (Bureau of Economic Analysis, as cited Gokhberg et al., 2000).

Unemployment in Russia is related to the industrial output decline. During transition, Russia's gross domestic product decreased by almost 40% and the output of industry, which is the primary area of mass employment under the Soviet system, reduced nearly twofold (Gokhberg et al., 2000). The financial crisis also led to a significant decrease in salary rates for some occupational categories (e.g., bank employees, financial and insurance assistants, advertising agents, managers) by 45-65%. This affects the salary rates in different sectors of the economy (Gokhberg et al., 2000).

In the early 1990s, Russia launched a program of privatization as part of the process of shock therapy, which aimed to convert the centrally planned command economy to a market economy. However, the institutions, necessary for a properly functioning a market economy, were and are underdeveloped. As a result, "this has led to criminalization of a large part of the economy, dramatic falls in production, loss of confidence in all aspects of marketing, and political instability" (Intriligator, 1994, p. 4).

Reforms such as privatization and shock therapy do not automatically lead to the establishment of market institutions. Economic, legal, political, regulatory, and social institutions play a fundamental role in the functioning of market economy. However, these institutions were not present when Russia abandoned the institutions of a centrally planned economy (Aslund, 1995; Goldman, 1996; Hanson, 1998; Porket, 1995). Hence, this condition created a social and economic vacuum, or anomie, and likely played an important role in the economic collapse and the criminalization of the economy. The most important for economic reforms is that the

transition requires the establishment of the institutions of a market economy (Intriligator, 1994).

Socioeconomic inequality and regional differentiation

Russia's enormous economic and social changes have also expanded socioeconomic inequality and differentiation across Russia. The Russian people, who experienced a communist revolution in the past followed by dissolution of this communism and a transformation to the free-market system, provide a rare example of such a profound social change. A sharp cross-sectional divergence in average incomes and living standards between the regions of Russia has developed since the introduction of sweeping economic reforms at the beginning of 1992 (Goskomstat, 1998). The economic structure of each region heavily affects regional stratification. For example, regions that were formerly heavily dependent upon military industry have been hurt. Regions with large oil and natural gas reserves can now sell their product at market value on the international market, and they are doing better than other regions. The different branches of industry vary considerably in terms of their business prospects over the short, medium, and long terms, and the economic prospects for the different regions also vary considerably (Sagers, 1992). "The contrasts in location and administrative status significantly influence the prospects of different regions and their chances for a more diversified, consumer-oriented economy as well" (Sagers, 1992, p. 487).

The effect of dramatic demographic change on social problems

The social and economic transition in Russia is having a dramatic impact on Russian demographic trends such as fertility, mortality, and migration. Since the

collapse of the Soviet Union in 1991, Russia has experienced demographic changes on a huge scale that is very rare in a country even during periods of war, or extreme material deprivation (Heleniak, 1995b).

The concurrent trends in transitional Russia of declining birth rates and rising death rates have led to a shrinking population. People "tend to delay family formation and to postpone child bearing during periods of economic uncertainty, and the transition away from a centrally planned economy toward a free market economy is an unknown path" (Heleniak, 1995b, p. 449). This economic transition has thus had a negative impact on family formation and dissolution.

Russia's maternal mortality rate is 6 to 7 times higher than rates in United States or Western Europe, and Russia's infant mortality rate is 3 times greater than in the United States or Western Europe (Kingkade, 1997). Life expectancy of both males and females peaked in 1987. Since then, life expectancy for males has declined by seven and one-half years (to around 60 years), and for females by three and one-half years (Goskomstat Rossii, 1994, as cited in Heleniak, 1995b). The largest increases in death rates were among middle-aged males. Heleniak (1995b) argues that this mortality crisis is caused by the increased stress brought on by a society undergoing rapid change towards an uncertain future. According to him, this argument can be "supported by observing which groups and which causes account for the largest portion of the mortality increase" (Heleniak, 1995b, p. 453). The leading causes of death are stress-related heart attacks and strokes, which account for almost half the 1990-1994 mortality increase. These middle-aged men are exposed to increasing unemployment and structural changes in economy, which has forced many

of them to change jobs, and move to a new location (Heleniak, 1995b). Variation of homicide rates by age of victim indicates that this same age group has the highest homicide victim rates (Pridemore, 2000), disproportionately contributing to increased mortality and to years of life lost.

Skolnikov and Meslé (1996) also point out the negative effect of the recent social, economic and political transformations on Russian mortality crisis of the 1990s. They argued that the socioeconomic transitions of the 1990s led to a general failure of Soviet state paternalism such as Soviet state's set of social guarantee for people's health, house, and food. After the Soviet Union's collapse, Russian people realized that the state could not be able to keep their welfare system any more. The most vulnerable group for this condition is the group of people aged 45-50 because they felt that it was too late to change professions or occupations, and it was impossible to earn enough money to maintain their former standards of living (Skolnikov and Meslé, 1996). This is evidence that dramatic social changes produce uncertainty and individual stress, and these circumstances have likely helped to create an anomic environment.

The forces of migration also influence social and economic structures such as age structure, labor force, social services, and local fiscal systems. A region's age-sex structure will have an impact on the supply and demand for schools and health care. Age-sex structure also affects the regional tax base and pension funding. Regions with high out-migration are located in the Russian North, and regions with high in-migration are located in the southwestern portion of Russia. Heleniak (1997) asserts that the decline in the number of young persons in regions with high out-migration

will greatly lessen the demand for schools in the future. The out-migration of young workers and young dependents means there will be fewer entrants into the labor force and this will further erode the tax base in these areas and thus, the financial resources supporting social services (Heleniak, 1997).

The current demographic shocks to fertility, mortality, and migration have had a major impact on the cross-sectional variation of the population within Russia. Because of the differential rates of natural increase and pronounced differences in migration patterns, regions within Russia are faced with different demographic situations and difficulties (Heleniak, 1995b), which may play a role in the variation of crime and violence.

Effects of change on social institutions

Institutions are patterned, mutually shared ways that people develop for living together (Bellah, Madsen, Sullivan, Swidler, and Tipton, 1991). These patterns include the norms, values, statuses, roles, and organizations that define and regulate human conduct. Institutions are guides to how we should live and conduct our affairs. We form institutions and they form us. Institutions "are the substantial forms through which we understand our own identity and the identity of others as we seek cooperatively to achieve a decent society" (Bellah et al., 1991, p. 12).

Stable institutions allow social organization to persist over time despite the constant change of members of society. According to Blau (1964), "institutionalization involves formalized procedures that perpetuate organizing principles of social life from generation to generation... [and] social institutions constitute a historical reality that exist, at least in part, outside and independent of the

human beings who make up societies" (p. 273). Humans are especially dependent on institutions for our survival because we cannot depend on instincts (Berger, 1963). According to Lafree, this dependence on institutions has important implications for all human behavior, including crime, because it allows institutions to change rapidly in response to environmental changes (Lafree, 1998).

In this section, I will examine the effects of change on social institutions. The political and economic changes occurring in transitional Russia have created disruption in social institutions. In particular, I focus on main three social institutions: family, education, and polity. These institutions are non-economic institutions, and I expect that the strength of these non-economic institutions would play a conditioning role in the relationship between social changes and crime in Russia.

Family. Under the economic pressure and uncertainty due to economic change, it is difficult for families to remain intact. Marriage rates dropped 35% between 1990 and 1998, while divorce rates rose 16% (Goskomsatat, 1999). Further, the proportion of all children born out of wedlock increased more than 50% between 1990 and 1996, and single-parent households composed 16% of all households in the nation in 1999 (Pridemore, 2002a). In addition, the economic transition resulted in increases in the number of orphans and in the rate of child abuse and neglect (Pridemore, 2002a). As Shaw and Mckay (1969) pointed out, if families and other conventional institutions were disorganized, as a consequence, juveniles would receive neither the support nor the supervision required for wholesome development.

Family institutions can reduce crime by regulating the motivation of offenders and providing effective social control. If the family cannot function as a basic institution for social control, however, the risk of both offending and victimization will likely go up in the members of this family.

Education. Russia's educational system has long been a source of strength. Most school-age children have access to school, and nearly all adults in the population are literate. High levels of scholarly achievement have also been a source of pride. The Soviet system, however, was grossly over-centralized, inefficient, and lacking in accountability (Canning, Moock, and Heleniak, 1999). In the last decades, attempted rapid decentralization has not been well designed, because there has been no commensurate transfer of resources and levels of responsibility have remained unclear. Russian economic transition to a market economy also has affected the education system because of the dissolution of central Communist Party control. Hence, the impact of social and economic change on educational quality and equity are very serious. The worsening fiscal base and confusion about roles and responsibility at each level of local government have contributed to growing inefficiencies. This unclear devolution of responsibility is not simply creating new opportunities for the system to become more responsive to local needs but placing new burdens on administrators of local government in all regions by directing them to fulfill roles for which they are untrained and often lack the necessary funding. Local governments have little capacity to provide the necessary resources to education such as school facilities and basic funding for teachers' salaries. In addition, the quality of education services is being compromised by the shrinking resource base and by weak

institutional development that undermines the capacity to implement reform (Canning et al., 1999).

The main goals of an educational system include socialization of children and social control. Education is social institution, which provides the members of society with knowledge and skills and cultural norms and values. The economic crisis and social anomie of transitional Russia have created unfavorable conditions to accomplish these goals. This goal of socializing of children is difficult to accomplish when there are not enough resources for education.

Enormous cultural confusion resulting from radical social and economic change aggravates the problems of the Russian educational system. School can reduce crime by effectively monitoring and supervising the behavior of children under their custody. Furthermore, school can reduce crime by creating environments in which children are strongly committed to education and care about their school performance (Lafree, 1998). The norms and values of Soviet Union are now being replaced with capitalist and democratic ideals, which were often opposite to what Russian had been taught throughout the Soviet Union era. Socio-economic changes have required that every member of Russian society abandon the old understanding of 'good' and 'evil'.

The confusion over cultural values and the decreasing quality of the educational system have an impact on the social control of Russian youth, and may have played a role in the increase in juvenile delinquency rate in Russia (Pridemore, 2002a). The poor condition of the educational institution along with the high unemployment does not provide a strong commitment to school. The weakened

educational institution creates risk factors for adolescents' involvement in delinquent behavior. Furthermore, in the long run, it may lead to a decrease in social stability (Pridemore, 2002a).

Polity. In the period of transition, Russia has been underdeveloped in the area of civil society. The lack of civil society and rule of law were the cause of many of the difficulties during democratization. Russians remain confused about the terminology of crime and rule of law, and has spread all over the country and throughout governmental institutions. "The sweeping use of the term 'corrupt' is symptomatic of a society adjusting poorly to foreign notions of market economy and democracy" (Coulloudon, 1997, p. 75). Most organizations and institutions with political and economic influence supported some form of distribution and development of natural wealth. These situations give rise to syndicates or informal networks of insiders, competing for the state's resources such as officials of regional governments, financiers, and developers (Lucky, 1997). This spread of corruption, particularly within the political elite, threatens the organizational integrity and political legitimacy.

The connections between political institutions and crime may be linked to the trust in their political system. Growing distrust in political institutions may threaten their legitimacy, and this can increase the motivation of individuals to commit crime and reduce the effectiveness of the social control system. Social control efforts are likely to be closely related to the legitimacy of political institutions. Lafree argues that members of a society become less enthusiastic agents for the social control of

others when they begin to doubt the fairness of their political institutions (Lafree, 1998).

New ways of thinking and speaking about Soviet politics as well as new ways of behaving emerged in Gorbachev's Soviet Union, after 1987. Three new concepts in particular have been emphasized: political pluralism, rule of law, and checks and balances (Brown, 1991). Colton (2000) explains thoughtfully the democratization and democratic culture in Russia. There has been a proliferation of parties and political movements in Russia. Since the adoption of the Russian Constitution in December 1993, Russian citizens have been given the opportunity to engage in three rounds of national elections (in 1993, 1995, and 1999) and two rounds of presidential elections (in 1996 and 2000). In addition, two rounds of elections have also been held for the vast majority of Russia's eighty-nine regional executive and legislative bodies. During the period 1991-1997 a total of 5,000 parties and 60,000 public organizations were registered with the Ministry of Justice (Ross, 2002).

Although there was clear evidence that after ten years of transition from authoritarian rule the forms of democracy had been introduced, in many respects the norms and practices of democracy had not been established at the local level (Hahn, 2002). Participation in regional level politics has declined since 1995. The vast majority of elections for regional assemblies and executive bodies have been largely party-less. No party held a majority of the seats in any of Russia's eighty-nine regional assemblies, and there were only ten chairs of assemblies with a party affiliation (Ross, 2002).

The mere presence of a plural party system and a democratic constitution were no guarantee of democratic practice. The elements of civil society such as toleration and restraint in society are essential prerequisites for the growth of democracy from below rather than democracy being imposed from above (Sakwa, 1993). At a time of transition, the attitudes and values engendered by the political socialization of the Soviet Union still affect the new politics of current Russia. "Russian political culture still has a long way to go before it can enjoy the decorous patterns of parliamentary politics" (Sakwa, 1993, p. 29).

The conditioning role of these social institutions

The recent radical changes in Russia have had a profound effect on political, economic, educational, and family institutions. These social changes may bring about anomic environments and uncertainty of their future, and then this anomic environment and uncertainty can lead to the vacuum of social institutions' role. Current transitional Russia's anomic circumstances may make Russian society more conducive to commit crime. It would be not true, however, to say that these social changes are occurring at a constant pace through the region. Russia is a huge country and the largest nation in the world, and the pace of change varies tremendously throughout the regions. Hence, we would expect rates of crime and violence to vary based on the pace of change. Further, we would expect that the strength of social institutions such as family, education, and polity would play a conditioning role in this relationship. In other words, even in areas where rapid social change has had a harmful impact on social and economic well-being, if the social institutions are strong, then rates of crime and violence will be less than expected.

Cross-sectional variation

As I described above, huge social, economic, political changes have led to various social problems and have led to weakened social institutions. Yet the varying pace of social, economic, and political change has also led to variation of social problems, including crime, from region to region. Even though crime and violence rates are high throughout Russia, the level of rates still varies tremendously by region. It may be that the effects of social change on crime rates might be mediated by the strength of non-economic institutions. Hence, I will test my hypotheses of why this distribution and wide range of variation occurs in Russia.

Russia is a large and diverse nation, and for several reasons the pace of social, political, and economic transition in the country varies widely. The strength of social institutions, such as family, education, and polity also vary widely from region to region. Durkheim would suggest that the varying pace of change has an impact on the variation of crime rates. Further, other Durkheimian derived theories, such as Messner and Rosenfeld (1997a) and Chamlin and Cochran (1995), would argue that the impact of poverty and anomie resulting from social change is mediated by the strength of social institutions. This leads to the following three research questions, which drive this dissertation.

Research questions

Given this situation discussed here in terms of social change, social institutions, and crime, this dissertation is driven by three main research questions.

1. Does negative social and economic change influence the cross-sectional variation of crime rates in Russia?

2. Do social institutions influence the cross-sectional variation of crime rates in Russia?
3. Are the effects of socioeconomic change on crime conditioned by the strength of non-economic social institutions?

The answer to these questions will provide useful benefits to our understanding of the relationship between pace of social change and crimes, and the relationship between social institutions' role and crimes.

In the next chapter I will review the literature on anomie and crime, including Durkheim and Merton, and the institutional anomie theories of Messner and Rosenfeld and Chamlin and Cochran, referencing the recent work on crime and violence in Russia where appropriate.

Chapter 2:

Review of theoretical and

empirical literature

Review of Anomie theory

Among the many theories that attempt to explain crime causation, anomie theory may offer one of the best explanations of increasing crime during Russia's transitional period. According to Russian sociologist Nikita E. Pokrovosky, the anomie theory was unpopular in Soviet Russia. However, the deterioration and collapse of the social structure of Soviet society brought attention to anomie theory, and he argues that scholars are beginning to focus on this theory. Pokrovosky states "Russian society has made a dramatically fast transition to conditions in which there is a complete vacuum in cultural goals and institutionalized means. This transitional period in Russian society has brought the theory of anomie to the fore as an efficient method of analysis" (Pokrovosky, as cited in Merton, 1997).

The historical roots of anomie theories in criminology trace originally to Durkheim (1979, 1984) and then Merton (1938, 1968). The meaning of 'anomie' differs between Durkheim's and Merton's work (Tittle and Paternoster, 2000). To Durkheim, anomie refers to characteristics of entire social groups or individuals during societal transition when there are no norms to govern their behavior. Under the condition of normlessness, Durkheim assumed that human beings would be unable to regulate their desires, thus creating deviant behavior. According to Durkheim, this normlessness occurs during periods of rapid social change, when traditional norms are upset or called into question and new norms have not yet been established. For Merton, on the other hand, anomie is not a temporary state, but is instead a chronic characteristic of some societies. Unlike Durkheim's concern with the absence or disruption of norms, Merton is concerned with cultural and social mal-

integration. He emphasizes values and goals and means of reaching them, arguing that in some societies the means and goals that are stressed are inconsistent. That is, the values and goals are incongruent with the distribution of legitimate means to reach those goals.

As mentioned in Chapter 1, Russia has experienced great social and economic change, potentially resulting in anomic conditions. Furthermore, as the country moves toward a free market economy, it is likely that Russians are beginning to adopt a capitalistic ideology and an emphasis on individual economic success. However, as pointed out in the previous discussion of widespread unemployment and poverty, most Russian people do not have legitimate means to achieve material success. Hence, both Durkheim and Merton seem especially relevant to conditions in Russia, especially in terms of deviant and criminal behavior. In addition, along with radical social change and economic transition, non-economic social institutions such as the family, education, and polity might be overwhelmed by the faltering economy. Hence, the work of Messner and Rosenfeld and Chamlin and Cochran, which derives from Durkheim, seems applicable to explain the high levels of crime in Russia, as well, since they focus on the conditioning role of social institutions in the relationship between anomie and crime.

Therefore, in this chapter, I will outline Durkhim, Merton, Messner and Rosenfeld, and Chamlin and Cochran as they apply to the current Russian context. These theorists commonly argue that the impact of anomie and poverty is mediated by the strength of social institutions. Social disorganization theories, such as

Sampson's "collective efficacy," will also be briefly discussed since it stresses the role of non-economic institution.

Durkheim's Tradition

The rise of crime in the former Soviet nations might be expected by Durkheim and other anomie theorists. Durkheims's (1893/1984, 1897/1979) distinction between mechanical solidarity and organic solidarity appears to be highly applicable to widespread structural change in Russia. Durkheim refers to the consciences in humans, incorporating both the collective and the individual, and argues the conflict between them is the main cause of social change. The conflict between the two consciences is not a mode of psychological explanation. He insists that social evolution does not originate in the psychological constitution of the human. Instead, Durkheim (1895/1982) emphasizes that "the determining cause of a social fact should be sought among the social facts preceding it and not among the states of the individual consciousness" (p. 134). Hence, social phenomenon, such as crime, must be explained by the response of the human conscience to the social structure.

According to Durkheim (1979), healthy societies set limits on the goals that individuals pursue. These limits are set so that individuals have a reasonable chance of achieving their goals. However, under certain conditions - such as during time of rapid social change - societies may lose their ability to regulate individuals' goals. This occurs because individuals are inherently unable to set limits on their desires. People will restrain their desires only in response to a limit they recognize as just, which means that this limit must come from an authority that they respect (Durkheim, 1979). That authority is society or one of its organs, such as legal system or religion.

When society fails to play this role, perhaps because of sweeping political and economic change as is occurring in Russia, goals become unlimited or unattainable. According to Durkheim (1979):

> The scale is upset; but a new scale cannot be immediately improvised. Time is required for the public conscience to reclassify men and things. So long as the social forces thus freed have not regained equilibrium, their respective values are unknown and so all regulation is lacking for a time. The limits are unknown between the possible and the impossible, what is just and what is unjust, legitimate claims and hopes and those which are immoderate. Consequently, there is no restraint upon aspirations.... At the very moment when traditional rules have lost their authority, the richer prize offered these appetites stimulates them and makes them more exigent and impatient of control. The state of deregulation or anomie is thus further heightened by passion being less disciplined, precisely when they need more disciplining. (p. 253)

Durkheim (1979) argues that the pursuit of unlimited or unattainable goals is a source of "constantly renewed torture" (p. 247). It is for this reason that anomie may lead to suicide or violence. In particular, Durkheim insists that anomie may result in homicide or more violence if individuals blame others for their problems or if they are of low morality.

Durkheim as anomie theorist

Another criminological theory, control theory, is distinguished from anomie/strain theory in terms of its independent variables and its specification of

intervening processes (Agnew, 1993, 1995, 1997). According to control theory, deviance results from the absence of societal bonds (the independent variable). This absence results in deviance because it provides individuals with the freedom to satisfy universal needs and desires through the most expedient means, which may include deviance (the intervening process). In contrast, anomie/strain theory argues that deviance results from negative treatment by others. Since this negative treatment frustrates or angers the individual, deviance can be one method of dealing with this frustration and anger (Agnew, 1997). In control theory, individuals are freed to engage in deviance which they inherently desire, whereas in anomie/strain theory, individuals are pressured into deviance (Hirsch, 1969; Kornhouser, 1978; Vold and Bernard, 1991).

Durkheim's theory focuses on the absence of societal control (Agnew, 1997). "Deviance ultimately is caused by the failure of society to regulate individual goals adequately. The absence of such regulation is what Durkheim means by anomie. To this extent, Durkheim appears to be a control theorist" (Agnew, 1997, p. 31). However, Agnew argues that the absence of society does not free individuals to satisfy their universal desires in the most expedient manner if we focus on intervening processes and ask why the absence of societal regulation leads to deviance (Agnew, 1997). Rather, "the absence of societal controls leads individuals to develop unlimited or unattainable goals," (Agnew, 1997, p. 31) and the failure to achieve these goals generates "anger and all the emotions customarily associated with disappointment" (Durkheim, 1979, p. 284). These emotions drive individuals to deviance, including suicide and violence. These emotions are not universally shared,

but instead are created under specific conditions, and thus the absence of society does not free individuals to act on them.

Agnew (1997) emphasizes that the intense anger and frustration described by Durkheim are not *released* by the absence of societal regulation; instead, such emotion is *created* by the absence of control. Hence, the absence of society is important, not because it increases freedom, but rather because it increases the frustration and anger that drives individuals to deviance. Therefore, the absence of society leads to strain at the individual level, and it is this strain that causes deviance. For this reason, Agnew asserts that Durkheim is best viewed as a strain rather than a control theorist (Agnew, 1997).

Crime. While Durkheim regards suicide as one form of deviant behavior, crime can also be regarded as deviance, and Durkheim's approach for suicide has been widely applied as an explanation of criminal behavior. Several studies have tested the efficacy of Durkheim's anomie theory to explain crime. Durkheim attributed the high rates crime and deviance to anomie generated by radical social change, such as during the French and industrial revolutions. However, Lodhi and Tilly (1973) argue that the incidence of theft and robbery declined at the time. They show that violent crime remained stable over the same period. McDonald (1982) also argues that official statistics show crime rates declined during that time.

Some researchers argue that economic development is associated with an increase in property crime but a decrease in violent crime (Lafree and Kick, 1986; Newman and Berger, 1988; Ortega, Burnett, and Poyer, 1992). Newman and Berger (1988) insist that urbanization and industrialization are associated with increases in

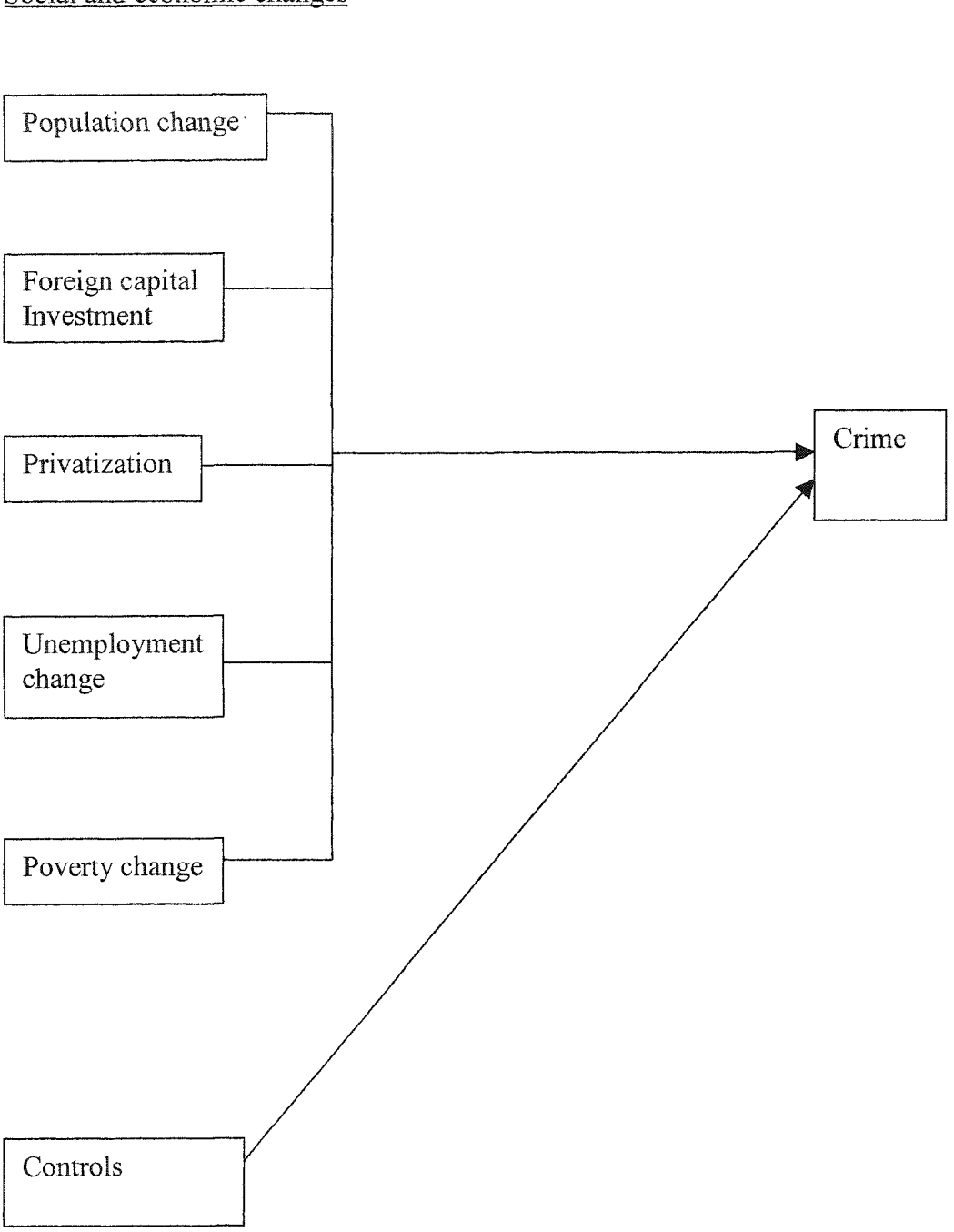
property crime, but are not associated with increases in violent crime. Bennett (1991) also questions Durkheim's argument that crime is caused by rapid social change. According to Bennett, if Durkheim's argument is true, (1) the rate of increase in crime would be directly related to the rate of growth in the society, and (2) the level of development itself should not affect crime rate as long as the country is not rapidly changing. He shows that the rate of growth does not significantly affect either theft or homicide, and that the level of development itself, regardless of the rate of growth, affects theft but not homicides.

Durkheim argues that anomie is a pathology resulting from the transition between fully developed states of mechanical and organic solidarity (Smelser and Warner, 1976). Anomie occurs in the process of an evolution between two social species, and Durkheim indicates that it is harmful, rather than functional, for individual and social well-being. Throughout Russian history, and especially in the former Soviet Union, there was an emphasis on the "collective conscience," and the social system focused more on society as a whole rather than on individuals (Kharkhordin, 1999). Further, in the former Soviet Union there was not as much division of labor as in Western capitalist countries. After the Soviet Union collapsed, however, Russia began the transformation to a capitalistic and democratic society, and is now transitioning to Western values. Russians are beginning to (1) consider material success to be an important social value and (2) emphasize individualism (Barkan, 1997). Therefore, in Durkheim's terms, we may say that the former Soviet society exhibited a kind of mechanical solidarity, while the current Russia is transitioning toward a more organic solidarity. The social change resulting from the

collapse of communism may disrupt the social equilibrium and produce an anomic situation. It can be expected that anomic social conditions will result, and one expected outcome would be an increasing crime rate.

These recent radical social, economic, and political changes in Russia provide an excellent *locus in quo* to examine Durkheimian predictions regarding deviance and crime as a sociological phenomenon. Given this review of Durkheim's anomie theory, and its relevance to crime in contemporary Russia, here is the theoretical model to be tested.

Figure 2.1. Durkheimian theoretical model to be tested in Russia.



Social and economic change is represented in this model by population change, change in poverty, unemployment, privatization, and foreign investment. According to Durkheim (1984), an increase in the degree of concentration of the society, such as population increase, urbanization, improved communications and transmission, produces higher levels of social interaction. This generates competition and conflict, which in turn gives rise to the division of labor. Organic solidarity is based on this division of labor. However, rapid changes in the volume and density of material factors of society create anomie. As the differential functions proceeds, the number of rules or norms in society increases, but they relate only to their specialized sphere. Hence, they carry less weight in society, thus leaving more space for individualism (Durkheim, 1984).

Rapid economic change engenders new interests in conflict, which have not yet had time to reach equilibrium (Durkheim, 1984). Over-rapid industrialization involves unequal distribution of wealth and power between classes, and this in turn produces a discrepancy between a group's expectations and their achievements. Under this condition, norms governing the means to achieve goals break down, and anomie may result (Durkheim, 1984).

Merton's Anomie theory

Since Russian people are beginning to consider individual economic success to be one of the most important social values as their society is transforming to capitalism, there may be a discrepancy between cultural aspirations and structural realities, and this anomic condition might weaken social institutions. Hence, a review

of Merton's ideas is relevant to understand current Russian society and necessary for the discussion of Messner and Rosenfeld and Chamlin and Cochran that follows.

Merton's analytical model has two fundamental components: a cultural structure and a social structure (Messner, 1988). These concepts are formulated by Merton's theory of the organization of social systems. According to Messner (1988, p.37), Durkheim's basic premise is that "a collectivity is well organized when social structural relationships enable members of that collectivity to realize culturally approved goals via normatively prescribed means." When social structure and cultural structure have a harmonious relationship, individuals receive satisfaction with conformity to cultural mandates either because they can obtain culturally defined success goals, or because they can use culturally accepted means to try to achieve goals. However, often social structure and cultural structure are not congruent. For example, Merton argues that the American social system has pronounced disjuncture in two different spheres (Messner, 1988). At the level of the social system, there is divergence between social structural arrangements and cultural prescriptions. The cultural structure encourages common success goals, while the social structure limits access to normative means to reach these goals (Merton, 1968). As a result, this lack of integration between goals and means creates anomie. This situation is conducive to high rates of deviant behavior. According to Merton (1968):

> The social structure strains the cultural values, making action in accord with them readily possible for those occupying certain status within the society and difficult or impossible for others. The social structure acts as a barrier or as an open door to the acting out of cultural mandates. When the cultural and the

> social structures are malintegrated, the first calling for behavior and attitudes which the second precludes, there is a strain toward the breakdown of the norms, toward normlessness. (p. 217)

According to Messner (1988), American society also has discrepancy within the cultural structure itself. There is an imbalance within the components of culture. Merton (1968) argues that healthy society emphasizes both the attainment of goals and the use of culturally defined appropriate means to attain those goals. However, American culture places extreme emphasis upon material success without equivalent emphasis upon the use of legitimate means to reach these goals. As a result, the use of illegitimate means to reach these goals may not be strongly condemned. Hence, "American society exhibits both disjuncture at the same level (a discrepancy between social structure and cultural structure) and an imbalance within the cultural component of the social system (an exaggerated emphasis on goals in comparison with the emphasis on means)" (Messner, 1988, p. 37). Merton (1968) states that

> Of the types of societies that result from independent variation of cultural goals and institutionalized means, we shall be primarily concerned with the first—a society in which there is an exceptionally strong emphasis upon specific goals without a corresponding emphasis upon institutional procedures . . . With such differential emphasis upon goals and institutional procedures, the latter may be so vitiated by the stress on goals as to have the behavior of many individuals limited only by considerations of technical expediency. In this context, the sole significant question becomes: Which of the available procedures is most efficient in netting the culturally approved values? The

> technically most effective procedure, whether culturally legitimate or not, becomes typically preferred to institutionally prescribed conduct. As this process of attenuation continues, the society becomes unstable and there develops what Durkheim called "anomie." (pp. 188-189)

> An extreme cultural emphasis on the goal of success attenuates conformity to institutionally prescribed methods of moving toward this goal...It is in this way that the culturally established goal moves toward sanctifying all those means which enable one to attain it. This is what was meant in the foregoing essay by the process of 'demoralization,' in which norms are robbed of their power to regulate behavior, and the 'normlessness' component of anomie ensues. (p. 223)

Anomie theory has focused on explaining why some societies have higher crime rate than others. As mentioned above, Merton (1938, 1968) argues that the United States places a relatively strong emphasis on the goal of monetary success, but deemphasizes the use of legitimate means for achieving this goal. As a result, the goal-seeking behavior of individuals is subject to less regulation. Individuals are more likely to pursue monetary success using whatever means are necessary, and societies fail to adequately regulate goal-seeking behavior. These conditions of society are characterized by a state of 'anomie.' This might relate to current Russian society's anomic situation. We may surmise that currently, Russian people are beginning to take on consumeristic goals and values, but the vast majority of the population has very limited access to the means for achieving these goals. Hence, this disjuncture between goals and means may create anomie in Russian society.

According to Rosenfeld (1989), "Unlike control theory, strain perspective emphasizes the importance of culture in the generation of crime and deviance" (p. 458). Rosenfeld (1989) argues that strain theory, unlike cultural theory, does not assume that deviance is simply a matter of cultural definition. Strain theory assumes that deviance results, in part, from conformity to conventional standards of success. Furthermore, Rosenfeld (1989) argues that strain theory is not a simple structural deprivation explanation of crime and deviance. In other words, differential access to legitimate means is not a sufficient cause of deviance. "Structural deprivation or inequality produces pressures to deviate under very specific and distinct cultural circumstances" (Rosenfeld, 1989, p. 458). Cullen (1983) makes a similar argument. He says that societal level conditions, such as technological advances and historical transformation, determine the illegitimate opportunities that are available to specific people at specific times and places.

Rosenfeld (1989) also argues that strain theory is consistent with conflict and Marxist criminological insights by emphasizing socially structured contradictions in the relations of consumption. Greenberg (1993) argues that the lack of political democracy or antagonistic class relations, such as the efforts of state bureaucrats to preserve their privilege in socialist societies, produces inequality. This inequality "would be expected to result in anomie-induced crime, especially when exposure to consumerism in the West elevates desires for goods, and an ideology of egalitarianism makes the legitimation of the inequality difficult" (Greenberg, 1993, p. 25).

This may help to explain crime in transitional Russia. Although the Soviet Union collapsed and there has been a transition toward democracy and a free market, the democratic culture is not as strong as in Western Europe and the United States, and state bureaucrats and "nomenklatura" still have power and are trying to preserve their privilege (Gill, 2002; Nagle and Mahr, 1999). Meanwhile, socio-economic changes demand that Russian citizens abandon old understandings of 'good' and 'evil.' Russia has little experience with democracy or free market. The transformation to democracy and a free market economy requires new features in social institutions such as mature civil society, free competition, property rights, transparency, and rule of law (Intriligator, 1994; Ledeneva, 1999). However, Russia has not yet put these institutions into place. For example, Holmes (1997) argues that anti-rule of law constituencies play a critical role in the former Soviet Union. Administrators have an obvious benefit in the vagueness of law by anti-rule of law. Hence, they have no interest in the creation of political transparency or rule-governed polity and economy.

As a result, Russian society is facing tremendous difficulty with democratization and marketization.[1] Russians are being told that they must play according to new legal rules such as customary law, civic responsibility, and civil justice, which are often opposite to what they had been taught throughout much of their lives under the Soviet regime. What had been regarded as criminal during the Soviet era, such as private entrepreneurship and dealing in hard currency, is not only

[1] Miller and Gubin (2000) argue that the structure of Russian organization differs from the structure of Western societies' organization in terms of size, specialization, and formalization mainly because of the history and culture of centralization of decision-making structure in Russia.

accepted but central to success in the new conditions. The transition became a complex socio-psychological breakthrough, which violated the fundamental behavioral taboos of the old days. Hence, these socio-economic changes appear to have created anomic conditions, which might explain the increases in crime and violence in Russia following the dissolution of the USSR.

The role of social institutions

Most criminological research on anomie theory has been at the microlevel and it has focused on the relationship between the individual experience of goal blockage and crime (Passas and Agnew, 1997). As some criminologists have noted (Bernard, 1987; Messner, 1988; Messner and Rosenfeld, 1997a; Rosenfeld, 1989), the macroside of anomie theory has been largely ignored. The past few years, however, have seen a resurgence of interest in the macroside of anomie theory, such as Messner and Rosenfeld's institutional anomie theory.

As the former communist countries move toward capitalism, it is likely that they have begun to adopt capitalist ideologies, including, as Merton (1938) and other anomie theorists note, an emphasis on individual economic success at the expense of non-economic social institutions, suggesting that the adoption of these values in the former Soviet nations may have led to increased crime rates there. Therefore, Messner and Rosenfeld's (1997a) institutional anomie theory may be applicable to this situation.

According to Messner and Rosenfeld (1997a), culture and structure in the United States are implicated in the genesis of high levels of crime. At the cultural level, the American dream as the dominant cultural value stimulates criminal

motivations while at the same time promoting weak normative environment. Messner and Rosenfeld argue that the "American Dream exerts pressures toward crime by encouraging an anomic cultural environment, an environment in which people are encouraged to adopt an 'anything goes' mentality in the pursuit of personal goals" (1997a, p. 61). At the institutional level, the dominance of the economy in the institutional balance of power promotes weak social control. They argue, "The anomic pressures inherent in the American dream are nourished and sustained by an institutional balance of power dominated by the economy" (1997a, p. 61). Messner and Rosenfeld emphasize the interplay between the core cultural commitments of the American Dream and its companion, institutional balance of power. They argue that this interconnection between culture and social structure results in widespread anomie and weak social control. The lack of control at the cultural level of social norms (anomie) and a lack of control at the level of institutional relationships ultimately produce high levels of crime because as the role of economy increases, the role of other institutions decreases, thereby diminishing their pro-social influence.

In brief, Messner and Rosenfeld describe how capitalistic culture promotes intense pressures for economic success at the expense of pro-social non-economic institutions, such as family, education, polity, and religion. Social structure is dominated by the economic structure, thereby weakening institutional controls. Thus, anomie and institutional controls mediate the effects of culture and social structure on rates of instrumental crime.

A number of prior studies have been conducted that specifically test institutional anomie theory. According to Chamlin and Cochran (1995), Messner and

Rosenfeld's (1997a) model implies that economic stress will be less salient as a predictor of serious crime in the presence of strong noneconomic institutions. They hypothesize that the impact of poverty on property crime is moderated by the strength of religious, political, and family institutions. Results from their state-level analysis are consistent with this hypothesis. High church membership, low divorce rate, and high voting percentage significantly reduced the effect of poverty rate on property crime.

Messner and Rosenfeld (1997b) have also carried out preliminary empirical tests of their theory. Their research draws on Esping-Anderson's (1990) decommodification index as the indicator of economic dominance in the institutional balance of power. According to Esping-Anderson (1990), decommodification refers to the degree to which the state protects the personal well-being of its citizens from market dynamics. Messner and Rosenfeld argue that decommodification influences crime independently of economic stratification. Economic dominance in the institutional balance of power provides fertile soil for anomic cultural pressures and weakens the external social control associated with institutional attachments (Messner and Rosenfeld, 1997b). Their findings, based on cross-national data, support this hypothesis. The index of decommodification has a relatively strong negative effect on national homicide rates controlling for economic discrimination, income inequality, and the level of socioeconomic development.

Savolainen (2000) argues that there are differences between Chamlin and Cochran's and Messner and Rosenfeld's studies. The main difference is that while Chamlin and Cochran (1995) emphasize that institutional anomie theory implies an

interaction effect between economic conditions and the strength of noneconomic institutions, Messner and Rosenfeld (1997b) attend to the main effect of the institutional balance of power on homicide rates net of the control variables including economic conditions. Further, Chamlin and Cochran use property crime as dependent variable, whereas Messner and Rosenfeld utilize the variation in homicide rates (Savolaien, 2000).

Piquero and Piquero (1998) also provide a preliminary assessment of institutional anomie theory. Similar to Chamlin and Cochran (1995), they test institutional anomie theory with cross-sectional data from the United States. In particular, they employ several different operationalizations of main social institutions variables. For example, they utilize percentage of public aid recipients and percentage of population voting in presidential election as a measure of the strength of political institution. For the educational institution, they employ three different measures: percentage of population enrolled full-time in college, percentage of high-school dropouts, and comparative salary (the ratio of teachers' average salaries to the average annual pay of citizens). Their findings are mixed, and the authors insist that the conclusions one draws about institutional anomie theory may depend upon the operationalization of variables.

Savolainen (2000) draws on Chamlin and Cochran's (1995) and Messner and Rosenfeld's (1997b) tests of the institutional anomie theory. Savolainen's hypothesis is that the positive effect of economic inequality on lethal violence is strongest in nations where the economy dominates the institutional balance of power. This hypothesis implies a negative interaction effect between economic stratification and

the relative strength of noneconomic institutions. His tests reveal a negative interaction effect between economic inequality and the strength of the welfare state. Savolainen concludes that nations that protect their citizens from the change of market forces appear to be immune to the effects of economic inequality on homicide.

As mentioned above, because contemporary Russia is moving toward capitalism, it is likely that citizens of the country have begun to adopt capitalist ideologies, such as an emphasis on individual economic success. Hence, the "American dream" may now be transformed to the Russian dream. As a result, Russian people may experience the discrepancy between cultural goals and structural means, and thus might create anomic conditions. In addition, Russia's institutional balance of power might be tilting towards the economy, as in other capitalist countries. Furthermore, radical social change and rapid economic transition appear to have weakened social institutions such as family, education, and polity within the country. These weakened social institutions might create the lack of social control and social disorganization. These circumstances may result in higher rates of crime and violence. In this formation, lie nearly all of the essentials of Messner and Rosenfeld (1997a) and Chamlin and Cochran (1995).

Strength of social institutions: Social capital and collective efficacy

Social capital theory and social disorganization theory also discuss the important role of social institutions in moderating the negative effects of social structure and reducing crime. Institutions are at the center of social life because they route human behavior into socially acceptable spheres. Institutions are critical for increasing predictability among societal members, and trust increases predictability

because it allows "individuals to act based on their perception that others are likely to perform particular actions in expected ways" (Lafree, 1998, p. 71). Property and violent crimes represent particularly serious forms of unpredictability and thus important threats to trust. At the societal level, predictability is closely related to what researchers call 'social capital.' According to Bourdieu (1986, p.248), "social capital is the aggregate of the actual or potential resources, which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition." Bourdieu (1986) argues that social capital is not a natural given, or even a social given. It is a characteristic of a social formation. Bourdieu states "the network of relationships is the product of investment strategies, individual or collective, consciously or unconsciously aimed at establishing or reproducing social relationships that are directly usable in the short or long term, i.e., at transforming contingent relations, such as those of neighborhood, the workplace, or even kinship" (Bourdieu, 1986, p. 249). Social capital also refers to the creation of opportunities and capabilities through socially structured relations between individuals acting in groups (Coleman, 1990). Social capital accumulates in relationships of trust between individuals in a society. Individuals follow the rules of social institutions, and people assume that others will probably also follow the rules. Societies develop a fund of social capital. If some region has more social capital than others, we may expect that this region's crime rates would be lower than other regions.

Shaw and Mckay (1969) emphasize the importance of neighborhood organization in preventing or permitting juvenile delinquency. In more affluent

communities, families fulfill youths' needs and parents efficiently monitor their children. But in poorer communities, families and other social institutions are often strained by population turnover and poverty resulting in social disorganization. As a result of the communities' level of disorganization, communities vary in their ability to control their members' behavior.

Similarly, Sampson, Raudenbush, and Earls' (1997) main argument is that social and organizational characteristics of neighborhoods, which they label "collective efficacy," explain variation in crime rates. Sampson et al.'s (1997) main purpose is to understand the impact on behavior of such neighborhood characteristics as changes in social services, the influence of family, peer relationships, and individuals' personal characteristics. Their finding is that rates of violence are lower in urban neighborhoods characterized by "collective efficacy." According to Sampson et al. (1997), collective efficacy refers to mutual trust among neighbors combined with willingness to intervene for the common good, specifically to supervise children and maintain public order. Their findings challenge the prevailing understanding that crime is the direct result of such factors as poverty, unemployment, the predominance of single-parent households, or the concentration of certain minority groups. The researchers found that collective efficacy is the most powerful influence keeping violent crime low in these neighborhoods. This sounds very similar to this dissertation's hypothesis: the impact of anomie on crime in Russia is mediated by strength of social institutions.

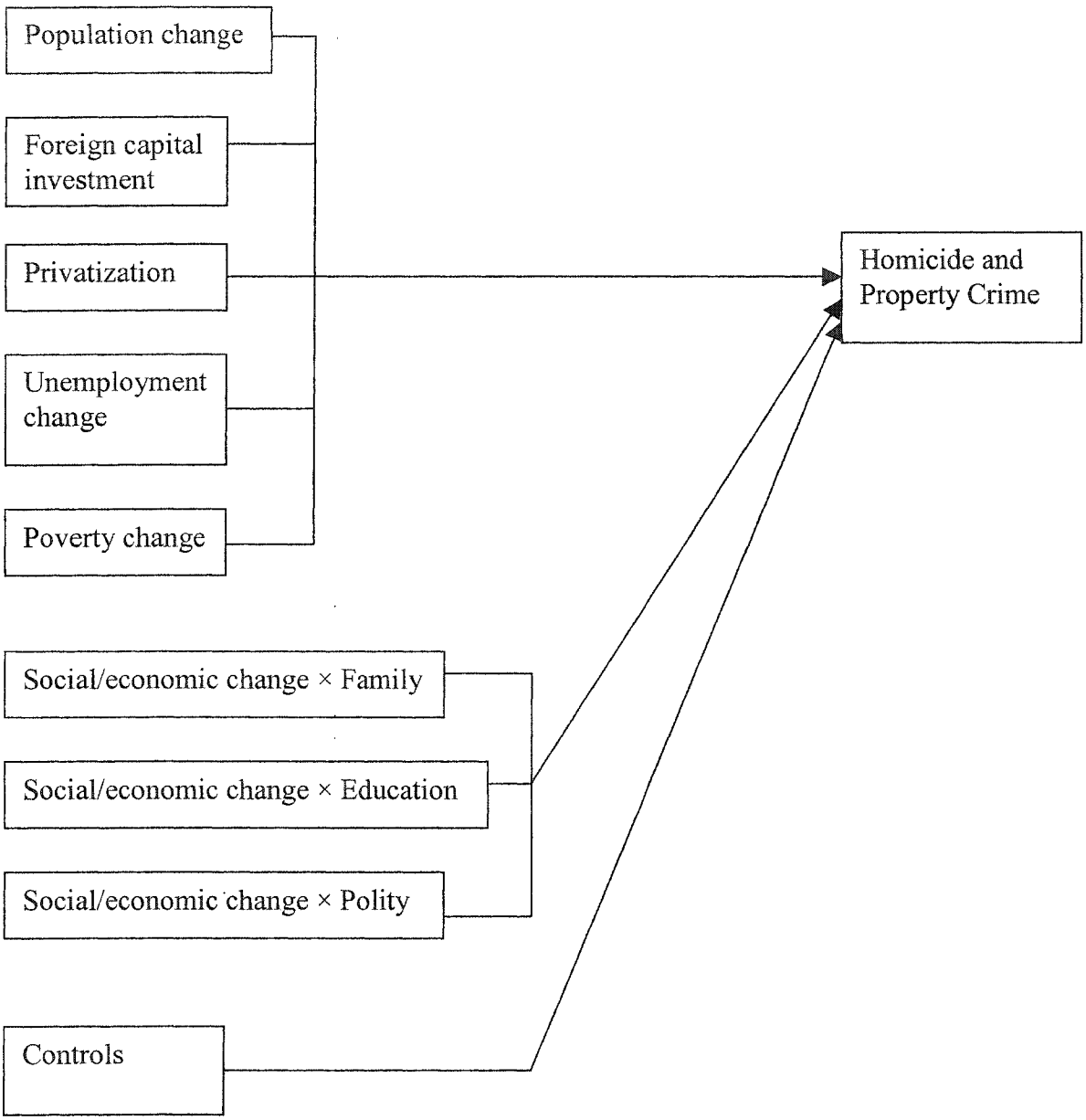
In addition, Sampson, Morenoff, and Earls (1999) also examine other effects of collective efficacy in Chicago neighborhoods. They suggest a theoretical

framework on the structural sources and spatial dynamics that produce collective efficacy for children. They examine variations in intergenerational closure (how closely do the adults and children link to one another?), reciprocal local exchange (the intensity of adult interaction between family with respect to childrearing), and shared expectations for informal social control. Their findings indicate that the potential benefits of social capital and collective efficacy for children are above and beyond the internal characteristics of neighborhoods themselves, such as wealth and poverty. Again, this study suggests that institutional strength intervenes in relationship between anomie and crime.

A model for the role of anomie, social institutions, and crime

Given these institutional anomie theories and social disorganization theories, the second model to be tested in this dissertation is shown in Figure 2.2.

Figure 2.2. Theoretical model from Messner and Rosenfeld and Chamlin and Cochran to be tested in Russia.



In this model, social institutions are represented by family, education, and polity, which are considered the main non-economic institutions by Messner and Rosenfeld (1997a). These social institutions may mediate the impact of social and economic change on crime. There has been massive social and economic change and also has been variation in the pace of social and economic change. Along with this differential pace of change and strength of institutions, there is differential impact of transition on crime in regions.

These social disorganization and 'social capital' arguments might help to explain weakening social institutions and high crime rates in transitional Russia. Russian people might lack sufficient social capital because trust between people is not established enough to create durable networks and institutionalized relationships. During transition, rapid social and political changes have created uncertainty and instability, and these circumstances erode the mutual trust necessary to create solid law-abiding social networks (Stoner-Weiss, 1997). Radical social and economic transitions also decrease the effectiveness of institutional and informal forces for social control in communities or neighborhoods. In addition, the pace of change throughout the country, together with social structure in regions, leads to variation on these concepts among 89 regions.

Social institutions can act as buffers to mediate the impact of anomic conditions created by social and economic changes. The strong social institutions such as family, polity, and education might ameliorate the harmful impact on society of radical social change because these social institutions have the capacity to restrain criminogenic pressures and to control the behavior of members of society under even

anomic conditions, such as those present in contemporary Russia. Despite anomic conditions throughout Russia resulting from transitional social change, if a region has strong social institutions, then social problems, including crime, should be less serious than in other regions that have weak social institutions.

These social changes, however, are not occurring at same pace throughout the 89 Russian regions. As mentioned earlier, there are variations in the pace of social change from region by region. Further, the vitality of non-economic institutions varies throughout Russian regions. Thus, the degree to which social institutions serve to mediate the impact of social change on crime might vary throughout the nation. In the next chapter I will discuss the data and methodology to be used to test these two models (shown in Figures 2.1 and 2.2) of cross-sectional variation of crime and violence in Russia.

Chapter 3:

Data and methodology

This chapter describes the data and methodology to be used to answer the research hypotheses in Chapter 1 and to test the theoretical models in Chapter 2. The data section describes the unit of analysis and the dependent, independent, and control variables. This section also discusses the definition and measurement of each theoretical element and the source of data. The methodology section explains the procedures followed in Chapters 4 and 5 in order to test the research hypotheses and evaluate the model.

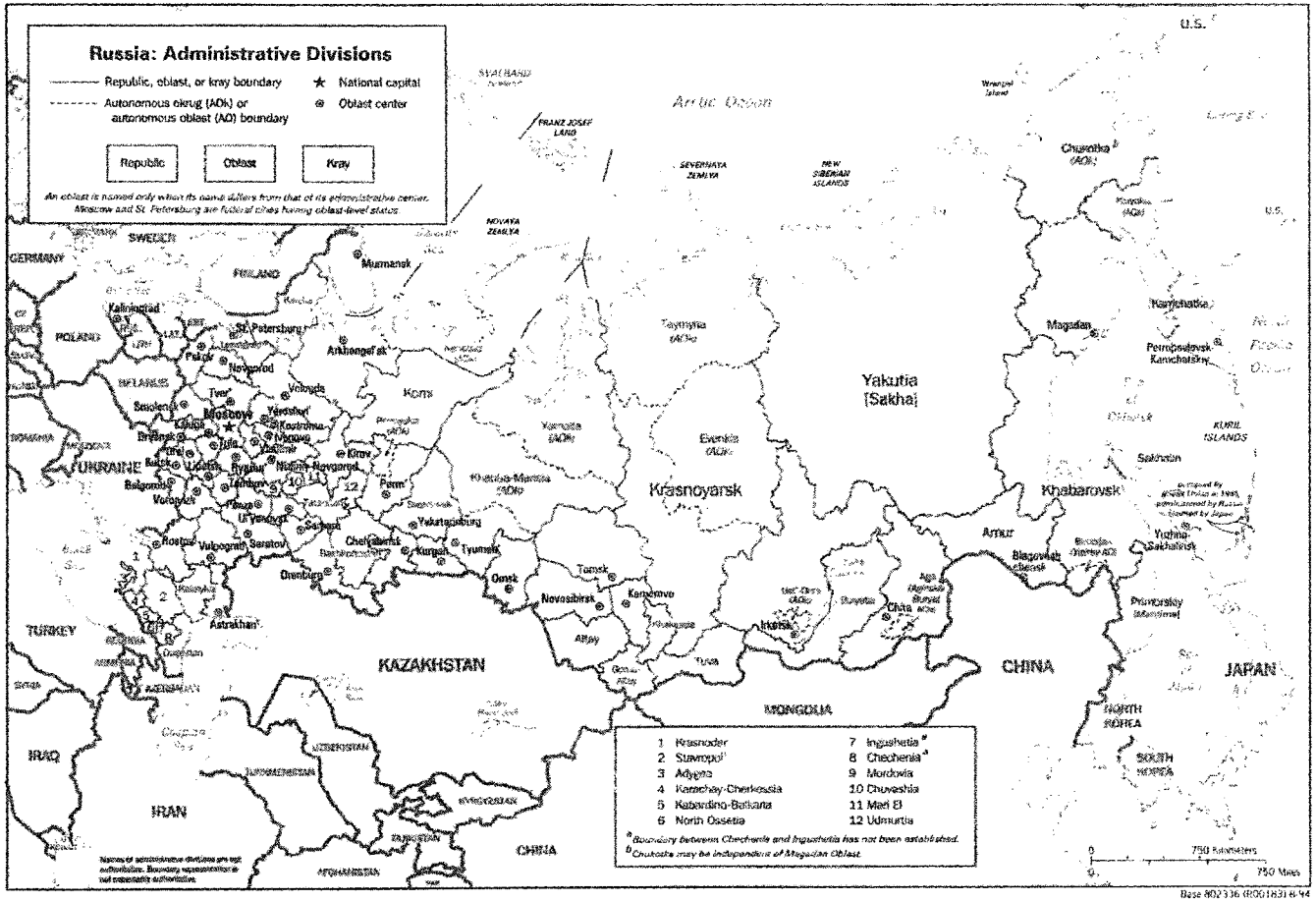
Data

Unit of analysis

This is a cross-sectional study of Russian regions. The unit of analysis is the "administrative region" in 2000. The Russian Federation has 89 of these regions. There are 50 oblasts, 21 republics, 11 autonomous okrugs, 5 krais, and two federal cities, Moscow and Saint Petersburg. Figure 3.1 shows the location of these regions. Nine of these regions are small okrugs, which are embedded within larger administrative units. Data from these okrugs are therefore reported within the data of the larger units.[1] In addition, data from the Ingush and Chechen Republics are usually considered unreliable and are thus not employed here. This leaves a total of 78 cases for the analyses undertaken for this dissertation.

[1] These Autonomous Okrugs (and the larger regions in which they are included) are Nenets (Arkhangel Oblast), Komi-Permyak (Perm Oblast), Khanti-Mansiisk and Yamalo-Nenets (Tyumen Oblast), Taimir and Evenkii (Krasnoyar Krai), Ust-Orda Buryat (Irkutusk Oblast), Aga Buryat (Chita Oblast), and Koryak (Kamchatka Oblast).

Figure 3.1. Map of Russian administrative regions.



Source: University of Texas, Perry-Castañeda Library map collection.

Dependent Variable

Previous tests of institutional anomie theory have used property crime (Chamlin and Cochran 1995), homicide (Messner and Rosenfeld 1997b; Savolainen 2000), or both property and violent crime (Piquero and Piquero, 1998) as dependent variables. In this study I will employ both property and violent crime rates as dependent variables. Specifically, regional rates of homicide, burglary, and robbery are used here. Table 3.1 provides brief descriptions of the dependent and independent variables employed in this analysis and descriptive statistics for each.

Violent crime. Information on homicide is available from both crime and vital statistics data in Russia. While crime data are available from the Russian Ministry of the Interior (MVD), I employ homicide victimization estimates from mortality data. In general, mortality data are considered to provide a better representation of the true number of homicides than crime data in the United States (Fox and Zawitz, 1999; Lafree, 1999; Rokaw, Mercy, and Smith, 1990). Pridemore (2003b) argues that this is also true for Russia. Official crime data in Russia include both attempted and completed homicides in this category, and unless one can access unpublished MVD data, there is no way to separate out the number of attempts from the number of completed homicides. More importantly, even though crime data include attempts, they annually show a significantly lower number of homicides in Russia than mortality data.[2] According to Pridemore (2003b), annual estimates from the vital statistics reporting system have reported an average of nearly 40% more homicides than the crime reporting system over the last decade and a half.

[2] See Pridemore (2003b) for a comparison of these two different data reporting systems in Russia.

Table 3.1. Descriptive statistics for dependent and independent variables.

Variables	Description	Mean	Standard Deviation
Homicide	Deaths per 100,000 population due to homicide	30.14	17.44
Robbery	Robbery rate per 100,000 population	25.64	10.10
Burglary	Burglary rate per 100,000 population	89.58	43.98
Negative socio-economic change index ("Change")	Index of socioeconomic change (Δ population + privatization + foreign capital investment + Δ unemployment + poverty)	1.94	1.18
Divorce	Average divorce rate per 1,000 population between 1998-2000	3.66	0.98
Education	Rate per 1,000 people who enrolled in college	26.96	13.81
Polity	% of voting age individuals who actually voted in the 2000 Presidential election	69.33	4.63
Development	Megawatt hours of electricity production per capita	11.25	14.02
Inequality	Ratio of the income of the top 20% of population to the income of bottom 20% of population	6.00	2.78
Alcohol	Deaths per 100,000 population due to alcohol poisoning	28.73	17.52
Urban	% of the region's population living in cities > 100,000	39.00	16.53

Pridemore concludes that the mortality data provide better estimates of homicide, especially "when (1) estimating overall number of homicides in Russia and most of its regions, (2) comparing Russia to other nations, and (3) estimating causal models." Therefore, I employ them here.

Russian mortality data are available from the vital statistics registration system, which is called *Zapis Aktov Grazhdanskogo Sostoyaniya* (Registry of Acts of Civil Status) and is referred to as ZAGS. Russia used the abridged Soviet coding system to classify cause of death on the death certificate until 1999 (Pridemore, 2003b). In 1993 Russia began to transition toward the use of WHO classifications, and in 1999 Russia started to use the ICD codes, 10^{th} revision. In Russia, the copy of death certificate must be reported to the local ZAGS office in order to officially register the death. These data are aggregated to the regional level, forwarded to Moscow, and published annually in the Ministry of Public Health's *Smertnost' naseleniya Rossiiskoi Federatsii* ("Population mortality of the Russian Federation"). A lower level of aggregation, such as city-level, would be preferable. However, the nature of data collection and publication in Russia makes it difficult to access city-level data because all local data are sent to regional headquarters, where they are aggregated before being sent to Moscow (Pridemore, 2003b).

Property crime. The property crime rate in this study includes burglary and robbery. Larceny-theft has been employed as a dependent variable in other studies of institutional anomie theory, but in Russia the larceny-theft rate is unreliable because this crime is commonly underreported and underrecorded. Hence, I employ only burglary and robbery. Robbery might be considered violent crime, given the use or

threat of violence. Since the main aim of the crime is pecuniary, however, I consider it as a property crime for the purpose of this analysis. Data on regional robbery and burglary rates are available from the Russian Ministry of the Interior (MVD) (2001). Russian crime data are collected by local police departments and are sent to their regional-level MVD offices. These data are aggregated by regional MVD offices and forwarded to MVD headquarters in Moscow. As I mentioned in violent crime, there are some limitations of crime data (including robbery and burglary data) because of the potential unreliability of these police data. For example, the lack of human resources and shrinking budget create under-reporting and under-recording (Pridemore, 2003b). One of reasons for the under-reporting of crime is the fact that performance assessments are based on clearance rates. Thus the property crime analyses should be considered exploratory in nature, and any inferences drawn from them must recognize the limitations of the property crime data.

Independent Variables: Social and economic change variables

Social and economic change in Russia will be measured with a number of variables, including population change, privatization, foreign capital investment, unemployment change, and poverty. I will create an index of socioeconomic change employing these variables (see Methodology section below). Social institutions such as family, education, and polity represent conditioning variables. Control variables include population density, technological development, inequality, and alcohol consumption.

Population change. Population change reflects a type of social change in terms of Durkheim's perspective (Durkheim, 1893/1984). Increases or decreases in

population size are due mainly to population mobility, which might be associated with social problems. According to social disorganization theory, for example, the out-migration of working and middle class families results in the loss of social and economic capital, leading to the concentration of poverty and disorganized neighborhoods. The precipitous population decline generates additional social problems and makes it more difficult to sustain or develop a sense of community (Wilson, 1996). Large in-migration to a region also creates social problems. Residents no longer know their own neighbors because new people are continuously moving into a specific area, which in turn can lead to the lack of social cohesion (Vold and Bernard, 1991), which can generate a conflict in the community. Disorganized neighborhoods are characterized by few legitimate employment opportunities, an inadequate job information network, and a lack of social capital. The more rapid the neighborhood deterioration, the greater the loss of institutional investments, such as family and education, which are important elements of institutional anomie theory. In Russia, high mobility followed the dissolution of Soviet Union (Heleniak, 1997). The construction of social capital is a lengthy process and is less likely to occur in areas with higher population mobility (Crutchfield, Greeken, and Gove, 1982). The high population turnover tends to disintegrate social bonds, produce lack of social capital, and weaken social institutions (Bursik and Grasmick, 1993; Sampson and Groves, 1989).

In this study, this construct is measured as the "residual scores" of population change between 1992 and 2000. I calculate "residual scores" by following procedure: (1) I regress Time 2 (t2) scores on Time 1 (t1). This gives us a regression equation

that is best linear predictor of t2 scores based on t1 scores. (2) I use the regression equation from above to compute and create new variable (nt2): nt2 = a + bt1. Each region now has a score on nt2. (3) I use another compute statement to create the "residual score" (rt2); rt2 = t2 – nt2. The magnitude of this variable for a region will indicate how much the actual score at t2 differs from what we would have predicted at t1. Hence, if a region has a big positive number, its score at t2 is much greater than we would have predicted based on its score at t2. If a region has a number around 0, its score at t2 is about the same as we would have predicted from its score at t1. If a region has a big negative number, its score at t2 is much less than we would have predicted from its score at t1. These population data are available from Goskomstat Rossii (2001).

Privatization. The main distinction between capitalism and communism is the structure of ownership, and the former Soviet Union's main structure of ownership was "state ownership." Thus the level of privatization in a region is a strong indicator of social and economic change. The privatization process was launched only after adoption of the "Basic Provision for the Privatization of State and Municipal Enterprises in the Russian Federation in 1992" (Chubais and Vishnevskaya, 1993). The measurement of privatization employed here is the percentage of regional labor force employed in private companies in 2000. Data are obtained from Goskomstat Rossii (2001).

Foreign capital investment. Foreign investment is a good measure of economic, social, and political change for several reasons. First, it is an indicator of economic stability in a region since most foreign companies are unwilling to invest in

unstable and unpredictable areas. Second, it represents the presence of a relatively strong legal framework, which is necessary for a free market. Third, it reveals the amount of economic change from the Soviet era, when there was no foreign investment at all. In this study, this is measured as the regional foreign capital investment per capita in U.S. dollars in 2000. Data are available from Goskomstat Rossii (2001).

Unemployment change. Unemployment is operationalized in this study as the proportion of a region's active labor force that is unemployed. The measurement of the unemployment change is the "residual scores" of the unemployment rates between 1992 and 2000. The procedure is the same as explained with the population change variable. The magnitude of this variable for a region will indicate how much the actual score at t2 differs from what we would have predicted at t1. Data are available from Goskomstat Rossii (2001).

Absolute deprivation (poverty). In this study, poverty is measured as the percentage of the region's population living below the poverty line. This is defined as the percentage of the population who report an income that is less than that needed to purchase the basic requirements (i.e., food, goods, shelter, and services) necessary for survival. The subsistence minimum varies by region based upon local wages and prices. The best measure of this concept would the change score of the percentage of a region's population living below the poverty line between 1992 and 2000. However, the earliest poverty data available from the Russian government is from 1994. Most of the change in poverty rates occurred between 1992 and 1994, with rates of poverty peaking in 1994. Hence, the change score of poverty between 1994

and 2000 does not provide valid indicator of change in poverty rates. Therefore, I employ the percentage of region's population living below the poverty line in 1999 (data for 2000 are not available). Data are available from Goskomstat Rossii (2001).

Conditioning variables: Institutional strength

Family. While the strength of the family is likely influenced by the social change occurring in transitional Russia, it may also dampen the effect of social change on crime. According to institutional anomie theory, families can function to mitigate anomic pressures by providing emotional support and social bonds for their members (Messner and Rosenfeld, 1997a). Strong family institutions can serve as a buffer against the tension and strain generated by economic changes (Sampson, 1992; Hirschi, 1995). Furthermore, Pridemore has shown family structure to be related to regional homicide rates in Russia (2002b), and that marriage is a protective factor against homicide at the individual-level in Russia (Pridemore and Shkolnikov, 2003). The measurement of family disruption employed here is the regional average annual divorce rate between 1998 and 2000. Data are available from Goskomstat Rossii (2001).

Education. Education is directly connected to socialization and social control. The educational system is a main agent for transferring basic cultural standards to next generation. Individuals increase their knowledge and competence through education, which in turn increases their abilities to perform adult roles (Meyer, 1977). Further, the educational system's capacity to exercise social control may lessen the impact of social change on crime. An educated population is more

likely to have social networks and work skills that allow them to cope better with social change.

The measurement for educational strength employed here is the rate per 1,000 people in each region enrolled in college in 2000, which varies widely from region to region. These data are available from Goskomstat Rossii (2001).

Polity. In a democratic system, involvement in the political process can produce a sense of public altruism and reflect citizens' trust in the system. Voter turnout or the proportion voting for a specific candidate or party is often used as a measure of trust, apathy, or anomie in macro-level studies (e.g., Powell, 1982; Putnam, 1995; Villarreal, 2002). According to Clem and Craumer (1997), the results of several elections in the Soviet Union between 1989 and 1993 showed that there were geographical variations in political behavior such as party preference and voter turnout.

I will measure the level of commitment to the political process as the percentage of voting age individuals who actually voted in the 2000 Russian Presidential election. These data are obtained from *The republics and regions of the Russian federation: A guide to politics, policies, and leaders* (Orttung, 2000).

Control variables

Population density (urbanization). Previous research on homicide in the U.S. has shown that urban areas normally have higher homicide rates, and thus many studies control for the size of the urban population. Recent research in Russia, however, reveals a different pattern. For example, annual mortality data from the Udmurt Republic shows that death rates from homicide at age 15-54 were lower in

urban than in rural areas in the mid-1980s, but this gap narrowed during the mid-1990s, when homicide rates peaked (Chervakov, Shkolnikov, Pridemore, and Mckee, 2002). Nevertheless, I still use population density as control variable here. This element is measured as the percentage of the region's population living in cities with a population of at least 100,000 people, and these data are available from the Goskomstat (2001) publication *Rossiiskii statisticheskii ezhegodnik.*

Technological development. The progress of the division of labor with population growth leads to increased moral density (Miley and Micklin, 1972). According to Miley and Micklin, "moral density refers to an increased frequency of social interaction within a given social unit" (Miley and Micklin, 1972, p. 658). The moral density may increase with the development of rapid and numerous means of transportation and communication, which are accompanied by technological development. Furthermore, Shkolnikov (1987) argues that one of the main reasons for the wide range of variation in and the geographic pattern of mortality rates in Russia (including violent mortality) is because of the variation in the level of development. Technology commonly involves the use of energy, and increasing the levels of technology accompanies increasing use of energy sources. The use of per capita energy consumption has been employed as a measurement for this variable in several previous studies (Gibbs and Browning, 1966; Gibbs and Martin, 1962; Marsh, 1967; Miley and Micklin, 1972; Saunders and Reinhart, 1967). Unfortunately, regional energy consumption data are unavailable. Instead, this variable is measured as the energy production per capita. The measurement of the use of per capita energy

production for this study is megawatt hours of electricity per capita in 2000. Data are available from Goskomstat Rossii (2001).

Relative deprivation (inequality). The theoretical focus of relative deprivation is on the inequitable distribution of resources such as wealth, income, or social status. Studies examining the impact of inequality on crime and violence have provided inconsistent results. In any case, I will use it as a control. Relative deprivation is defined here as the inequitable distribution of wage income among the working population and measured as the ratio of the income of the top 20% of the population to the income of bottom 20% of the population. Data are available from Goskomstat Rossii (2001).

Alcohol consumption. For many decades criminologists have examined the relationship between alcohol and violence (Gustafson, 1995; Linquist, 1986; Parker, 1995, 1998; Pernanen, 1991; Wolfgang, 1966). Research shows that a high percentage of homicide victims and offenders are under the influence of alcohol at the time of the violent event. According to national surveys of inmates in jails and prison (Greenfield, 1998), 40% of the convicted offenders incarcerated for violent crimes used alcohol immediately before the crimes, and 40% of prison inmates engaged in binge drinking in the past. The relationship between alcohol consumption and homicide in Russia is salient because of "(1) Russia's historically high rates of alcohol consumption, (2) a tendency toward binge-drinking, and (3) the difficult social and economic conditions associated with the radical transition, which might be correlated with levels of alcohol consumption" (Pridemore, 2000, p. 93). The relationship between alcohol consumption and crime in Russia has been investigated

by Pridemore (2002b), who finds a positive and significant relationship between alcohol consumption and regional homicide rates after controlling for other structural factors thought to influence homicide. His results support those of other researchers (Nemtsov, 1998) who have also found a correlation between alcohol consumption and homicide in Russia. This variable is thus controlled here.

Levels of alcohol consumption are measured by the rate of deaths due to alcohol poisoning in each region in 2000. Unlike in Western nations, Russian mortality recording practices result in the category of "alcohol poisonings" containing more than 80% of all alcohol-related deaths recorded annually in Russia (Pridemore, 2002b). Russia does have a much higher rate of true poisonings, for several reasons, but many of these deaths are not truly acute poisonings but the long term results of chronic alcoholism (Blum and Monnier, 1989; Shkolnikov and Meslé, 1996; Treml, 1997). Shkolnikov, McKee, and Leon (2001, p. 917) argue that "change in acute alcohol poisoning can be regarded as a good estimation of changes in the frequency of excessive drinking" in Russia. These data are available from the Ministry publication *Smertnost' naseleniya Rossiiskoi Federatsii.*

Regional dummy variables. Homicide victimization rates in Russia are geographically patterned. In general, homicide rates ascend moving eastward across Russia (Pridemore, 2000). Overall, the lower homicide rates in the Northern Caucasus region are especially interesting because the region has a large Muslim population compared to the rest of the country. The regions east of the Ural Mountains have significantly higher homicide rates than the rest of the nation. Thus I use two regional dummy variables to control for rates in the Northern Caucasus and

the regions east of the Urals and to see whether or not the regional disparity in homicide victimization rates is accounted for by the socioeconomic change variables in the model or if these regional differences significantly remain even when the socioeconomic change variables are controlled.

Missing data

As I mentioned earlier, the data for nine of the Autonomous Okrugs are reported within the data of the larger Oblast or Krai in which they are embeded, and the Ingush and Chechen Republics are dropped from this study. This leaves a total of 78 cases for the analyses. Two of these regions - North (Severnaya) Osetia and the Chukot Autonomous Okrug - have missing data on selected variables. North Osetia has missing data for the foreign capital investment variable; the Chukot Autonomous Okrug has missing data on the foreign capital investment and education variables. These missing observations were replaced in order to retain these cases for analysis.

It is improper to simply drop cases that have missing data (Allison, 2001; Pindyck and Rubinfeld, 1998). Substituting the mean is also problematic because this method produces biased estimates of variances and covariances (Allison, 2001; Haitovsky, 1968; Pindyck and Rubinfeld, 1998). We can, however, replace these missing values by using information on the other variables in the model. The other independent variables can be used as instruments to predict these missing observations if they are correlated with each of the variables that have missing values and are uncorrelated with the error term (Pindyck and Rubinfeld, 1998). In each case, we regress the variable with the missing observation on all of the other independent variables that have complete data for that case. Using the estimated equation, this

method produces a predicted value for that variable, and we can use this value to replace the missing observation.

Measurement models to be tested

Given the measures described here, Figures 3.2, 3.3, and 3.4 show the three models to be tested.

Figure 3.2. Measurement model for the effects of social and economic change on rates of crime and violence.

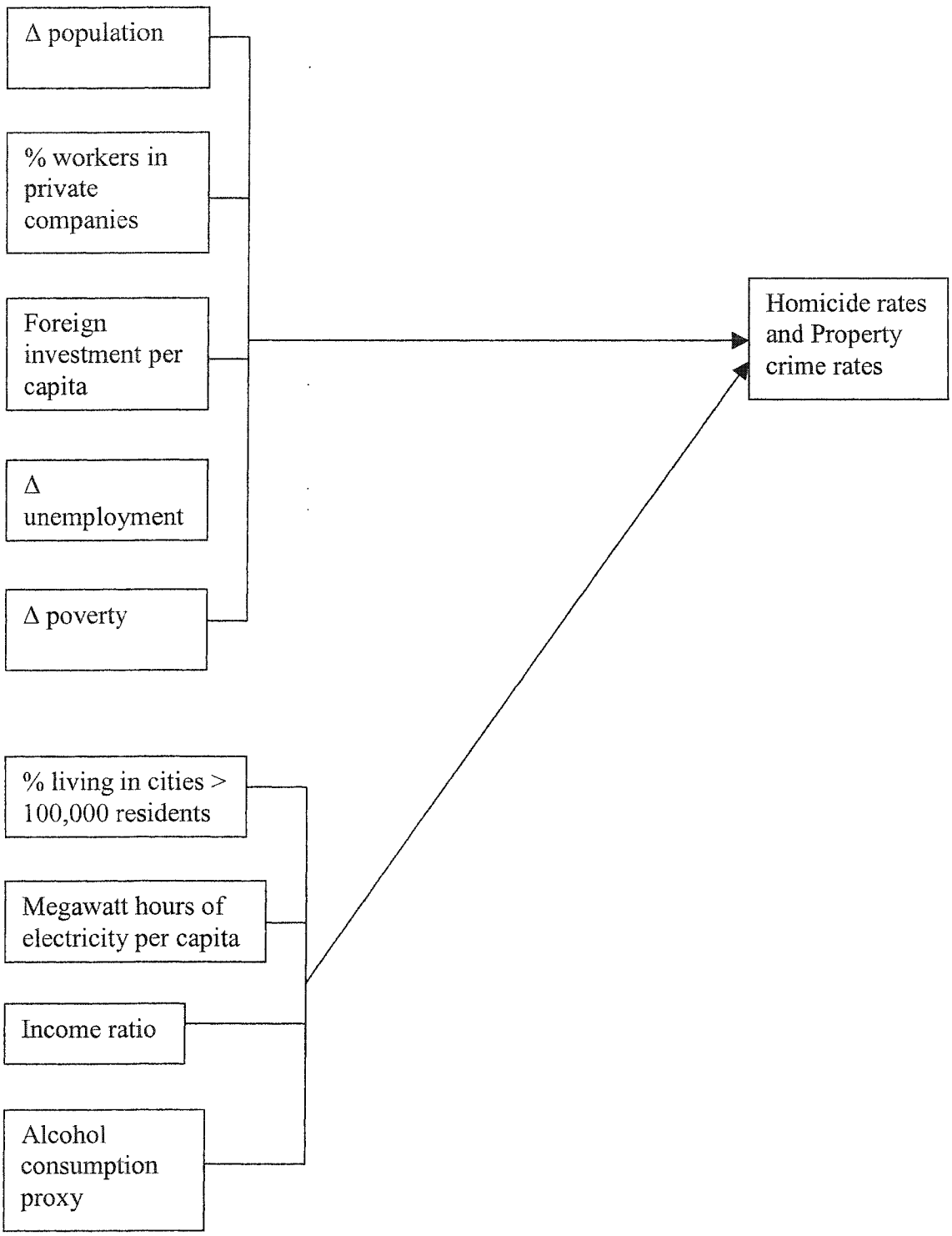


Figure 3.3. Measurement model for the effects of socioeconomic change and the strength of social institutions on rates of crime and violence.

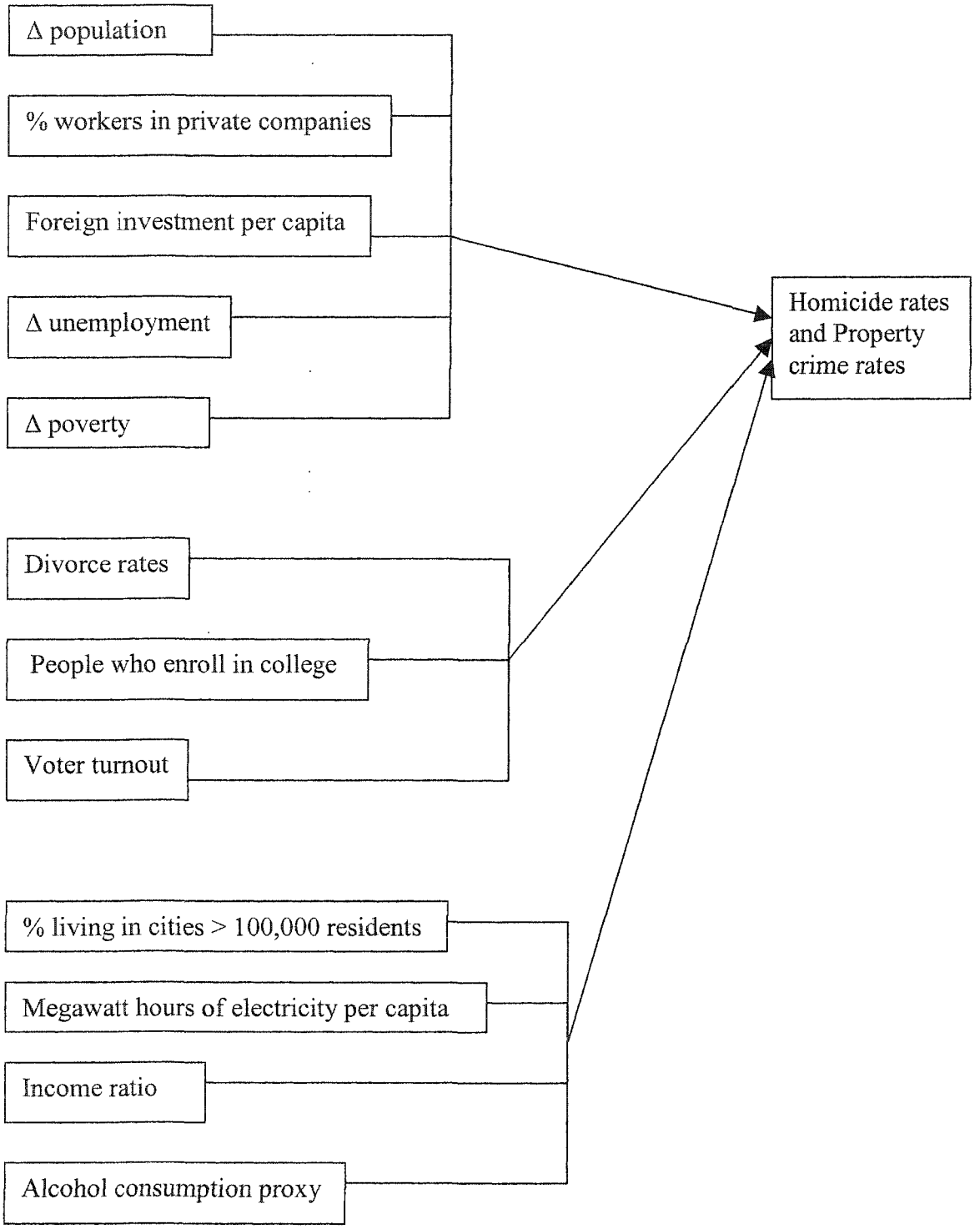
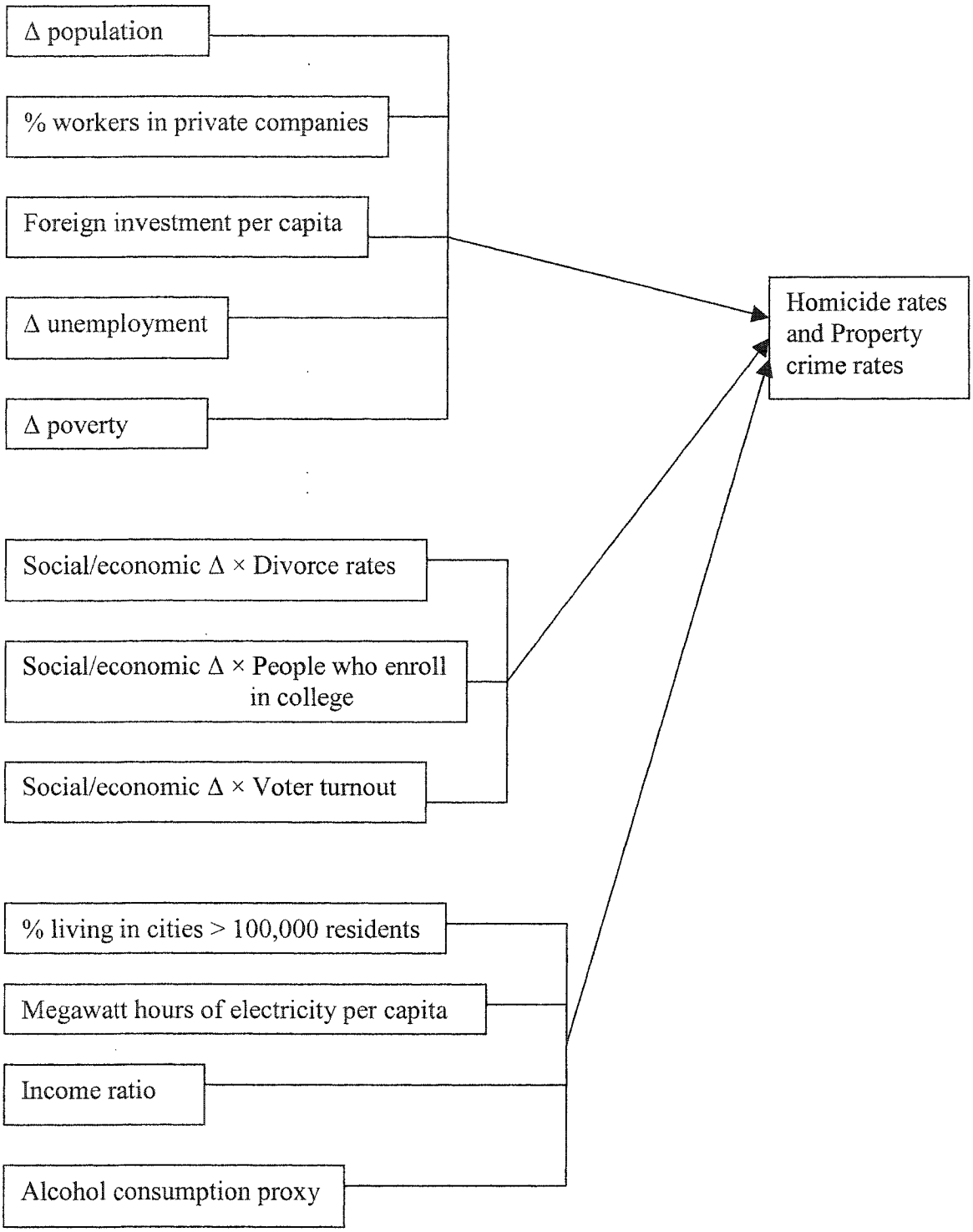


Figure 3.4. Measurement model for interaction effects of socioeconomic change and the strength of social institutions on rates of crime and violence.



Methodology

The theoretical evaluation in Chapter 4 and 5 addresses the following research questions from Chapter 1: (1) Does negative social and economic change influence the cross-sectional variation of crime rates in Russia? (2) Do social institutions influence the cross-sectional variation of crime rates in Russia? and (3) Are the effects of social change on crime rates in Russia conditioned by the strength of local social institutions? I will employ multivariate regression analysis in order to evaluate the models shown in Figures 3.2, 3.3, and 3.4 above.

Index of socioeconomic change

I first create an index that represents the five social and economic change variables (privatization, foreign capital investment, unemployment change, population change, and poverty). Otherwise, I have 15 (5 change variables × 3 social institutions) interaction terms in interaction effect model. I examined descriptive statistics and correlation matrix before estimating theoretical models. After I looked into each correlation of social change variables and relationships with dependent variables, I found that there are consistent relationships between five social and economic change variables and dependent variables. Privatization and foreign capital investment are actually "good" (economically) for Russian people because they provide Russians with jobs and income, and an escape from absolute poverty, which is commonly shown to be positively and significantly related to homicide rates. Privatization and foreign capital investment are negatively correlated with homicide. In addition, privatization is positively correlated with increasing population because people may migrate to where the jobs are available, and population is negatively

correlated with homicide. So, decreasing population is "bad" for Russian regions. Hence, it appears that privatization, foreign capital investment, and increasing population are "good", while increasing unemployment and high poverty rate is "bad."

Thus the index I create is a "negative socioeconomic change index." Privatization, foreign investment, and population change are coded 1 if they are more than 0.5 standard deviations below the mean, 0 otherwise. Unemployment and poverty are coded 1 if more then 0.5 standard deviations above the mean, 0 otherwise. These scores are summed across the five variables in the index, providing a score for each region on the negative socioeconomic change of 0 - 5, with 5 being the worst. We thus expect a positive relationship between this index and rates of crime.

Theoretical evaluation

The main hypotheses for this research are whether or not the varying pace of social and economic change influences the cross-sectional variation of crime rates in Russia, and whether or not the strength of non-economic institutions conditions the relationship between socioeconomic change and crime in Russia. For this purpose, in Chapter 4 I will estimate three models: one for the impact of social and economic change on homicide, one for the impact of socioeconomic change and social institutions on homicide, and one for interaction effects of socioeconomic change and the strength of social institutions on homicide. In Chapter 5 I will estimate these same three models employing robbery and burglary as dependent variables.

Exploratory data analysis. I will do exploratory data analysis of individual variables (Tukey, 1977). I examine "stem and leaf" or "box and whisker" to search

for typical problems associated with the distributions of variables, such as skewness and outliers (Hartwig and Dearing, 1979). I also examine "scatterplots" to find the direction, strength, and shape of relationships. This is especially appropriate here, given the relatively low number of cases in the sample. According to Hartwig and Dearing (1979, p. 9), the fundamental assumption of exploratory data analysis is that "the more one knows about the data, the more effectively data can be used to develop, test, and refine theory." Tukey (1977, p. 3) said, "Exploratory data analysis can never be the whole story, but nothing else can serve as the foundation stone - as the first step."

Multivariate regression analysis and model stability. To evaluate these three theoretical models, I will employ Ordinary Least Squares regression (Pindyck and Rubinfeld, 1998). I will use regression diagnostics to test the stability and sensitivity of model because this estimator requires certain assumptions about the data (Berry, 1993; Fox, 1991; Lewis-Beck, 1980). When these assumptions are met, desirable estimators of the population parameters will be obtained. However, social science data, such as the macro-level measures used here, often fail to meet these assumptions. The violation of these assumptions creates potential problems with the regression estimates. Therefore, regression diagnostics will be examined to detect these problems, if they exist, and the necessary steps will be taken to correct for them, if necessary. I will address these issues at the beginning of Chapters 4 and 5. If necessary, remedial methods will be taken to correct for these potential problems.

Chapter 4:

Model estimation for homicide

In this Chapter, I employ the data described in Chapter 3 to answer the following research questions for homicide: (1) Does negative socioeconomic change influence the cross-sectional variation of homicide victimization rates in Russia? (2) Do social institutions influence the cross-sectional variation of homicide victimization rates in Russia? and (3) Are the effects of socioeconomic change on homicide conditioned by the strength of social institutions? I first discuss method, then describe the results of model estimation, then conclude with a discussion of these results.

Testing OLS assumptions and other threats to model stability

Linearity

One of the main assumptions for Ordinary Least Squares (OLS) regression is that there is a linear relationship between the independent and dependent variables. I examined the linearity through the scatterplots of the dependent variables with each of independent variables. These scatterplots show there are no obvious departures from linearity, so this assumption appears to hold.

Homoscedasticity

Another assumption for OLS is constant error variance, or homoscedasticity. Heteroscedaticity is a condition in which the variance varies with the values of the independent variables. Heteroscedaticity results in inefficient estimates, since it results in biased estimates of the variance, and thus leads to bias in test statistics and confidence intervals (Berry, 1993; Allison, 1999). In order to check for heteroscedaticity, I examined the scatterplot of residuals against predicted values. The pattern reveals that the assumption of constant error variance holds for these data.

Multicollinearity

A third assumption is that there is no perfect multicollinearity. This means that there is no exact linear relationship between two or more of the independent variables. In studies that employ highly aggregated data, independent variables tend to be correlated among themselves. If some or all independent variables are highly correlated, it is difficult to obtain a good fit of the observed values for the dependent variable which affects inferences about mean responses or predictions (Berrry, 1993; Neter, Kutner, Nachtsheim, and Wasserman, 1996). When there is collinearity among independent variables, "an infinite number of regression surfaces fit the observed values for the dependent variable equally well, and therefore the least squares criterion fails to yield unique coefficient estimators" (Berry, 1993). This means that we cannot be sure how much of the coefficient is due to effects of a specific independent variable and how much is due to the other independent variables with which it is highly correlated. An examination of the variance inflation factors in the model shows that multicollinearity does not appear to be a problem here when estimating models for socioeconomic change and social institutions. When estimating models with interaction terms, however, there is high degree of multicollinearity. Hence, I standardized the variables that have collinearity by subtracting the mean of the variable from the original value of variable, thereby purging any non-essential collinearity. After I standardized these variables, reexamination of the variance inflation factors in the new model shows that multicollinearity is no longer a problem.

Normally distributed errors

I used several methods to check this assumption, including examination of the distribution of the residuals by simple histogram and examination of the normal probability plot. These methods suggest that the error distribution does not depart substantially from the normal distribution.

Uncorrelated errors

A final assumption is that error terms for different observations are uncorrelated. When the observations have a natural sequential order it is called "autocorrelation" (Chatterjee, Hadi, and Price, 2000). Autocorrelation usually occurs in time-series analysis because the error terms from different time periods are correlated. Autocorrelation may occur in cross-sectional analysis, as well. Specifically, spatial autocorrelation can be an issue when "the positions of the observations under analysis are 'structured' relative to one another in some manner" (Berry, 1993, p. 71). Observations derived from adjacent areas tend to have correlated residuals because they are affected by similar external conditions (Chatterjee et al., 2000). In this study, for example, the units observed are administrative regions in Russia. In such situations, the error term in a region such as Tyva Republic may be spatially correlated to the error terms in other nearby regions in the East Siberia because they are adjacent neighboring jurisdictions, and thus affect each other in a variety of respects.

Autocorrelation may have several effects on the analysis. Though the estimated regression coefficients are unbiased, they are not efficient because they no longer have minimum variance. The variance of error terms and the standard errors

of the regression coefficients may be underestimated, and thus the confidence intervals and the various tests of significance such as t and F distribution would no longer be strictly valid (Chatterjee et al, 2000; Neter et al, 1996).

While this is an important issue that deserves further attention, it has only very recently begun to receive attention in the homicide literature and it is beyond the scope of this dissertation (Anselin, 1988; Anselin, Cohen, Cook, Gorr, and Tita, 2000; Messner, Anselin, Baller, Hawkins, Deane, and Tolnay, 1999). I plan to explore this issue more thoroughly in future research.

Outliers

Outliers are observations that lie well above or below most other observations in a distribution. To search for outliers, I first examined the scatterplots of the independent variable with each of the dependent variables. Second, I checked the studentized residuals to check for outliers on the Y-axis. Third, I examined both central leverage values to check for outsiders on the X-axis. Fourth, I examined Cook's Distance, DFFITS, COVRATIO, and DFBETAS to check for influential cases. For all cases on all variables, Moscow and the Republic of Tyva have high values on these influence statistics. Neter et al. (1996) suggest that for small to medium size data sets, a DFBETA above 1 in absolute value indicates a potentially influential case. The DFBETAS value of -1.6 is above this cutoff point for Moscow on the inequality variable, as are the values 2.1 and 2.8 for the Republic of Tyva on the socioeconomic change variable and alcohol consumption variable. Hence, I consider these two cases outliers. When the outlying observations do not represent recording errors, they should not be discarded (Neter et al., 1996). I thus estimated

models that include the two cases and models that exclude one of these cases or both cases. Excluding Moscow had no affect on the inferences drawn from model estimation. However, the exclusion of Tyva had some effects on the inferences of models. I will therefore report results both of the models that include these two cases and the models that exclude the Republic of Tyva.[1]

Socioeconomic change, institutions, and homicide in Russia

Table 4.1 displays the correlation matrix. With three exceptions, the bivariate correlations of the independent variables with the homicide victimization rate are in the expected direction. The bivariate correlation shows that socioeconomic change is positively correlated with the homicide victimization rate, and education and polity are negatively correlated with homicide. However, while correlations are small, divorce rate, inequality, and percent urban are negatively correlated with homicide rate, which is the opposite of what is expected. These variables are discussed in the following sections.

Socioeconomic change and homicide victimization rates in Russia

Table 4.2 shows the OLS estimates of the effects of socioeconomic change on homicide victimization rates in Russia.

[1] We can determine the sensitivity of our results to the presence of outliers by reporting both the original model and the new estimating model without outliers (Pindyck and Rubinfeld, 1998).

Table 4.1. Correlation matrix of variables.

	Homicide	Robbery	Burglary	Change	Divorce	Education	Polity	Develop	Inequality	Alcohol	Urban	Caucasus	East
Homicide	1.000												
Robbery	.445	1.000											
Burglary	.525	.753	1.000										
Change	.435	-.069	.054	1.000									
Divorce	-.139	-.007	-.043	-.118	1.000								
Education	-.202	.084	.044	-.166	.068	1.000							
Polity	-.370	-.401	-.447	-.015	-.394	-.017	1.000						
Develop	.077	.309	.302	-.249	.216	.229	-.199	1.000					
Inequality	-.059	.071	.053	-.030	.169	.604	-.068	.460	1.000				
Alcohol	.498	.318	.376	.074	-.213	-.312	-.266	-.073	-.215	1.000			
Urban	-.176	.292	.164	-.369	.182	.680	-.133	.205	.394	-.131	1.000		
Caucasus	-.257	-.085	-.322	.035	-.214	.075	.275	-.151	.022	-.413	-.154	1.00	
East	.563	.143	.348	.343	.246	.002	-.370	.102	.013	.058	-.159	-.247	1.00

Table 4.2. Results for homicide victimization rates regressed on socioeconomic change and control variables.

Variables	Model 1		Model 2		Model 3	
	b(β)	p-value	b(β)	p-value	b(β)	p-value
Constant	4.246	.502	5.477	.431	3.200	.555
Change	7.347 (.476)	<.001	7.300 (.473)	<.001	4.843 (.314)	.001
Development	.321 (.258)	.013	.310 (.249)	.020	.197 (.158)	.081
Inequality	-.492 (-.079)	.474	-.460 (-.073)	.508	-.323 (-.052)	.583
Alcohol	.468 (.470)	<.001	.449 (.451)	<.001	.456 (.458)	<.001
Urban	.041 (.039)	.704	.030 (.029)	.788	.058 (.055)	.535
Caucasus			-2.515 (-.044)	.662		
East					16.264 (.422)	<.001
Adjusted R^2	.421		.415		.575	

Socioeconomic change. The negative socioeconomic change index has a positive and significant relationship with homicide rates among the Russian regions ($\beta = .476$, $p < .001$). That is, the worse the social and economic change in a region, the higher the homicide rate. This significant relationship remains when controlling for the two regional dummy variables ($\beta = .473$, $p < .001$ in Model 2, and $\beta = .314$, $p = .001$ in Model 3). This is consistent with the Durkheimian hypothesis that the level of negative social and economic change may influence the cross-sectional variation of crime rates in Russia.

Control variables

Six variables were added to the model as controls: technological development, inequality, aggregate alcohol consumption, the percentage of the region's population living in cities with more than 100,000 residents, and regional dummy variables for the Northern Caucasus and regions east of the Urals.

Technological development. The measurement of technological development is megawatt hours of electricity production per capita. The analysis shows that technological development is positively associated with homicide victimization rates in Models 1 and 2 ($\beta = .258$, $p = .013$ in Model 1and $\beta = .249$, $p = .020$ in Model 2), and nearly significant ($\beta = .158$, $p = .081$ in Model 3) when controlling for the regions east of the Urals. This is the opposite of expected, but may make sense under certain conditions, which I elaborate on in the discussion section at the end of the Chapter.

Inequality. Inequality has null effects on regional homicide victimization rates in Russia ($\beta = -.079$, $p = .474$). Research on inequality and homicide in the

United States has provided inconsistent results. In Russia, this non-significant finding is consistent with previous research (Pridemore, 2002b).

Alcohol consumption. The results show that alcohol consumption is positively and significantly related to regional homicide victimization rates ($\beta = .470$, $p < .001$), and this relationship remains when controlling regional dummy variables ($\beta = .451$, $p < .001$ in Model 2, and $b = .458$, $p < .001$ in Model 3). This strong association between alcohol consumption and homicide is consistent with previous and growing research on the role of alcohol consumption in violence in Russia.

Urban. The regression results show that the proportion of urban residents in a region is not related to regional homicide victimization rates in Russia ($\beta = .039$, $p = .704$). Further, the correlation between percentage of urban and homicide is small and negative ($r = -.18$). This result is consistent with recent research (Pridemore, 2000), since homicide rates in rural Russia appear to be as high as or higher than rates in urban areas (Chervyakov, Shkolnikov, Pridemore, and Mckee, 2002).

Regional dummy variables. Regional dummy variables are included in the model in order to see if the significant regional disparity in homicide victimization rates is accounted for by the socioeconomic change and other control variables in the model. Model estimation shows that (1) the lower rates in Northern Caucasus appear to be explained by the other variables in the model, and (2) the rates in the regions east of the Urals remain significantly higher than in the rest of the nation even after controlling for these other features ($\beta = .422$, $p < .001$).

Socioeconomic change, institutions, and homicide victimization rates in Russia

Table 4.3 shows the results for homicide victimization rates regressed on socioeconomic change, control variables, and the new measures of strength of the social institutions added to the previous model.

Socioeconomic change. The relationship between negative socioeconomic change and homicide remains positive and significant ($\beta = .441$, $p < .001$) even when the social institution variables are controlled.

Social institutions. Social institutions are represented here by measures of family, education, and polity strength. Only polity has a significant impact on homicide victimization rates ($\beta = -.297$, $p = .004$ in Model 1), and this significant relationship remains when regional dummy variables are added. Divorce rates are negatively and nearly significantly associated with homicide rates in Models 1 and 2 ($\beta = -.175$, $p = .086$ in Model 1 and $\beta = -.191$, $p = .071$ in Model 2). Further, when controlling for the regions east of the Urals, divorce is negatively and significantly related to homicide ($\beta = -.271$, $p = .002$ in Model 3). This is an unexpected result and I speculate on possible causes of this in the discussion section. Finally, the measure of the strength of education has no effects on homicide rates in Models 1 and 2. However, when controlling for the regions east of the Urals, education is nearly significant ($\beta = -.217$, $p = .075$ in Model 3).

Table 4.3. Results for homicide victimization rates regressed on socioeconomic change, social institutions, and control variables.

Variables	Model 1		Model 2		Model 3	
	b(β)	p-value	b(β)	p-value	b(β)	p-value
Constant	99.040	.003	102.074	.003	66.538	.020
Change	6.796 (.441)	<.001	6.719 (.436)	<.001	4.328 (.281)	.002
Divorce	-3.126 (-.175)	.086	-3.423 (-.191)	.071	-4.847 (-.271)	.002
Education	-.092 (-.073)	.601	-.084 (-.066)	.638	-.274 (-.217)	.075
Polity	-1.119 (-.297)	.004	-1.122 (-.298)	.005	-.612 (-.162)	.071
Development	.226 (.214)	.036	.254 (.204)	.049	.177 (.143)	.099
Inequality	-.221 (-.035)	.766	-.191 (-.031)	.798	.279 (.045)	.659
Alcohol	.339 (.340)	.001	.310 (.311)	.006	.323 (.324)	<.001
Urban	.045 (.043)	.733	.028 (.026)	.840	.183 (.173)	.114
Caucasus			-3.574 (-.063)	.539		
East					18.016 (.468)	<.001
Adjusted R^2	.465		.461		.622	

Controls. Among the six control variables, technological development, alcohol consumption, and the regions east of the Urals remain significantly associated with homicide rates. Technological development is positively related with homicide victimization in Models 1 and 2, alcohol consumption is positively related to homicide in all three models, and homicide rates in regions east of the Urals remain significantly higher after controlling for the effects of the social institutional variables.

Does the strength of social institutions condition the negative effects of socioeconomic change on homicide?

The interaction effect means that the association between two variables differs when controlling for a third variable. An interaction effect exists when the impact of one independent variable depends on or is conditioned by the value of another independent variable (Allison, 1999; Bohrnstedt and Knoke, 1994; Jaccard and Turrisi, 2003).

As I mentioned earlier, rapid social and political changes have created uncertainty and instability in transitional Russia, and the results thus far show that this negative socioeconomic change is related to regional homicide rates. Furthermore, there is considerable variation in the strength of social institutions among the 89 regions. Extending institutional anomie theory, we should expect the impact of social and economic change on crime to be conditioned by the strength of these social institutions.

According to these arguments, I hypothesize that the effects of socioeconomic change on homicide victimization rates will depend on the strength of non-economic

social institutions. That is, the effects of socioeconomic change on homicide are expected to weaken or disappear in areas with stronger social institutions. To test this hypothesis, I constructed three interaction terms: socioeconomic change × divorce rate, socioeconomic change × rate of people who enrolled in college, and socioeconomic change × voter turn out.

Table 4.4 shows the interaction effects of socioeconomic change and the strength of social institutions on homicide. Models 1 through 3 present the OLS estimates of the interaction effects of socioeconomic change and the strength of social institutions on homicide. Models 4 through 6 present the estimation of the interaction effects of socioeconomic change and the strength of social institutions on homicide when controlling the east regional dummy variable.[2]

Socioeconomic change. The results show that socioeconomic change is positively and significantly related to homicide victimization rates in each of the models, indicating that socioeconomic change continues to have an independent effect on homicide victimization when controlling for the interaction terms.

[2] Northern Caucasus was non-significant in the earlier models (in Table 4.2 and 4.3) and is non-significant here. Hence, I do not report the results in this table in order to conserve space.

Table 4.4. Results for interaction effects of socioeconomic change and the strength of social institutions on homicide.

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value
Constant	92.996	.002	128.748	<.001	30.661	.002	51.413	.049	81.819	.006	29.576	<.001
Change	6.612 (.429)	<.001	4.632 (.300)	.005	6.808 (.441)	<.001	4.174 (.271)	.003	3.305 (.214)	.023	4.334 (.281)	.002
Divorce	-2.076 (-.116)	.348	-5.008 (-.280)	.008	-3.118 (-.174)	.089	-3.917 (-.219)	.041	-5.774 (-.323)	.001	-4.842 (-.271)	.003
Education	-.096 (-.076)	.587	-.292 (-.231)	.116	-.092 (-.073)	.605	-.277 (-.219)	.073	-.373 (-.295)	.023	-.276 (-.218)	.075
Polity	-1.048 (-.278)	.009	-1.362 (-.362)	.001	-1.118 (-.297)	.005	-.552 (-.146)	.110	-.796 (-.211)	.024	-.605 (-.161)	.075
Development	.260 (.209)	.042	.291 (.234)	.018	.267 (.215)	.037	.172 (.138)	.112	.199 (.160)	.063	.178 (.143)	.099
Inequality	-.305 (-.049)	.685	-.263 (-.042)	.711	-.241 (-.038)	.749	.204 (.033)	.750	.211 (.034)	.735	.234 (.037)	.714
Alcohol	.335 (.336)	.001	.271 (.272)	.007	.342 (.343)	.001	.320 (.321)	<.001	.286 (.287)	.001	.331 (.332)	<.001

Table 4.4. continued.

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value
Urban	.039 (.037)	.768	.092 (.087)	.472	.051 (.048)	.710	.177 (.168)	.127	.197 (.187)	.085	.197 (.186)	.096
East							17.953 (.466)	<.001	16.421 (.426)	<.001	18.182 (.472)	<.001
Change × Divorce	-1.095 (-.090)	.409					-.964 (-.079)	.388				
Change × Education			-.401 (-.293)	.008					-.230 (-.168)	.084		
Change × Polity					.075 (.019)	.824					.190 (.049)	.504
Adjusted R^2	.463		.512		.458		.621		.634		.619	

Social institutions. The results show that polity strength has a negative and significant relationship with homicide in all models except Model 4. The strength of the educational institution has no significant relationship with homicide in Models 1 through 3. However, education becomes significant (Model 5) or nearly significant (Models 4 and 6) when controlling regions east of the Urals. The divorce rate is negatively and significantly associated with homicide in Model 2, and Models 4 through 6.

Interaction effects. Among the three interaction terms, only 'socioeconomic change × education' is significantly and negatively associated with homicide victimization rates (β = -.293, p = .008 in Model 2, and β = -.168, p = .084 in Model 5). The effect size of socioeconomic change is smaller when the 'socioeconomic change × education' interaction term is included, and explained variation also increases. This finding indicates that stronger educational institutions appear to mitigate the effects of socioeconomic change on homicide. However, the other interaction terms, 'socioeconomic change × family' and 'socioeconomic change × polity' are not significant.

Controls. Technological development is significant in Models 1 through 3. However, when controlling regions east of the Urals, the significant relationship with homicide disappears. Alcohol consumption is significant all through the models regardless of regional dummy variable. Inequality is non-significant in all models. Percentage of population living in urban areas also has no effect on homicide rates. Model 4 through Model 6 include the dummy variable for the regions east of the

Urals. Homicide rates in these regions remain significantly higher even when controlling for socioeconomic change, social institutions, and interaction effects.

Model estimation without the case of Tyva Republic

Table 4.5 presents the interaction effects, controlling the regions east of the Urals, when Tyva is excluded from the analysis.

Interaction term 'socioeconomic change × education' becomes non-significant, and interaction term 'socioeconomic change × family' becomes significant ($\beta = .190$, $p = .031$). The direction of 'socioeconomic change × family' is now positive, which is what is expected by institutional anomie theory. Since the measure of family here is divorce rate, positive relationship means that the higher divorce rate in a region, the higher the homicide rate. This result indicates that stronger families (i.e., lower divorce rate) reduce the effects of socioeconomic change on homicide.

Table 4.5. Results for interaction of socioeconomic change and social institutions.

Variables	Model 1		Model 2		Model 3	
	b(β)	p-value	b(β)	p-value	b(β)	p-value
Constant	95.010	<.001	92.914	<.001	32.832	<.001
Change	3.125 (.268)	.002	2.890 (.248)	.009	2.976 (.255)	.004
Divorce	-4.515 (-.334)	.001	-3.030 (-.224)	.020	-2.898 (-.214)	.016
Education	-.122 (-.131)	.276	-.156 (-.168)	.215	-.142 (-.154)	.217
Polity	-1.060 (-.386)	<.001	-.920 (-.335)	.001	-.908 (-.331)	.001
Development	.218 (.239)	.006	.205 (.225)	.012	.203 (.223)	.013
Inequality	-.098 (-.022)	.831	-.192 (-.042)	.686	-.174 (-.038)	.714
Alcohol	.138 (.175)	.034	.150 (.190)	.027	.148 (.188)	.030
Urban	.041 (.054)	.622	.050 (.065)	.569	.040 (.053)	.649
East	12.762 (.447)	<.001	13.113 (.460)	<.001	13.139 (.461)	<.001
Change × Divorce	1.916 (.190)	.031				
Change × Education			-.025 (-.024)	.808		
Change × Polity					-.075 (-.027)	.725
Adjusted R^2	.638		.612		.612	

Discussion

Using cross-sectional data from Russian regions and various socioeconomic change and social institutions variables, I examined the relationship between socioeconomic change and homicide, and then tested the hypotheses generated by institutional anomie theory.

Socioeconomic change. Durkheim (1979) argues that rapid social change creates anomie, which can lead to numerous negative consequences, including crime. This occurs because rapid social and economic change may weaken social control, which is one of main roles of social institutions such as the family and education. When social controls are weak or absent, anomic conditions and criminogenic pressures to commit crime become more manifest. Several researches show that institutional characteristics are shaped by economic and social structural changes (Fligstein, 1985, 1987; Fligstein and Brantley, 1992; Thornton and Ocasio, 1999). In addition, many criminological theories argue that anomie is related to weak social institutions and thus leads to crime and delinquency (Adler and Laufer, 1995; Chamlin and Cochran, 1995; Messner and Rosenfeld, 1997a, 1997b; Passas, 1990; Passas and Agnew, 1997; Thorlindsson and Bjarnason, 1998; Vaughan, 1983, 1997). Other empirical studies also suggest that economic and political changes, which can lead to social stress and social disorganization, are related to the change of suicide and homicide mortality in Eastern Europe and Russia (Gavrilova, Semyonova, Evdokushkina, and Gavrilov, 2000; Mäkinen, 2000; Pridemore and Spivak, 2003d).

Russia has experienced great social and economic change following the collapse of communism, and this change likely disrupted the social equilibrium and

produced anomic conditions that in turn were partially responsible for resulting in increased levels of social disorganization and higher crime rates. In this study, the results of model estimation show that the worse the socioeconomic change in a region, the higher the homicide rates. This relationship is always significant in the analyses presented here regardless of the inclusion of other control variables. In addition, the standardized coefficient for socioeconomic change shows that it is consistently one of the strongest predictors of homicide in Russia. Hence, the results of the analysis provide support for Durkheim's anomie theory.

In addition, the low homicide rates in the Northern Caucasus appear to be explained by socioeconomic change. This is because previous research (Pridemore, 2000) showed that the Northern Caucasus regions have significantly lower homicide rates than the rest of nation when controlling for the other structural covariates, but he did not include socioeconomic change in his models. When socioeconomic change is introduced, the relationship is no longer significant. Perhaps the Northern Caucasus regions did not face as much negative socioeconomic change as the rest of the country. For example, the correlation matrix shows that the Northern Caucasus is not significantly correlated to socioeconomic change while the dummy variable for the regions east of the Urals is positively and significantly correlated to socioeconomic change. Even given any potential negative socioeconomic change, it may be that the strong social networks within the Islamic culture in this region provide a protection effect.

Merton (1938, 1968) argues that anomie is caused by the discrepancy between cultural goals and socially described means, and also by the imbalance that results

when cultural goals are overemphasized without equivalent emphasis upon the use of legitimate means to reach these goals. Messner and Rosenfeld (1997a) also explain how capitalistic culture promotes criminogenic pressures for economic success at the expense of pro-social non-economic institutions. They argue that social structure comes to be dominated by the economic structure, thereby weakening institutional controls. As Russia moves toward a free market economy, it is likely that Russians have begun to adopt a capitalistic ideology and an emphasis on individual economic success (Barkan, 1997). However, most Russian people do not have legitimate means to achieve material success because of widespread unemployment and poverty. According to Goskomstat (2001), the unemployment rate was 10.5% and poverty rate is 29.1% in Russia in 2000. As a result, Russian people may be experiencing the frustration that arises from the discrepancy between these new cultural goals and the system's failure to provide the structural means to attain them.

Social institutions. The effects of social institutions on homicide in Russia are somewhat mixed. Divorce rate is negatively and significantly (or nearly significantly) related to homicide rates, which is an unexpected result. This result may be related to the measurement of family structure. When I employed the regional rate of households with only one adult and at least one child as the measurement of family structure (Kim, 2002; Pridemore, 2000), the result was the expected positive and significant relationship. However, the most recent year for which data are available on single parent households is 1994, and thus I do not use this measure here. Further, there may be Russia-specific reasons why the official divorce rate may not be a proper measure for family disruption. First, divorce may

alleviate unhealthy marriages and this might decrease the risk of domestic homicide, the rate of which is very high in Russia (Gondolf and Shestakov, 1997; Horne, 1999). Second, divorce is very common in Russia and thus may not have the same detrimental effect as in the U.S. Third, employing their own survey data from the Moscow Oblest, Stack and Bankowski (1994) show that divorce and alcohol consumption are positively related. However, when employing aggregate regional divorce rates from Goskomstat here, the correlation between divorce and alcohol consumption is negative ($r = -.21$). Thus aggregated regional divorce rates may be not a good measurement for family disruption.

Education and polity are negatively related to homicide, which is expected. According to the results presented here, the higher the educational strength and the higher the voting participation in a region, the lower the homicide rate. These indicate that strong non-social institutions can decrease homicide rates. Commitment to school and high educational aspirations are shown to be negatively correlated with crime and delinquency in the United States (Hirschi, 1969). In addition, distrust in political institutions is positively associated with crime in the United States (Lafree, 1998). The correlation matrix shows that voting turnout is lower in the regions east of the Urals, which have higher homicide rates than the rest of country. Growing distrust in political institutions threatens their legitimacy, and this can reduce the effectiveness of the social control system. Hence, similar to what other research related to social institutions has found in the United States, social institutions may play a significant role in terms of social control in Russia. For example, the economic changes such as the rising cost of living and of education likely lead to

adolescents' dropping out of school at a higher rate and can also generate decreasing enrollment rates in higher educational institutions (Aleshenok, Chuprov, and Zubok, 1995). As a result, this weakened education likely leads to a decrease in social control, and thus creates high crime rates (Pridemore, 2002a).

Finally, as discussed in the following section, it may be that socioeconomic change has weakened social institutions such as family, education, and polity within the country because radical social and economic transitions likely decrease the effectiveness of institutional and informal forces for social control in communities or neighborhoods (Pridemore, 2002a). During the transitional period, rapid socioeconomic and political changes have likely created uncertainty and instability, and these circumstances can erode the mutual trust necessary to create social networks (Stoner-Weiss, 1997).

Institutional anomie. Institutional controls are expected to condition the effects of culture and social structure on rates of crime. Empirical research has shown that crime rates are lower where the strength of social institutions and informal control are stronger (Friedman, 1998; Lafree, 1998; Sampson and Groves, 1989; Sampson, Raudenbush, and Earls, 1997). As with research related to anomie or social disorganization, empirical assessment of institutional anomie theory is not simple. It is difficult to measure the concept of anomie and social institutional controls by using aggregate-level data (Bursik, 1988; Chamlin and Cochran, 1995; Sampson and Groves, 1989). Further, when using aggregate-level data we must confront the problems associated with our inability to control individual effects, and

thus we face the problems of 'ecological' or 'aggregation bias' (Robinson, 1950; Blalock, 1979).

In the absence of direct measures of anomie and social institutional controls, I follow the strategy of Chamlin and Cochran (1995) and indirectly test institutional anomie theory by examining the interaction effects of socioeconomic change and social institutions on homicide. Following the logic of Messner and Rosenfeld's (1997a) institutional anomie theory, and drawing on Chamlin and Cochran's (1995) test of institutional anomie theory, I hypothesized that the effects of socioeconomic change on homicide victimization rate depends on the strength of social institutions such as family, education, and polity.

The results show that polity has direct effects on homicide when controlling for the interaction terms and the regions east of the Urals, but does not condition socioeconomic change. Divorce also has direct effects on homicide. However, it is unexpected negative effects. Divorce does not condition socioeconomic change. Education has direct effects on homicide when controlling for the interaction terms and the regions east of the Urals, and conditions socioeconomic change. Hence, only one of the three interaction terms (socioeconomic change × education) is negatively and significantly related to homicide. This finding indicates that stronger levels of educational institution reduce the effects of socioeconomic change on homicide in Russia.

There may be several reasons why only one interaction term is significant. First, any potential positive effects of strong social institutions may have been overwhelmed by socioeconomic change because the socioeconomic change in Russia

was so strong and so rapid. In other words, this may be a period effect, an artifact of the current transitional nature of Russia. Social institutions may be unable to exert their positive effect because negative socioeconomic change is simply too strong. Second, social institutions may themselves be weakened by socioeconomic change, and thus do not have the power to condition the impact of socioeconomic change on homicide. These weakened social institutions might serve to decrease social control and increase social disorganization, and thus these circumstances create higher rates of crime and violence. Finally, some of social institutions (educational institution in Russia) may be more important in explaining certain types of crime at specific time in particular place (Piquero and Piquero, 1998).

Research testing institutional anomie theory in United States provides inconsistent results. Piquero and Piquero (1998) found results similar to those found here. When they use the same measurement as I used for education (although the measures for family and polity are different from what I used here), the interaction term 'economy × education' is significantly related to violent crime, and 'economy × polity (percentage of public aid recipients as measurement)' is also significantly related to violent crime. Chamlin and Cochran (1995) show that three interaction terms (religion, family, and polity) are significantly related to property crimes. Savolainen (2000) dealt with only one interaction term 'economic inequality × polity' (decommodification or welfare spending), and it is significantly related to homicide. Hence, social institutions appear to condition the effects of economy on violence and crime in the United States. However, the United States is a stable nation, whereas socioeconomic change in Russia was rapid and severe, and thus social institutions in

the United States are likely able to operate more effectively to condition the effects of economic conditions on violence and crime. However, socioeconomic change in Russia may have overwhelmed the role of social institutions, providing one potential reason why the results of the interplay between socioeconomic change and social institutions in Russia are different from those of the United States.

Further findings. There are several points about the control variables that are worth briefly noting. First, technological development is positively and significantly (or nearly significantly) related to homicide, which is an unexpected result. The main issue here may be that the measurement for this variable is the energy production instead of the energy consumption. The latter would be better but is not available. Further, high energy production regions usually have more industry (data show that the higher the energy production in a region, the lower unemployment rate), which employs many young men from various regions. They are likely less attached since they have migrated away from home to work (Heleniak, 1995b, 1997), and may drink more than other groups (Treml, 1991, 1997). Hence, the characteristics of the population may relate to why these regions have high homicide rates (Felson, 1987, 1994).

Second, alcohol consumption is significant all through the models, indicating that alcohol consumption has independent effects on homicide rates even when controlling for socioeconomic change and other social features, and this finding is consistent with recent research (Pridemore, 2002b). Though empirical research is limited, many scholars argue that high rates of alcohol consumption in Russia are partially due to the rapid socioeconomic change, and these high rates of alcohol

consumption may themselves be partially responsible for violent mortality and public health problems (Gavrilova, Semyonova, Evdokushkina, and Gavrilov, 2000; Leon and Shkolnikov, 1998; Shkolnikov, Cornia, Leon, and Meslé, 1998).

Finally, research in Western countries usually shows that there is relationship between urbanism and violent crime (Choldin, 1978; Laub, 1983; Ross, Mirowsky, and Pribesh, 2002; Rotker, 2002; Wilson, 1996). However, the proportion of regional population living in urban areas has no effect on homicide rates in Russia, which is consistent with recent research on the country (Pridemore, 2000). Interestingly, homicide rates in rural Russia appear to be as high as or higher than rates in urban areas (Chervyakov et al., 2002). Chervyakov et al. (2002) show that death rates from homicide were lower in urban than in rural areas in the Udmurt Republic until the beginning of the 1990s. Urban had higher homicide rates than rural areas during mid-1990s, and then returned to same pattern in 1996. The characteristics of urbanism in Russia may different from those of Western societies, and this finding deserves further investigation.

Chapter 5:

Model estimation for property crime

In this Chapter, I employ the data described in Chapter 3 in order to answer the following questions: (1) Does negative socioeconomic change influence the cross-sectional variation of property crime (i.e., robbery and burglary) rates in Russia? (2) Do social institutions influence the cross-sectional variation of property crime rates in Russia? and (3) Are any effects of socioeconomic change on property crime conditioned by the strength of social institutions? The outline of this chapter follows that of Chapter 4.

Testing OLS assumptions and other threats to model stability

In order to test regression diagnostics for property crime, I employed the same methods as I discussed in the previous chapter on homicide. The regression diagnostics show that the regression assumptions hold for these data. As before, I standardized the appropriate variables in the models with interaction terms, thereby negating any problems with multicollinearity.

Outliers

I examined the scatterplots of the independent variable with each of the dependent variables, studentized residuals, central leverage values, Cook's Distance, DFFITS, COVRATIO, and DFBETAS to check for influential cases. For all cases on all variables, only Moscow has high values on the influence statistics for both robbery and burglary. Moscow has DFBETAS of - 2.9 and - 4.9 on the inequality variable for robbery and burglary, respectively. I therefore estimate models that include and exclude Moscow and report both models here.

Socioeconomic change, institutions, and property crime in Russia

Table 4.1 in Chapter 4 includes the correlation matrix for property crime. Most of the bivariate correlations of the independent variables with property crime rate are in the expected direction. However, the bivariate correlation shows that socioeconomic change and divorce rate are negatively correlated with robbery rate, and education is positively related with robbery rate. These are in the opposite of that expected. In addition, divorce rate (negative) and education (positive) are also related to burglary rate in the unexpected direction. These will be discussed further in the section of the multivariate regression results.

Socioeconomic change and property crime rates in Russia

Tables 5.1 and 5.2 show the OLS estimates of the effects of socioeconomic change in Russia on robbery and burglary, respectively. Every independent variable is same as in the previous chapter.

Socioeconomic change. The negative socioeconomic change index has no relationship with robbery rates ($\beta = .130$, $p = .244$), but is positively and significantly related to burglary rates ($\beta = .220$, $p = .050$) before controlling for the regional dummy variable. That is, the worse the social and economic change in a region, the higher its burglary rate. It is interesting to note, though, that the effect on burglary is smaller than on the homicide victimization rate ($\beta = .476$ in homicide, and $\beta = .220$ in burglary). The relationship with burglary rates is still nearly significant when controlling for Northern Caucasus ($\beta = .215$, $p = .057$ in Model 2), but not when controlling for the regions of east of the Urals ($\beta = .103$, $p = .358$ in Model 3).

Table 5.1. Results for robbery rates regressed on socioeconomic change and control variables.

Variables	Model 1		Model 2		Model 3	
	b(β)	p-value	b(β)	p-value	b(β)	p-value
Constant	9.927	.018	6.249	.159	9.750	.020
Change	1.162 (.130)	.244	1.302 (.146)	.183	.738 (.083)	.485
Development	.264 (.366)	.002	.297 (.412)	.001	.243 (.337)	.005
Inequality	-.604 (-.166)	.180	-.700 (-.193)	.115	-.576 (-.159)	.201
Alcohol	.201 (.349)	.001	.258 (.446)	<.001	.199 (.346)	.001
Urban	.230 (.377)	.002	.263 (.431)	<.001	.233 (.381)	.002
Caucasus			7.517 (.227)	.042		
East					2.750 (.123)	.251
Adjusted R^2	.266		.297		.269	

Table 5.2. Results for burglary rates regressed on socioeconomic change and control variables.

Variables	Model 1		Model 2		Model 3	
	b(β)	p-value	b(β)	p-value	b(β)	p-value
Constant	20.852	.246	26.705	.177	18.949	.266
Change	8.573 (.220)	.050	8.349 (.215)	.057	4.018 (.103)	.358
Development	1.243 (.396)	.001	1.190 (.379)	.002	1.017 (.324)	.005
Inequality	-2.305 (-.146)	.238	-2.153 (-.136)	.274	-1.998 (-.126)	.281
Alcohol	.986 (.393)	<.001	.897 (.357)	.002	.965 (.384)	<.001
Urban	.727 (.273)	.021	.674 (.253)	.037	.757 (.285)	.011
Caucasus			-11.963 (-.083)	.463		
East					29.583 (.305)	.004
Adjusted R^2	.269		.264		.343	

Control variables

The same six variables as I employed in model estimation for homicide are also controlled here: technological development, inequality, the level of alcohol consumption, the percentage of the region's population living in cities more than 100,000, two regional dummy variables for the Northern Caucasus and regions east of the Urals.

Technological development. The results show that technological development is positively associated with robbery (β = .366, p = .002) and burglary (β = .396, p = .001), and these relationships remain when controlling for the regional dummy variables.

Inequality. The results show that inequality has no relationship with either robbery rate (β = -.166, p = .180) or burglary rate (β = -.146, p = .238), indicating that inequality has no significant cross-sectional relationship with property crime in Russia.

Alcohol consumption. Alcohol consumption is positively and significantly related to property crime, even though the size of the effect is smaller than for homicide. The results show that alcohol consumption is significantly and positively related to both robbery (β = .349, p = .001) and burglary rates (β = .393, p < .001). These relationships remain when controlling for regional dummy variables.

Urban. The results show that the proportion of urban residents in a region has a positive and significant relationship with both robbery (β = .377, p = .002) and burglary rates (β = .273, p = .021). These significant relationships remain for both

property crimes when controlling for regional dummy variables, and are different from those with homicide.

Regional dummy variables. Regional dummy variables are added to the equation in order to see if any property crime rates are significantly higher or lower in the regions east of the Urals or the Northern Caucasus after controlling for socioeconomic change. The results indicate that robbery rates are significantly higher in Northern Caucasus ($\beta = .227$, $p = .042$) than in the rest of nation when controlling for socioeconomic change and the other social structural features, which is different from what we expected because the correlation between robbery and the Northern Caucasus is small and negative ($r = -.09$) and because the Northern Caucasus has lower homicide rates. Further, burglary rates in the regions east of the Urals are significantly higher than in the rest of Russia ($\beta = .305$, $p = .004$).

Socioeconomic change, institutions, and property crime rates in Russia

Table 5.3 and 5.4 show the results for robbery rate and burglary rates regressed on socioeconomic change, social institutions, and control variables.

Socioeconomic change. The negative socioeconomic change index continues to have no significant relationship either with robbery or burglary rates in the Russian regions. Hence, it appears that socioeconomic change only has effects on homicide, not on property crime.

Table 5.3. Results for robbery rates regressed on socioeconomic change, social institutions, and control variables.

Variables	Model 1		Model 2		Model 3	
	b(β)	p-value	b(β)	p-value	b(β)	p-value
Constant	67.973	.002	61.324	.005	64.193	.005
Change	.835 (.093)	.391	1.004 (.112)	.292	.548 (.061)	.597
Divorce	-1.968 (-.190)	.099	-1.319 (-.127)	.271	-2.168 (-.209)	.077
Education	-.076 (-.104)	.512	-.095 (-.130)	.404	-.097 (-.133)	.415
Polity	-.682 (-.313)	.008	-.675 (-.309)	.007	-.623 (-.286)	.020
Development	.230 (.319)	.007	.256 (.356)	.002	.219 (.305)	.010
Inequality	-.401 (-.110)	.413	-.466 (-.129)	.330	-.342 (-.094)	.490
Alcohol	.119 (.207)	.070	.183 (.316)	.011	.117 (.204)	.075
Urban	.242 (.396)	.007	.281 (.460)	.002	.258 (.422)	.005
Caucasus			7.833 (.237)	.037		
East					2.095 (.094)	.422
Adjusted R^2	.312		.345		.309	

Table 5.4. Results for burglary rates regressed on socioeconomic change, social institutions, and control variables.

Variables	Model 1		Model 2		Model 3	
	b(β)	p-value	b(β)	p-value	b(β)	p-value
Constant	317.770	.001	331.900	.001	267.101	.004
Change	6.705 (.172)	.107	6.345 (.163)	.128	2.857 (.073)	.498
Divorce	-9.502 (-.211)	.062	-10.882 (-.241)	.039	-12.185 (-.270)	.015
Education	-.003 (-.001)	.995	.037 (.011)	.941	-.287 (-.090)	.555
Polity	-3.525 (-.371)	.001	-3.540 (-.373)	.001	-2.735 (-.288)	.012
Development	1.084 (.346)	.003	1.028 (.328)	.005	.946 (.301)	.007
Inequality	-2.005 (-.127)	.336	-1.865 (-.118)	.371	-1.225 (-.078)	.543
Alcohol	.620 (.247)	.027	.485 (.193)	.115	.595 (.237)	.027
Urban	.609 (.229)	.104	.527 (.198)	.169	.824 (.309)	.027
Caucasus			-16.647 (-.116)	.304		
East					28.086 (.289)	.010
Adjusted R^2	.344		.345		.397	

Social institutions. Among the three social institutions, only polity has a significant and negative relationship with robbery rates (β = -.313, p = .008). This pattern is the same with burglary rates (β = -.371, p = .001). These significant relationships remain when controlling for the regional dummy variables. That is, the higher voting participation in a region, the lower the robbery and burglary rate. Education has no significant relationship both with robbery (β = -.104, p = .512) and burglary rates (β = -.001, p = .995). Notice, however, that the family measure is nearly significant in both (β = -.190, p = .099 in robbery, and β = -.211, p = .062 in burglary), with the same unexpected effects as on homicide. When controlling for the Northern Caucasus, the relationship between family and robbery becomes non-significant while the relationship is still significant when controlling for regions east of the Urals. The significant relationship between family and burglary remains when controlling two regional dummy variables. All directions of the relationship between family and property crime are the opposite direction than expected.

Controls. Among the six control variables, technological development, urbanism, and the Northern Caucasus region variables are significantly associated with robbery rates, and alcohol consumption is nearly significant. Technological development is positively related with robbery rates in all the models, percentage of urban residents has a positive relationship with robbery rates in all three models, and robbery rates are significantly higher in Northern Caucasus than in the rest of country (β = .237, p = .037).

In the case of burglary rates, technological development and alcohol consumption are significantly associated with burglary rates, and regions east of the

Urals have significantly higher rates than the rest of the country. In addition, percentage of urban residents becomes significant (b = .824, p = .027) when controlling the East of Ural regional dummy variable.

Does the strength of social institutions condition the negative effects of socioeconomic change on property crime?

As in Chapter 4, I hypothesize that the effects of socioeconomic change on property crime rates will depend on the strength of non-economic social institutions. In other words, the effects of socioeconomic change on property crime are expected to be lower in areas with stronger social institutions. To test these interaction effects, I constructed the same three interaction terms (socioeconomic change × divorce rate, socioeconomic change × rate of people who enroll in collage, and socioeconomic change × voting turn out) as I employed in the previous chapter.

Tables 5.5 (robbery) and 5.6 (burglary) show the interaction effects of socioeconomic change and the strength of social institutions on property crime. Models 1 through 3 present OLS estimates of the interaction effects of socioeconomic change and the strength of social institutions on property crime. Models 4 through 6 present the estimation of the interaction effects of socioeconomic change and the strength of social institutions on property crime when controlling for the regional dummy variable, the Northern Caucasus or regions east of the Urals. I omitted the regions east of the Urals in Table 5.5 and the Northern Caucasus in Table 5.6 because the regional dummy variable for regions east of the Urals is non-significant for robbery and the regional dummy variable for Northern Caucasus is non-significant for burglary, and since doing so makes a more efficient presentation of results.

Table 5.5. Results for interaction effects of socioeconomic change and the strength of social institutions on robbery.

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value
Constant	62.455	.002	72.070	.001	21.701	.001	59.288	.002	66.599	.003	15.903	.018
Change	.859 (.096)	.386	.360 (.040)	.746	.843 (.094)	.390	1.082 (.121)	.266	.344 (.038)	.750	1.006 (.113)	.295
Divorce	-2.109 (-.204)	.151	-2.380 (-.230)	.065	-1.962 (-.189)	.103	-1.704 (-.165)	.236	-1.843 (-.178)	.146	-1.319 (-.127)	.275
Education	-.076 (-.104)	.518	-.120 (-.164)	.345	-.076 (-.104)	.515	-.094 (-.129)	.411	-.159 (-.218)	.201	-.095 (-.130)	.408
Polity	-.691 (-.317)	.009	-.735 (-.337)	.006	-.681 (-.312)	.009	-.702 (-.322)	.007	-.750 (-.344)	.004	-.675 (-.309)	.008
Development	.231 (.320)	.007	.235 (.326)	.006	.230 (.320)	.007	.260 (.361)	.002	.267 (.370)	.002	.256 (.356)	.003
Inequality	-.389 (-.107)	.434	-.410 (-.113)	.404	-.415 (-.114)	.403	-.436 (-.120)	.369	-.486 (-.134)	.309	-.470 (-.130)	.333
Alcohol	.120 (.208)	.071	.104 (.181)	.124	.121 (.210)	.069	.186 (.323)	.010	.168 (.291)	.020	.183 (.317)	.012

Table 5.5. continued.

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value
Urban	.243 (.397)	.007	.252 (.413)	.006	.246 (.402)	.007	.285 (.466)	.002	.300 (.490)	.001	.282 (.461)	.002
Caucasus							8.114 (.245)	.034	8.613 (.260)	.024	7.811 (.236)	.040
Change × Divorce	.147 (.021)	.867					.426 (.060)	.621				
Change × Education			-.088 (-.111)	.384					-.126 (-.158)	.208		
Change × Polity					.054 (.024)	.808					.016 (.007)	.942
Adjusted R^2	.302		.310		.303		.338		.351		.336	

Table 5.6. Results for interaction effects of socioeconomic change and the strength of social institutions on burglary.

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value
Constant	300.229	<.001	345.645	<.001	85.512	.001	234.813	.005	266.152	.006	83.883	.001
Change	7.075 (.182)	.095	4.931 (.127)	.300	6.542 (.168)	.115	3.240 (.083)	.448	2.683 (.069)	.564	2.828 (.073)	.502
Divorce	-11.608 (-.258)	.063	-11.045 (-.245)	.045	-9.621 (-.213)	.058	-14.504 (-.322)	.018	-12.343 (-.274)	.021	-12.210 (-.271)	.015
Education	.004 (.001)	.993	-.167 (-.052)	.757	-.006 (-.002)	.990	-.280 (-.088)	.566	-.304 (-.095)	.561	-.281 (-.088)	.562
Polity	-3.666 (-.386)	.001	-3.724 (-.392)	.001	-3.536 (-.372)	.001	-2.885 (-.304)	.010	-2.766 (-.291)	.016	-2.766 (-.291)	.011
Development	1.098 (.350)	.003	1.105 (.352)	.002	1.075 (.343)	.003	.960 (.306)	.006	.949 (.303)	.007	.942 (.300)	.007
Inequality	-1.837 (-.116)	.384	-2.039 (-.129)	.329	-1.724 (-.109)	.410	-1.037 (-.066)	.611	-1.236 (-.078)	.543	-1.011 (-.064)	.618
Alcohol	.628 (.250)	.026	.564 (.225)	.052	.577 (.230)	.041	.604 (.241)	.026	.589 (.235)	.036	.561 (.223)	.039

Table 5.6. continued.

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value	b(β)	p-value
Urban	.622 (.234)	.100	.648 (.243)	.088	.538 (.202)	.156	.838 (.315)	.025	.826 (.310)	.028	.757 (.285)	.044
East							28.243 (.291)	.010	27.814 (.286)	.014	27.304 (.281)	.012
Change × Divorce	2.196 (.072)	.554					2.402 (.078)	.499				
Change × Education			-.329 (-.095)	.444					-.039 (-.011)	.927		
Change × Polity					-1.064 (-.109)	.257					-.892 (-.092)	.324
Adjusted R^2	.338		.340		.347		.393		.388		.397	

Socioeconomic change. The results show that socioeconomic change is not significantly related to robbery or burglary rates in all models. These results indicate that socioeconomic change does not appear to influence property crime in Russia.

Social institutions. The results show that educational institution has no significant relationship either with robbery or burglary rates. However, polity has consistently a negative and significant relationship both with robbery and burglary rates. There is no clear relationship between family strength and the robbery rate. However, family strength is significantly and negatively associated with burglary rate in Model 2 ($b = -11.045$, $p = .045$), and nearly significant in Models 1 and 3.

When controlling for the Northern Caucasus, divorce rate and educational institution remain non-significant in the relationship with robbery in Models 4 through 6. Polity institution remains significant with robbery in Models 4 through 6. In the case of burglary, when controlling for the regions east of the Urals, education remains non-significant. Polity and divorce remain significant in Models 4 through 6.

Interaction effects. Models 1 through 3 in Tables 5.5 and 5.6 present each of the interaction terms without regional controls. Among three interaction terms, none of them are significantly related to property crime rates. This finding indicates that the strength of local social institutions does not condition the effects of socioeconomic change on property crime, which turns out to be what we expect since there are no direct effects of socioeconomic change on these crimes.

Controls. Technological development is significantly related to both property crime rates in each of the models. Inequality has no significant relationship with both property crime rates. Alcohol consumption is significantly related to burglary rates in

each of the models regardless of regional dummy variable. Alcohol consumption has nearly significant relationship with robbery rate, and it becomes significant when controlling for the Northern Caucasus regional dummy variable (Model 4 - 6 in Table 5.5). The percentage of urban residents has a significant relationship with robbery rate in all models regardless of regional dummy variable, while it is not significantly related with burglary rate. However, the relationship between urban and burglary rate becomes significant when controlling for the regions east of the Urals.

In the case of robbery, when controlling for the Northern Caucasus, technological development and urban remain significant in all models, and inequality remains non-significant. All interaction terms are not significant with robbery rate when controlling the Northern Caucasus regional dummy variable. In the case of burglary, when controlling for the regions east of the Urals, technological development and alcohol consumption remain significant in all models, and inequality remains insignificant. As I reported above, urban becomes significant when controlling for the regions east of the Urals. All interaction terms are not significant with burglary rate when controlling the East of Ural regional dummy variable.

Models 4 - 6 in Table 5.5 include the regional dummy variable for the Northern Caucasus. The results show that robbery rates are significantly higher in the Northern Caucasus than in the rest of nation. Models 4 through 6 in Table 5.6 include the regional dummy variable for the regions east of the Urals. The results show that burglary rates are significantly higher in the regions east of the Urals than in the rest of country.

Model estimation without the case of Moscow

Excluding the outlying case of Moscow in model estimation for both property crimes did not change inferences drawn for robbery and burglary in terms of socioeconomic change and social institutions. However, the exclusion of Moscow provides us with more confidence in the conclusion drawn with regards to alcohol consumption, since the p-values in the social institution model and the interaction effects model for robbery are lower than before. For burglary, excluding Moscow results in inequality becoming significant in each of the models, although it was not significant when including Moscow.

Discussion

Using the same cross-sectional data from Russian regions and various socioeconomic change and social institutions variables as with homicide, I examined the relationship between socioeconomic change and the property crime rate in order to test hypotheses from Durkheimian and institutional anomie theory.

Socioeconomic change. In this study, the relationship between socioeconomic change and robbery rate is always non-significant regardless of controlling any variables. The relationship between socioeconomic change and burglary rate is non-significant except when not controlling for the regional dummy variables in the social change model. Hence, the results appear not to support Durkheim's anomie theory for the case of both property crime rates in Russia, suggesting that socioeconomic change has more impact on violence than property crime in the country. Crime data from the Russian Ministry of the Interior show that the rates of property crime did not increase as much as homicide rates following the

dissolution of Soviet Union (see the Figure 1.1 and 1.2), providing another indication that the effects of social change may be more relevant for homicide than for property crime.

Empirical research shows that there is difference between violent crime and property crime in terms of relationship with social capital (Wilkinson, Kawachi, and Bruce, 1998). Wilkinson et al. (1998) suggest that violent crime is closely related to social capital (social trust), but that property crime is not. This finding is consistent with what I find here. The shift away from totalitarianism and command economy to rule of law and free market in Russia has likely changed traditional norms and values in the country, thereby creating anomie and social disorganization that can lead to erosion of social capital in community and neighborhood appears to have more of an effect on homicide than property crimes.

Social institutions. The effects of social institutions on property crime rate are somewhat mixed. Education is not significant for either robbery or burglary rates. Voting participation is always significant in both property crime rates. Divorce rate is not significantly related with robbery rates, but is significantly associated with burglary rates. These results indicate that the polity institution has the strongest effects on property crime among three social institutions.

As I mentioned in data section of Chapter 3, Russia shows geographical variations in political behavior such as party preference and voter turnout (Clem and Craumer, 1997). Regions with higher voter turnout may have more political solidarity than other regions. This political solidarity is likely the result of a strong social collective because political behavior is a communal activity (Friedland, 2001;

Huckfeldt, Beck, Dalton, and Levine, 1995; Mutz, 1998), and thus leads to social cohesion and social control (Granovetter, 1973; Marwell, Oliver, and Prahl, 1988; McPherson, Popielarz, and Drobnic, 1992).

Institutional anomie. As with homicide, I extend institutional anomie theory to include socioeconomic change and indirectly test it by examining the interaction effects of socioeconomic change and social institutions on property crime. The results show that none of the three interaction terms is significantly related to robbery or burglary rates. Hence, social institutions do not appear to condition the effects of socioeconomic change on property crime in Russia during the transitional period. This result is different from Chamlin and Cochran's (1995) findings, which showed that three social institutions (religion, family, and polity) conditioned the effects of economic deprivation on property crime. Piquero and Piquero (1998) also showed that education conditioned the effects of the economy on property crime. The non-significant results of the interaction terms are expected, however, since the analyses here show that there are no direct effects of socioeconomic change on robbery or burglary.

Further findings. Technological development, the proportion of urban residents, and alcohol consumption are significantly related to property crimes. In addition, regional dummy variables are differently associated with robbery and burglary rates. First, technological development is positively related to property crime. Routine activities theory may provide a clue when interpreting this result. As I mentioned about the relation with homicide in previous chapter, high energy production regions usually have more industry, and thus have high proportion of

young males. According to routine activities theory (Felson, 1987, 1994), young males who are single, living alone, away from home, and in the labor force are more likely to be involved criminal activities. These industrial areas may also provide more targets because there may be more money to purchase goods, which can be stolen.

Second, contrasting with homicide victimization rate, urbanism is positively and significantly related to both robbery and burglary. The characteristics of cities such as density, more accessibility to targets, and anonymity may create better circumstances to commit instrumental crimes that are related to monetary rewards (Felson, 1994; Ross, Mirowsky, and Pribesh, 2001, 2002). People in rural areas know each other well, and thus they do not want to steal from them, and probably have little worthy of stealing. Kposowa, Breault, and Harrison (1995) found similar results from large data set of the United States counties. Their findings show that the measure of urbanity, percentage of urban population, is a very strongly related to property crime, but homicide is much less related to urbanity.

Third, as with homicide, alcohol consumption is positively and significantly related to property crime, but the size of the effect is smaller than for homicide. Some research has shown that there is a relationship between alcohol consumption and crime (Fagan, 1990; Lanza-Kaduce, Bishop, and Winner, 1997; Parker, 1995, 1998; Parker and Rebhun, 1995; Parker and Cartmill, 1998; Stevenson, Lind, and Weatherburn, 1999). As Lanza-Kaduce, Bishop, and Winner (1997) suggest, alcohol consumption may temper moral condemnation of criminal behavior and enhance the desirability of criminal acts. In addition, alcohol consumption might decrease the

perception of sanction risk. Parker and Rebhun (1995) and Fagan (1990) argue that situational factors are important in understanding the relationship between alcohol consumption and crime. This argument might extend to explain the relationship between alcohol consumption and crime in Russia. Pridemore (2002b) argues that faster and stronger intoxication resulting from distilled spirits and binge drinking, which are common in Russia, together with Russian-specific conditions that may result in fewer external controls, may increase the probability of a relatioship between alcohol consumption and violence in Russia.

Russian cultural tradition is more tolerant of heavy drinkers (McKee, 1999). Research has also shown that binge drinking is common among Russians (Bobak, McKee, Rose, and Marmot, 1999), and rates of alcohol consumption in Russia are among the highest in the world (Pridemore, 2002b). Along with social stress and isolation created from radical social change and anomie, these situational and cultural factors may leads to high levels of alcohol consumption, which in turn partly contribute to high crime rates in Russia.

Finally, robbery rates are significantly higher in the Northern Caucasus than in the rest of the nation when controlling for socioeconomic change and other social structural features. This result is different from what we expected because the correlation between robbery and Northern Caucasus is small and negative ($r = -.09$) and because homicide rates in this area are lower than in the rest of country. In contrast, regions east of the Urals have significantly higher burglary rates than other regions even after controlling for structural covariates, and this is the same result as homicide. Hence, compared to homicide and burglary, the regional variation of

robbery rates is different from that of homicide victimization and burglary rates because robbery rates are significantly higher in the Northern Caucasus than other regions while homicide and burglary rates are significantly higher in the regions east of the Urals than the rest of the nation.

Chapter 6:

Summary and conclusions

This dissertation examines social change, social institutions, and crime in Post-Soviet Russia, specifically focusing on institutional anomie and thus any conditioning effects of social institutions on the relationship between socioeconomic change and crime. Dramatic socioeconomic and political changes followed the collapse of the Soviet Union. Communist rule and the planned economy have been largely replaced by free-market capitalism in Russia. A totalitarian political system is also being replaced by a more pluralistic and democratic system. Russia is experiencing uncertainty and instability because old social norms and values are being questioned and the new social system has not entirely replaced the former one. Consequently, these rapid socioeconomic, cultural, and value changes have likely created anomic conditions and social disorganization, which in turn may be contributing to a wide array of social problems, such as higher levels of poverty, unemployment, inequality, and poor health. The pace of these changes, however, and thus the problems due to them, vary substantially throughout the country.

The late-1980s and the transition years of the 1990s produced dramatic increases in homicide and property crime rates. The homicide victimization rate especially rose sharply, nearly quadrupling between 1988 and 1994, when it peaked at high of 32.6 per 100,000 (see the Figure 1.1 in chapter 1) (Pridemore, 2003a). Furthermore, although there are high levels of violent and property crime nearly everywhere in Russia, they vary widely throughout the nation. Given the variation of change, social problems, and crime throughout the country, it is an interesting exercise to see if they covary.

The massive change that occurred after the breakup of USSR make this transition period a unique social phenomenon and one deserving of sociological and criminological study. Durkheim's (1893/1984, 1897/1979) ideas seem applicable to explain the increase in crime in transitional Russia, since he (1897/1979) argues that norms become unclear and society's control over individual behavior decreases during times of rapid social change. According to Durkheim, as peoples' aspirations become less limited, and as conventional social institutions weaken, deviance and crime are expected to increase.

Furthermore, the transition toward a democracy and free market in Russia has focused more on economic institutions than on democracy and social institutions, especially emphasizing individual material success (Barkan, 1997). Borrowing from the ideas of Merton (1938, 1968), Polanyi (1944/2001) and other criminologists (e.g. Bonger, 1969; Currie, 1991; Messner and Rosenfeld, 1997a), we would expect the dominance of the economy in the institutional balance of power and the emphasis on individual material success to push Russia into an unchecked market economy in the accompanying anomic conditions. In this environment, it is difficult for social institutions to fulfill their roles, and the imbalance between economic and other social institutions can create conditions that are conducive to high rates of crime. Thus, Messner and Rosenfeld's (1997a) institutional anomie theory also appears to be relevant to explain high crime rates in Russia. A logical extension of institutional anomie theory suggests that strong social institutions might ameliorate the harmful impact of negative socioeconomic change on society, restrain criminogenic pressure, and help to control the behavior of members of society even under these anomic

conditions. According to Messner and Rosenfeld (1997a) and Chamlin and Cochran (1995), in other words, the relative strength of social institutions may condition the impact of negative economic conditions, and thus perhaps the impact of negative socioeconomic change, on crime rates. This dissertation tests the efficacy of these hypotheses in the Russian context.

The findings from this research suggest that socioeconomic change is positively and significantly related to the variation of regional homicide rates in Russia. This is consistent with the hypothesis that the negative social and economic change may influence the cross-sectional variation of crime rates and provides support for Durkheim's anomie theory. However, socioeconomic change does not have influence robbery or burglary rates.

According to the findings presented here, social institutions play a mixed role in homicide and property crime rates in Russia. My measure of the strength of polity, voter turnout, is negatively and significantly related to both homicide and property crime rates. Education is negatively related to homicide although we cannot strongly argue this relationship because it is significant only when controlling for the regions east of the Urals. However, education has no relation with property crime. The measure of family strength has unexpected results that I discuss below.

My examination of the conditional effects of social institutions on crime rates shows that only education appears to condition the effects of socioeconomic change on homicide, while none of the interaction terms appear to condition the effects of socioeconomic change on property crime. Hence, the findings suggest that social

institutions do not appear to condition the effects of negative socioeconomic change on crime and violence in transitional Russia.

These results do not mean that institutional anomie theory is wrong. One interpretation of these results that the negative socioeconomic change is so powerful in transitional Russia that social institutions cannot play a role as buffers to condition the impact of anomic conditions created by social and economic change. Similarly, socioeconomic change may negatively influence social institutions. In other words, social institutions may be weakened by socioeconomic change, and in their weakened state do not have the power to condition the effects of socioeconomic change on violent crime. In any event, these results suggest that negative socioeconomic change during the transition in Russia is very important in explaining the variation of violence in Russia.

Durkheim (1897/1979) argues that radical social change causes a loss of regulation of life (anomie), and that the standards by which needs are regulated no longer remain the same. These anomic conditions can lead to an increase in deviant behavior, such as suicide and crime. Polanyi (2001) also argues that 'great transformation' toward market economy generates various social problems because of an unchecked market. Under this unchecked market economy, "Instead of economy being embedded in social relations, social relations are embedded in the economic system" (Polanyi, 2001, p. 60). Durkheim's (1897/1979) and Polanyi's (2001) notions about the negative consequences of social change of modern society are very similar because they recognize that a disembedded economy has a profound impact on society (Bernburg, 2002). Messner and Rosenfeld (1997a) also share this notion,

since they emphasize the anomic circumstances that can arise from a disembedded market economy. Further, institutional anomie theory brings us back to the concerns of social change by explaining "how the anomic culture emerges and how it is sustained and amplified" (Bernburg, 2002, p. 739).

Institutional anomie theory provides the possibility of studying crime and deviance in direct relation to contemporary social changes such as the penetration of the market economy into other social institutions (Bernburg, 2002). The transition in Russia can be a one example of this transformation toward market economy and the penetration of economy into other non-economic institutions. Thus, while institutional anomie theory does not appear to have cross-sectional effect now, we might want to study longitudinal effect. Further, the investigation of the potential effect of social institutions later, after the transition is more complete, would also be a worthwhile process.

Limitations

There are some limitations to the analyses carried out in this dissertation. First, as I point out in the previous chapter, it is possible that certain measures have problems. For instance, the divorce rates may not be a good indicator of family disruption and it may not reflect current Russian family disorder because divorce is so common in the country. Single parent households likely provide a better measure for family disruption, but current data are not available (though census data on this topic soon will be). As another possible measurement problem, energy production instead of energy consumption, which is not available, may not be a proper measure of technological development. Some researchers use infant mortality as a proxy for

development, and this might be considered in future research. As another problem, property crime data have some limitations.

Furthermore, it is difficult to directly measure culture, anomie, and institutional controls, which are the main components of institutional theory (Chamlin and Cochran, 1995; Piquero and Piquero, 1998). However, as Chamlin and Cochran (1995) argue, we should continually try to use available data, even indirect measures, to test hypotheses reflected from the main assumptions of institutional anomie theory until we find more direct measures of the core concept of this theory.

Another potential problem of this study is the possibility of aggregation bias. The nature of studying social structure and crime by employing aggregate level data can make this issue a particular problem because we cannot control individual effects (Blalock, 1979; Robinson, 1950; Sampson and Groves, 1989). Hence, in this study, the regression coefficients do not truly represent pure structural effects, but may contain an inseparable mixture of structural and individual effects. Specifically, the coefficients can be biased because we have confounded the independent variable through the uncontrolled factors contained in the disturbance term. For the purposes of this study, it is assumed that the coefficients represent predominantly structural effects, and that aggregation bias is relatively small, but further examination may be needed.

Spatial autocorrelation is another potential limitation with these data. As I explained in Chapter 4, spatial autocorrelation may occur when the observations under analysis are 'structured' relative to one another, and thus observations derived from neighboring regions tend to have correlated residuals because they are affected

by similar conditions (Berry, 1993; Chatterjee et al., 2000). This has only very recently been discussed in the homicide literature (Anselin et al, 2001; Messner, Anselin, Baller, Hawkins, and Deane, 1999), and future research on Russian regions should consider possible ways to overcome this problem.

Finally, institutional anomie theory was not developed to explain the role of socioeconomic change on crime. Instead, it focuses on the specific cultural pressure for monetary success that gives rise to anomie because of the imbalance between the economic institution and other non-economic institutions and the interplay between cultural pressure for material desire and structural imbalance of social institutions. However, as mentioned earlier, Messner and Rosenfeld's (1997a) institutional anomie theory offers an important link to the ideas of social change by Durkheim (1897/1979) and Polanyi (2001). Bernburg (2002) insists that institutional anomie theory links crime, anomie, and contemporary social change by bringing in the notion of the disemedded market economy, a central notion in the institutionalism of Durkheim and Polanyi. Thus, while institutional anomie theory was not developed to explain the relationship between social change and crime, it appears a logical extension to test it in this context.

Future research

Russia offers an excellent *locus in quo* in which one can examine the impact of social change on society and the role of social institutions between social change and crime. Thus rigorous research of social change, institution, and crime in Russia not only provides knowledge of crime in Russia but important criminological findings that can be more generally applicable to other societies as well.

As I found in this dissertation, negative socioeconomic change appears to be an important predictor of violence in Russia. However, we need further and more detailed research to test the relationships between social change and crime found here. For example, future research might more fully develop and extend the construct for socioeconomic and political change, especially during the transition. Further research also must test specific pathways through which socioeconomic change affects crime.

In addition, the role of social institutions between social change and crime requires further research. Although the findings in this study show some direct effects of social institutions on crime, further research could reexamine the conditional effects of socioeconomic change on crime by employing other possible measures of strength of social institutions, such as religion, to test the role of social institutions in Russia.

It will also be useful to use alternate research designs. First, longitudinal analyses should be employed to examine whether socioeconomic change influences crime over time in Russia. Second, we could also test the possibilities which I suggest in the discussion: (1) Social institutions do not condition the effects of socioeconomic change because the latter is too strong (i.e. socioeconomic change suppresses effects of social institutions), and (2) socioeconomic change negatively influences social institutions, thus negating their effects on crime.

Among control variables, alcohol consumption is consistently significantly related to homicide and property crime in Russia, indicating alcohol consumption has direct effects on homicide and property crime when controlling for socioeconomic

change and other social features. As many researches suggest (Gavrilova, Semyonova, Evdokushkina, and Gavrilov, 2000; Leon and Skolnikov, 1998; Pridemore, 2002b; Shkolnikov, Cornia, Leon, and Meslé, 1998), the negative socioeconomic change, repeated crises, and continued uncertainty likely played a part in the increased rate of alcohol consumption during the 1990s, and which in turn appears to be related to crime rates. Alcohol consumption appears to be one of the strongest predictors of crime and violence in Russia, and thus more research is necessary to test this relationship more thoroughly and to see if socioeconomic change affects crime indirectly through alcohol consumption.

Even though this dissertation has some limitations and does not fully test Durkheimian and institutional anomie theory, my analyses do examine some hypotheses derived from these theories, and this preliminary research has shown how crime rates respond to negative socioeconomic changes. Although new research on crime in Russia, China, and other post-socialist societies is beginning to appear, there is currently no research that rigorously tests sociological theories such as Durkheim's (1893/1984, 1897/1979) anomie theory or Messner and Rosenfeld's (1997a) institutional anomie theory. This research can be the first step in understanding the association between social change and crime in Russia in terms of Durkheimian perspective, and might provide some theoretical and methodological knowledge to other researchers who are interested in the association between social change and crime in other countries that concurrently are experiencing rapid social change and increasing crime rate.

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