Are immigrants more likely to commit crimes? Evidence from France

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Are Immigrants More Likely to Commit Crimes?

Evidence from France[*]

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Abstract

Using French data, we find that the share of immigrants in the population has no significant impact on crime rates once immigrants' economic circumstances are controlled for, while finding that unemployed immigrants tend to commit more crimes than unemployed non-immigrants.

Keywords: crime, immigrants, France.

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1. Introduction

A subject of considerable political debate in France in recent years has been whether the presence of immigrants,[1] their descendants, and foreigners from non-EU countries (hereafter, summarily labelled as "immigrants" for brevity) leads to higher crime rates. However, to date, there have been no formal econometric studies examining the relationship between the share of immigrants in the population and the crime rate in France. Previous studies most closely related to this topic are those on another underprivileged minority in the United States, and these studies, using cross-regional or time-series data, suggest that crime rates are indeed positively related to the share of African Americans or non-white Americans in the population (Blau and Blau, 1982; Harer and Steffensmeier, 1992; Kelly, 2000; and Saridakis, 2004).

Against this background, the purpose of this paper is to examine whether immigrants are more likely to commit crimes and if so, what the reasons for the tendency are, using department[2]-level data for France in 1999.

2. Empirical Methodology

Economic theories of crime, such as that developed by Chiu and Madden (1998), suggest that individuals rationally choose whether or not to commit a crime based on a comparison of their expected profit from the two alternatives. According to this theory, individuals with low expected earnings have a greater incentive to engage in crime than richer individuals. Furthermore, greater inequality may lead to higher expected benefits from crime and hence to a greater incentive to commit crimes. Inequality also creates resentment and frustration and thus contributes to violent crime (Blau and Blau, 1982). Accordingly, empirical studies on the

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[1] By "immigrants" we mean those who were born outside of France and subsequently acquired French nationality.

[2] France is divided into 96 departments. (This number excludes the four overseas departments or territories.)

determinants of crime typically examine the relationship between the incidence of crime and measures of poverty and inequality.

Another possible factor is the presence of immigrants or ethnic minorities, and crime rates may be related to the number of immigrants. This possible correlation does not necessarily mean that immigrants are inherently more likely to commit crimes. Rather, immigrants face economic conditions that are specific to them, e.g., they tend to be poorer than non-immigrants, and this poverty tends to be more persistent, due to, for example, discrimination. Therefore, in order to determine whether immigrants are indeed more likely to commit crimes, it is necessary to separate their status as immigrants from economic factors such as poverty and inequality.

This study examines the relationship between immigrants and crime by regressing crime rates on the share of immigrants in a particular administrative department, controlling for various socio-economic indicators. We set up the following equation:

$$CRIME_i = \alpha + \beta_1 INCOME_i + \beta_2 UNEMP_i + \beta_3 INEQ_i \\ + \delta_1 SHARE_i^{IM} + \delta_2 UNEMP_i^{IM} + \delta_3 INEQ_i^{IM} + u_i, \tag{1}$$

where subscript i indicates the department and $CRIME_i$ represents the crime rate, measured as the number of crimes per 1,000 residents. $INCOME_i$ and $UNEMP_i$ are per capita income and the unemployment rate, respectively, both of which are indicators of poverty. $INEQ_i$ is the Gini coefficient for income distribution, an index of inequality.

The three variables with the superscript IM relate to immigrants. $SHARE_i^{IM}$ is the share of immigrants in the population. $UNEMP_i^{IM}$ is the ratio of the number of unemployed immigrants to the labour force, representing the extent of poverty among immigrants.[3] Finally, $INEQ_i^{IM}$ is the ratio of the unemployment rate for immigrants to the unemployment rate for non-immigrants, representing the degree of inequality between immigrants and non-immigrants.

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[3] In their study on crime and economic inequality in the United States, Harer and Steffensmeier (1992) use the difference between the log value of the mean income of white and black families. However, information on immigrants' average income is unfortunately not available in our dataset.

After controlling for these variables, we expect that the coefficient on the share of immigrants represents the "inherent tendency" of immigrants to commit crimes compared with non-immigrants.

The major econometric issue in the estimation of equation (1) is the possibility of endogeneity in the case of some regressors. In particular, since people with sufficiently high incomes can move away from areas with high crime rates, while others cannot due to moving costs and higher rents in other areas, the error term in equation (1) may be correlated with the income level. For the same reason, the error term may be correlated with the share of immigrants, since immigrants tend to be poor. To correct for possible endogeneity, we employ a generalized method of moments (GMM) procedure in which we use as instruments the first and second lags of the endogenous variables.

3. Data and Variables

Our sample consists of observations for the 96 departments of France for 1999. *CRIME* is the number of crimes per 1,000 residents and data are taken from Ministère de l'Intérieur (2001a). *INCOME* is taxable income per capita, while *UNEMP* is the unemployment rate, with data for both taken from Ministère de l'Intérieur (2001b). We construct *INEQ*, the Gini coefficient for income distribution, using the number of workers and the average income for 4 job categories (presidents and intellectual workers, middle managers, office workers, and labourers)[4] taken from the Institut National de la Statistique et des Études Économiques (INSEE) website (www.insee.fr) and INSEE (2001), respectively. To construct $SHARE_i^{IM}$, $UNEMP_i^{IM}$, and $INEQ_i^{IM}$, we use 1999 census data available at INSEE's website (www.recensement.insee.fr). The share of immigrants in 1997 and 1998 used as instruments is

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[4] We assume that all workers in each category are paid the average wage of the category. Due to data limitations, we do not use the income of the self-employed in constructing the Gini coefficient.

constructed using the 1999 census data and data on population flows, which are taken from the websites of the Institut National d'Études Démographiques (www.ined.fr) and Ministère de la Santè et des Solidarités (www.sante.gouv.fr).

Summary statistics presented in Table 1 show large variations among departments. For example, the number of crimes per 1,000 residents ranges from 23 to 137 and the share of immigrants from 1 percent to 24 percent.

4. Estimation Results

We begin by estimating equation (1) using only the share of immigrants and disregarding, for the time being, the measures of immigrants' economic circumstances. The results of the OLS and the GMM estimation are presented in columns 1 and 2 of Table 2, respectively.[5] They indicate that the share of immigrants has a positive and significant impact on the crime rate, confirming that a larger share of immigrants is associated with a higher crime rate. These results are in line with those of Blau and Blau (1982), Harer and Steffensmeier (1992), Kelly (2000), and Saridakis (2004) who found a positive relationship between the share of African Americans or non-white Americans and the crime rate in the United States.

Next, we add one of the measures reflecting immigrants' economic circumstances, the ratio of the unemployment rate for immigrants to that for non-immigrants, and present the OLS and GMM results in columns 3 and 4 of Table 2, respectively. The effect of the relative unemployment rate is insignificant in both estimations, whereas the effect of the share of immigrants is still positive and significant. These results are consistent with the results of Harer and Steffensmeier (1992) for the United States.

Finally, we further add the share of unemployed immigrants in the labour force, finding that the effect of the share of immigrants now becomes insignificant (columns 5 and 6 of Table

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[5] The Hansen J statistics presented in the bottom row suggest that the instruments used in the GMM estimation are valid in all specifications.

2). This result suggests that immigrants are not "inherently" more likely to commit crimes than the rest of the population. This finding also suggests that the results of earlier studies showing a correlation between crime rates and the population share of African Americans may reflect the economic circumstances of a similarly underprivileged minority rather than any "inherent" proclivity for crime.

Columns (5) and (6) show that the share of unemployed immigrants has a positive and significant impact on the crime rate. Since our regression also controls for the overall unemployment rate, this result implies that unemployed immigrants are more likely to commit crimes than unemployed non-immigrants. The estimates shown in column 6 indicate that one additional unemployed *non-immigrant* in a particular department raises the number of crimes in the department by 0.297, whereas one additional unemployed *immigrant* raises it by 0.297 + 0.546 = 0.843, assuming that the total population is equal to the labour force. A possible reason for this substantially greater tendency of unemployed immigrants to commit crimes is that the economic circumstances of immigrants are often more severe, and more persistently so, as a result of, for example, discrimination. In other words, unemployed immigrants may be expecting to be unemployed in the future and hence have a greater incentive to commit crimes.

The results for the other variables unrelated to immigrants are as follows: the effect of income per capita is positive and significant, while the effect of the Gini coefficient for income distribution is insignificant. These are unexpected results and a possible explanation is that the Gini coefficient may not be a good indicator of income inequality and income inequality may be greater in areas with higher income levels, so the coefficient on income actually picks up the effect of income inequality. Neumayer (2004) also finds a positive and significant effect of income and an insignificant effect of indices of inequality on the crime rate using cross-country data.

5. Conclusions

This paper examined the relationship between the share of immigrants in the population and the crime rate, using cross-department data for France. The results show that crime rates are positively and significantly correlated with the share of immigrants. However, once immigrants' economic circumstances are controlled for, the effect of the share of immigrants becomes insignificant, suggesting that immigrants are not "inherently" more likely to commit crimes than the rest of the population. In addition, our results indicate that unemployed immigrants are more likely to commit crimes than unemployed non-immigrants, because immigrants' circumstances are more adverse. Thus, policies that improve the economic circumstances of immigrants may go a long way to lowering crime rates.

References

Blau, J. R. and P. M. Blau, 1982, The cost of inequality: Metropolitan structure and violent crime, American Sociological Review 47, 114-129.

Chiu, Henry W. and Paul Madden, 1998, Burglary and income inequality, Journal of Public Economics 69, 123-141.

Harer, M. D. and D. Steffensmeier, 1992, The differing effects of economic inequality on black and white rates of violence, Social Force 70, 1035-1054.

Kelly, M., 2000, Inequality and crime, Review of Economics and Statistics 82, 530-539.

Institut National de la Statistique et des Études Économiques, 2001, Les salaires dans l'industrie, le commerce et les services en 1999 (La documentation Française, Paris).

Ministère de l'Intérieur, 2001a, Aspects de la criminalité et de la délinquance constatées en France en 1999 par les services de police et les unités de gendarmerie (La documentation Française, Paris).

Ministère de l'Intérieur, 2001b, Les finances des départements 1999 (La documentation Française, Paris).

Neumayer, E., 2004, Is inequality really a major cause of violent crime? Evidence from a cross-national panel of robbery and violent theft rates, Economics Working Paper Archive, http://econwpa.wustl.edu/eps/le/papers/0312/0312002.pdf.

Saridakis, G., 2004, Violent crime in the United States of America: A time-series analysis between 1960-2000, European Journal of Law and Economics 18, 203-221.

Table 1: Summary Statistics

	Mean	Std. Dev.	Min	Max
CRIME	50.46	19.63	22.65	137.22
INCOME	46.66	7.82	33.81	92.22
UNEMP	10.75	2.42	5.7	17.00
INEQ	57.40	1.06	55.82	61.86
$SHARE^{IM}$	6.11	3.93	1.06	23.81
$UNEMP^{IM}$	2.95	1.77	0.42	9.59
$INEQ^{IM}$	3.45	0.88	2.24	6.37

Notes: *CRIME*: number of crimes per 1,000 residents;
INCOME: taxable income per capita (1,000 euros);
UNEMP: unemployment rate (%);
INEQ: Gini coefficient for income distribution;
$SHARE^{IM}$: share of immigrants (%);
$UNEMP^{IM}$: ratio of unemployed immigrants to total population (%);
$INEQ^{IM}$: ratio of the unemployment rate for immigrants to the unemployment rate for non-immigrants.

Table 2: Determinants of Crime

		Dependent variable: number of crimes per 1,000 residents					
		OLS	GMM	OLS	GMM	OLS	GMM
		(1)	(2)	(3)	(4)	(5)	(6)
$SHARE^{IM}$	Share of immigrants (%)	2.423**	2.387**	2.291**	2.276**	-0.241	-0.009
		(0.302)	(0.280)	(0.289)	(0.272)	(0.867)	(0.798)
$INEQ^{IM}$	Unemployment rate for immigrants/ unemployment rate for non-immigrants			2.693	2.743	0.044	0.143
				(1.838)	(1.771)	(1.989)	(1.932)
$UNEMP^{IM}$	Unemployed immigrants/ total labour force (%)					5.869**	5.462**
						(1.952)	(1.838)
$INCOME$	Income per capita (thousand francs)	0.934**	0.932**	0.984**	0.984**	1.275**	1.262**
		(0.246)	(0.239)	(0.247)	(0.239)	(0.268)	(0.255)
$UNEMP$	Unemployment rate (%)	3.626**	3.589**	4.328**	4.309**	2.990**	2.969**
		(0.368)	(0.352)	(0.571)	(0.549)	(0.696)	(0.673)
$INEQ$	Gini coefficient	0.927	1.150	0.636	0.785	0.165	0.469
		(1.714)	(1.647)	(1.677)	(1.627)	(1.618)	(1.539)
No. of observations		96	96	96	96	96	96
R^2		0.816	0.816	0.824	0.824	0.835	0.834
Hansen J statistic			0.636		0.708		0.339

Notes: Standard errors are in parentheses. * and ** denote statistical significance at the 5 and 1 percent levels, respectively. *P* values are reported for the Hansen *J* statistic.