

Criminality and the Social Environment in France

Denis Fougère, Crest-CNRS, CEPR

Francis Kramarz, Crest-INSEE, CEPR

Julien Pouget, Crest-INSEE

July 2002

Motivation

- Security was central to the recent presidential and legislative elections in France
- Mostly seen as a far-right theme
- Left-wing parties reluctant to talk about it

Motivation (continued)



July 2002

	Fraction Le Pen and Mégret voters				Instrumental Regression:	
	OLS		IV		City Street Crime	
Constant	0.1276	0.0029	0.1832	0.0086	-0.0112	0.0006
City Street Crime	0.8373	0.0251	6.0358	0.6972		
City Unemployment Rate	0.1918	0.0087	-0.1171	0.0433	0.0585	0.0018
Fraction Foreigners in City	0.6684	0.0108	0.2487	0.0585	0.0800	0.0023
Fraction Age 10-19 in City	0.3869	0.0138	0.5011	0.0257	-0.0223	0.0030
New Inhabitants in City	-0.0108	0.0050	-0.2346	0.0309	0.0425	0.0010
Fraction with Annual Earnings < 60,000FF in City	-0.1065	0.0105	-0.0835	0.0160	-0.0042	0.0022
Fraction with Annual Earnings > 200,000FF in City	-0.0940	0.0085	-0.3229	0.0332	0.0427	0.0018
Camping Beds in City	-0.0436	0.0028	-0.2080	0.0224	0.0314	0.0006
Police or Gendarmerie in City	-0.0140	0.0009	-0.0272	0.0022	0.0032	0.0003
City size 0-199	-0.0038	0.0017	0.0092	0.0031	-0.0020	0.0004
City size 200-499	0.0000	0.0012	0.0105	0.0022	-0.0017	0.0002
City size 1500-4999	-0.0066	0.0009	-0.0287	0.0032	0.0040	0.0002
City size 5000-9999	-0.0198	0.0013	-0.0677	0.0067	0.0087	0.0003
City size >10,000	-0.0242	0.0017	-0.0951	0.0098	0.0129	0.0004
Bus Line in City					0.0015	0.0002
Tax Inspector's Office in City					-0.0012	0.0002
Cultural Center in City					0.0008	0.0002
F-Statistics for the Nullity of the Instruments					33.69	
Chi-Square (df=2)				4.6546		
p-value				0.0976		
Notes: In the IV regression, City street crime is instrumented (see below for the instruments). 34,917 city observations.						
The regression also includes an indicator for missing information on existence of a gendarmerie or police station.						
IV include existence of a bus line, a tax inspector's office, and a cultural center in the city.						

July 2002

Motivation (continued)

- Jospin, March 3, 2002 on television:
"J'ai péché un peu par naïveté. Je me suis dit (...) : Si l'on fait reculer le chômage, on va faire reculer l'insécurité."

	Armed or violent robberies	Burglaries	Car thefts	Thefts of objects in cars (radio,...)	Pickpocketing, shoplifting
Unemployment (OLS)	5.3398 (0.4281)	2.6454 (0.2730)	3.6665 (0.4063)	1.6544 (0.3135)	-0.1186 (0.4236)
Unemployment (Dépt fixed effects)	-0.7753 (0.4650)	-1.2281 (0.2553)	-1.5074 (0.2894)	-1.7502 (0.3283)	-0.5778 (0.3977)
	Homicides, incl. attempts	Voluntary wounds	Blackmail, threats, and others	Rape and other sex offences	Family offences, incl. violence against children
Unemployment (OLS)	2.1762 (0.4749)	2.5611 (0.3544)	2.7219 (0.3946)	2.6641 (0.3050)	2.1480 (0.2647)
Unemployment (Dépt fixed effects)	-0.0286 (0.7592)	0.2940 (0.3601)	0.6024 (0.5142)	0.0534 (0.4168)	0.0498 (0.2786)
	Drug offences	Damage to vehicles	Illegal weapon ownership	Violence against police	
Unemployment (OLS)	2.6811 (0.5093)	3.6960 (0.4064)	1.6838 (0.4177)	1.5334 (0.3101)	
Unemployment (Dépt fixed effects)	-0.9326 (0.6657)	-1.8868 (0.5254)	1.0568 (0.5925)	1.6536 (0.3667)	

Notes: Each observation is a département-year. 1,045 observations. Each regression also includes: year indicators, fraction of foreigners, of 15-24, of 25-39, of above 60, of those living in rural areas, of those living in cities between 20,000 and 200,000, in cities above 200,000, in Paris and suburbs, fraction of workers with wages less than 1.1 times the SMIC (minimum wage), with wages above 2.5 times the SMIC

Sources: Ministry of Interior, Enquête emploi, 1990-2000.

July 2002

Previous literature

- Seminal theoretical work on crime: Becker (1968) on trade-off crime vs punishment (also Becker and Landes, 1974)
- Seminal empirical work on crime: Ehrlich (1973)
- Empirics on the supply of crime:
 - *Unemployment*: Do poor legitimate labor market opportunities increase crime ? For the 70s, weak relation (Freeman, 1983). Later analyses using local data sources find a relation: crime rises with joblessness: Gould et al. (1998) find that a 1% increase in unemployment implies a 2.2% impact for property crimes; Freeman and Rodgers (1999) find 1.5% for youth crime... Other studies by Levitt (1995, 6, 7) find positive relation with property crime (including area indicators) but sometimes negative relations; Cullen and Levitt (1996) find little relation. Analyses using data on individuals committing crime (or not) find stronger relations.

Previous literature (continued)

- *Inequality*: Do more unequal legitimate labor market opportunities increase crime ?
- Studies that have examined the relation between inequality and crime find a positive association across cities: Lee (1993); Gould et al. (1998) using wages for the low-skilled (elasticity between -.3 and -1.0), Kelly (2000) finds no effect of inequality on property crime and a robust impact on violent crime (elasticity of .5). For the UK, Machin and Meghir (2000) also find that decreases in unskilled wages are associated with more crime. See also the book by Entorf and Spengler (2002).
- Grogger (1997) using the NLSY find an elasticity of participation in crime wrt wages of -.6 to -.9.

Previous literature (continued)

- *Social Environment*: Do worse social environments increase crime and more intense social interactions decrease crime ?
- Glaeser, Sacerdote, and Scheinkman (1995) show that interaction matter when explaining geographic variation (across cities) in crime rates: variance in crime rates exceed what is expected when crime are independent. An interaction parameter works well for serious crimes (not for rape, murder, or death from cancer). Glaeser and Sacerdote (1999) in a similar spirit explain why there is more crime in cities. They use the NCVS (victimization data), NLSY, and Uniform Crime Reports. They find that a large fraction of the urban crime effect is due to the presence of more female-headed households. Less is explained by higher returns or lower deterrence.
- Ethnographic evidence on crime complement these analyses: interactions in gangs seem to matter (Moore, 1996; Thornberry and Christenson, 1984).

Previous literature (continued)

- *Police and sanctions*: Do more arrests and police decrease crime ?
- Classic study by Levitt (1997) who finds, in contrast to previous analyses, that police hiring reduces violent crime. The effect is causal based on IV estimates using the link between the timing of changes in the size of police forces and elections (for governor and mayor). Data on 59 US cities. Results show a decrease of 5 violent crimes per additional sworn officer per year.
- Does Crime Pay ? Cost of Crime: See survey in Freeman (1999)
- Crime Prevention and Avoidance:
 - *Protection by individuals*: Ayres and Levitt (1996) show the impact of the Lojack system to prevent car thefts. The thief does not know that the car has the system: the deterrent effect is market wide. Philipson and Posner (1996) show the deterrent effect of alarms (state-year data).
 - *Exit of individuals*: Cullen and Levitt (1996) show that urban flight is associated with criminal activities (using data on cities) and IV (severity of the state justice system)

Our Data Sources (overview)

- Département-level data sources: for crimes
- Administrative data sources: for police and gendarmerie measures (numbers, characteristics...) and for instruments
- Elections data sources: for instruments
- Victimization data source with very precise geographic identification (city, commune): for individual analysis
- City-level data built from:
 - Censuses
 - Administrative and fiscal sources
 - Communal censuses...

Our Data Sources (continued)

- Crime Measures
- Registered by the Interior Ministry
- At the département-level: 1990-2000
- There are 95 départements (approximately a county).
- Administrative Unit. Little independence for policy decisions (taxes,...). France is centralized.
- Policy is decided at the Ministry level
- Classification:
 - Burglaries
 - Armed or violent robberies
 - Car thefts
 - Thefts of objects in cars (radio,...)
 - Damage to vehicles
 - Pickpocketing, shoplifting
 - Homicides, incl. attempts
 - Voluntary wounds
 - Blackmail, threats, and others
 - Rape and other sex offences
 - Family offences, incl. violence against children
 - Drug offences
 - Illegal weapon ownership
 - Violence against police

July 2002

Our Data Sources (continued)

- Number of policemen and gendarmes
- By département and year (1990 to 2000)
- From individual-level (but strictly confidential) administrative data sources
- From these files, average personal characteristics by département-year:
 - By rank: low, medium, and high-ranking for policemen and gendarmes
- For Policemen:
 - Age structure
 - Region of birth: same as region of work or not
 - Département of birth:same as département of work or not
- The last three variables are used as instruments: the allocation process is centralized. The career starts generally in the Parisian Region i.e. far away from home. Then, migration increasingly to the south with increasing tenure (see Méron, 1988).

Our Data Sources (continued)

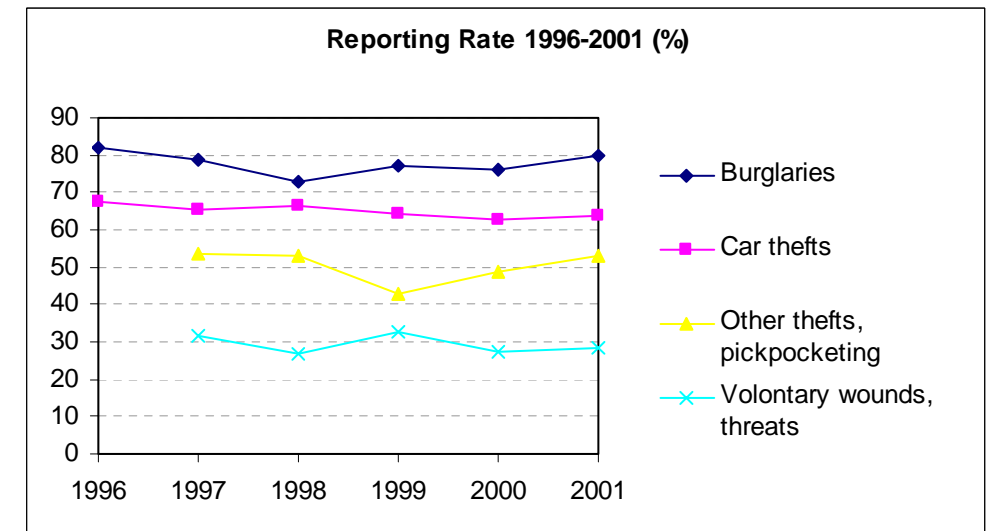
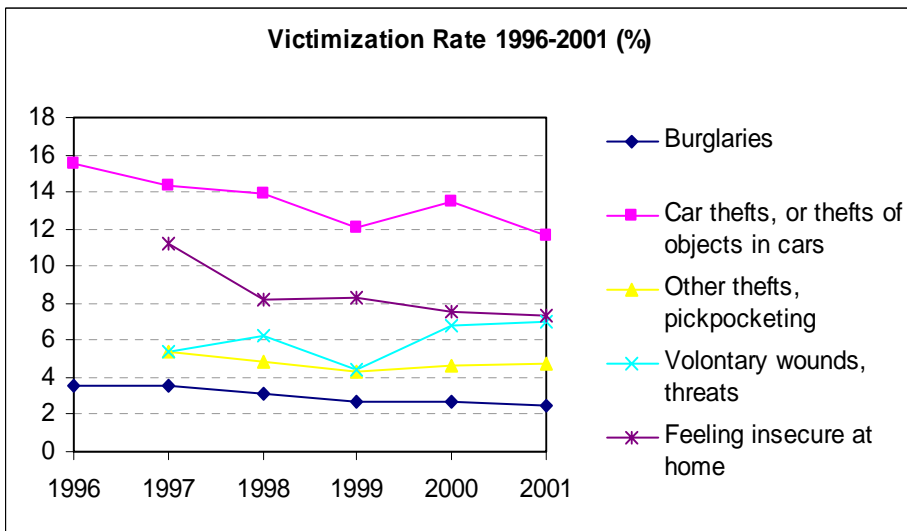
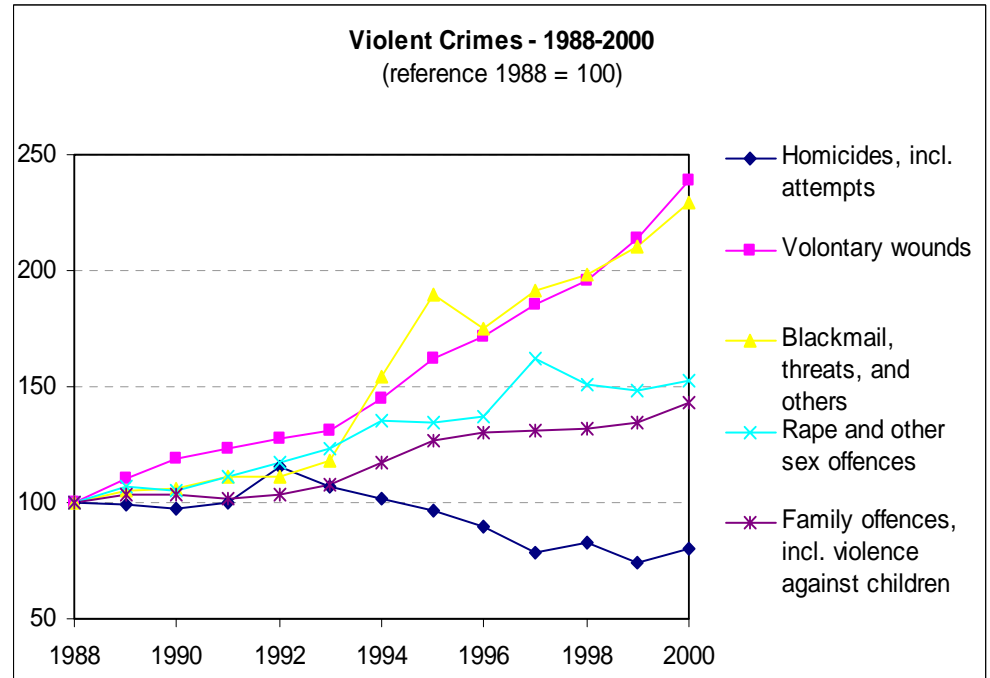
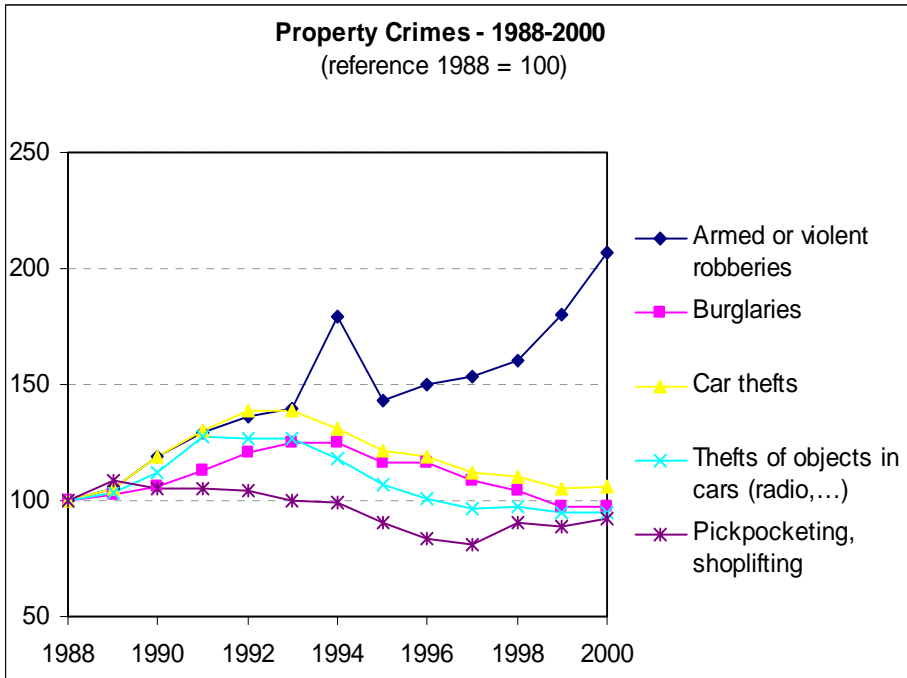
- Parliamentary Elections: Cevipof data base
- Fraction of votes for each party at the first round of Parliament elections (by département and election years)
- Fraction of votes for the extreme-right at 1st round of the recent presidential elections (2002).
 - by commune (36,000 cities). We also have street crime by commune in 2001 (34,000 communes that are in a gendarmerie zoning)
 - by département in both 1995 and 2002 presidential elections.
- Used for instruments and for the motivation (i.e. to motivate you)

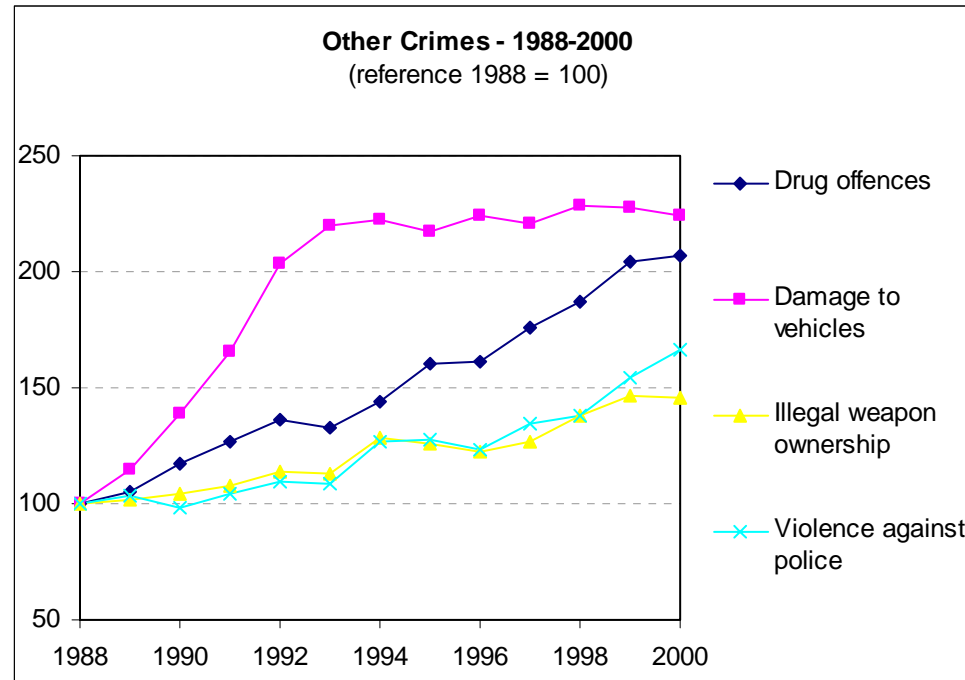
Our Data Sources (continued)

- Victimization data source
- From 1996 to 2001
- Panel data source (each domicile is interviewed 2 years)
- Information on household characteristics. Usual characteristics such as composition, income, ...
 - Including burglaries, car thefts, protection measures against burglaries, ...
- A random sample of members of household interviewed.
 - Including thefts, personal attacks, feeling of insecurity, behavior facing risk (going out in the evening,...)
 - Including moving out of the domicile
- Very precise local information (on noise, restaurants, cinemas...) and geographic identification (36,000 cities)
- City-level data built from:
 - Censuses: demographics, unemployment, ... in 1990 and 1999
 - Administrative and fiscal sources: wage distribution, inequality measures
 - Communal censuses: local amenities: bus or railway station, police or gendarme station, various sport activities and entertainment, ...

Our Questions

- Efficiency of the Security Forces: Are more policemen and gendarmes useful ? And for which crime ?
- Crime, Schools, and Students: Who is affected, where, and what are the consequences (go out at night ?)
- Crime and Age: Older persons tend to be less affected by crime; is it because they protect their home or is it their living environment ?
- Crime and Adults: Do crime, insecurity,... induce households to move (urban or cité flight) to quieter zones ?
- Other topics: Who is a victim and who reports ?...





July 2002

OLS Effects of Police on Crime

	Armed or violent robberies	Burglaries	Car thefts	Thefts of objects in cars (radio,...)	Pickpocketing, shoplifting
Police	-0.1360 (0.0836)	-0.1271 (0.0453)	-0.2646 (0.0515)	-0.0743 (0.0593)	0.1237 (0.0718)
Gendarmerie	-0.5241 (0.1995)	0.6286 (0.1081)	0.3873 (0.1229)	-0.0776 (0.1415)	-0.0697 (0.1714)
Adjusted R2	0.9482	0.9365	0.9544	0.9102	0.9396
	Homicides, incl. attempts	Voluntary wounds	Blackmail, threats, and others	Rape and other sex offences	Fam. offences, incl. violence against children
Police	0.2244 (0.1362)	0.0435 (0.0651)	-0.0562 (0.0925)	0.0587 (0.0754)	-0.0944 (0.0503)
Gendarmerie	-1.2585 (0.3250)	-0.0461 (0.1554)	-0.6311 (0.2208)	-0.0536 (0.1798)	0.1228 (0.1200)
Adjusted R2	0.6472	0.8869	0.7452	0.6891	0.8568
	Drug offences	Damage to vehicles	Illegal weapon ownership	Violence against police	
Police	0.2403 (0.1168)	-0.0920 (0.0949)	0.3428 (0.1047)	0.2897 (0.0642)	
Gendarmerie	1.8892 (0.2788)	0.2956 (0.2265)	-1.5905 (0.2498)	-1.1148 (0.1532)	
Adjusted R2	0.7675	0.8588	0.7972	0.8619	
Notes: Sources, Ministry of Interior, of Defense, Enquête Emploi. 1990-2000. Each observation is a département-year. 1,045 observations. Each regression also includes: year indicators, fraction of foreigners, of 15-24, of 25-39, of above 60, of those living in rural areas, of those living in cities between 20,000 and 200,000, in cities above 200,000, in Paris and suburbs, fraction of workers with wages less than 1.1 times the SMIC (min. wage), with wages above 2.5 times the SMIC, and Département indicators.					

July 2002

IV Effects of Police on Crime

	Armed or violent robberies	Burglaries	Car thefts	Thefts of objects in cars (radio,...)	Pickpocketing, shoplifting
Police	-0.2897 (0.2327)	-0.2798 (0.1319)	-0.3351 (0.1451)	-0.3061 (0.1752)	-0.0468 (0.2053)
Gendarmerie	-0.0684 (1.6539)	1.6688 (0.9373)	1.0539 (1.0308)	1.4785 (1.2447)	-1.2037 (1.4589)
Adjusted R2	0.9478	0.9303	0.9530	0.8993	0.9360
Chi-Square	8.7780	5.7475	7.7330	2.8215	0.4180
p-value (df=2)	0.0124	0.0565	0.0209	0.2440	0.8114
	Homicides, incl. attempts	Voluntary wounds	Blackmail, threats, and others	Rape and other sex offences	Fam. offences, incl. violence against children
Police	0.3658 (0.4466)	0.5762 (0.1966)	0.1314 (0.3060)	0.4317 (0.2372)	-0.1035 (0.1448)
Gendarmerie	-7.4359 (3.1733)	1.2614 (1.3972)	-4.9749 (2.1743)	2.5178 (1.6858)	1.1267 (1.0291)
Adjusted R2	0.5605	0.8686	0.6693	0.6297	0.8471
Chi-Square	5.3295	0.4180	4.1800	2.2990	19.1235
p-value (df=2)	0.0696	0.8114	0.1237	0.3168	0.0001
	Drug offences	Damage to vehicles	Illegal weapon ownership	Violence against police	
Police	0.6770 (0.3597)	-0.0148 (0.2758)	1.6276 (0.3442)	1.1061 (0.2386)	
Gendarmerie	5.5647 (2.5561)	2.3611 (1.9600)	-5.8706 (2.4461)	-5.1046 (1.6958)	
Adjusted R2	0.7237	0.8469	0.7342	0.7738	
Chi-Square	2.9260	11.8085	0.1045	8.5690	
p-value (df=2)	0.2315	0.0027	0.9491	0.0138	
Notes: See previous table. Instruments are the fraction in 4 age-categories of policemen, and work in same region as was born.					

July 2002

IV Effects of Police on Crime

	Armed or violent robberies	Burglaries	Car thefts	Thefts of objects in cars (radio,...)	Pickpocketing, shoplifting
Police	-0.3077 (0.2508)	-0.2777 (0.1502)	-0.3423 (0.1600)	-0.2904 (0.1887)	-0.0740 (0.2061)
Gendarmerie	2.0136 (0.8528)	2.7982 (0.5107)	2.2852 (0.5440)	2.3671 (0.6418)	-1.2986 (0.7008)
Adjusted R2	0.9396	0.9111	0.9431	0.8845	0.9353
Chi-Square	5.1205	5.5385	5.9565	7.8375	0.4180
p-value (df=2)	0.1632	0.1364	0.1137	0.0495	0.9365
	Homicides, incl. attempts	Voluntary wounds	Blackmail, threats, and others	Rape and other sex offences	Fam. offences, incl. violence against children
Police	0.3808 (0.3805)	0.6285 (0.2065)	0.3154 (0.2594)	0.2987 (0.2160)	-0.0311 (0.1394)
Gendarmerie	-2.6302 (1.2940)	1.8794 (0.7021)	-1.4013 (0.8821)	-1.4915 (0.7344)	0.1643 (0.4739)
Adjusted R2	0.6412	0.8566	0.7398	0.6737	0.8565
Chi-Square	9.0915	3.2395	8.8825	33.4400	10.5545
p-value (df=2)	0.0281	0.3562	0.0309	0.0000	0.0144
	Drug offences	Damage to vehicles	Illegal weapon ownership	Violence against police	
Police	0.5638 (0.3681)	-0.1275 (0.2662)	1.6112 (0.3145)	1.2351 (0.2169)	
Gendarmerie	6.2011 (1.2517)	1.4136 (0.9054)	-3.2441 (1.0696)	-3.8753 (0.7377)	
Adjusted R2	0.7149	0.8555	0.7681	0.8061	
Chi-Square	7.1060	6.5835	6.7925	7.3150	
p-value (df=2)	0.0686	0.0864	0.0788	0.0625	

Notes: See previous table. Instruments are the fraction in 3 age-categories of policemen, work in same region as was born, the fraction of votes for the left, extreme right, others at parliamentary elections (Cevipof data, various years from 1980 to 2000).

IV Regressions: First-Stage

	log(Police/Population)		log(Gendarmes/Population)	
Fraction police below 30	1.0629	0.0967	-0.0480	0.0420
Fraction police above 50	0.2190	0.0837	0.1303	0.0364
Fraction police working in same region as region of birth	-0.0309	0.0707	0.0009	0.0307
Fractions of votes for the left-wing parties	0.2164	0.1503	0.0988	0.0653
Fraction of votes for the extreme-right parties	0.5770	0.2317	0.6961	0.1006
Adjusted R-square	0.9873		0.9977	
F-statistics	27.3300		12.5200	
p-value	<0.0001		<0.0001	
Notes: see other tables for the included variables				

	Armed or violent robberies	Burglaries	Car thefts	Thefts of objects in cars (radio,...)	Pickpocketing, shoplifting
Police (t-1)	-0.8763	-0.1849	-0.3745	0.1174	-0.1884
	(0.5320)	(0.3093)	(0.3600)	(0.2508)	(0.3669)
Gendarmerie (t-1)	4.0824	3.0915	3.5920	-0.9347	-0.2617
	(1.8664)	(1.0851)	(1.2632)	(0.8798)	(1.2872)
City Police (t-1)	-0.9253	-0.8455	-1.0559	-0.5315	-0.4323
	(0.9089)	(0.5284)	(0.6151)	(0.4284)	(0.6269)
Adjusted R2	0.9309	0.8965	0.9261	0.9400	0.9477
Chi-Square	1.5960	0.2660	0.6650	0.1995	2.4605
p-value (df=2)	0.4502	0.8755	0.7171	0.9051	0.2922
	Homicides, incl. attempts	Voluntary wounds	Blackmail, threats, and others	Rape and other sex offences	Fam. offences, incl. violence against children
Police (t-1)	0.2042	0.2524	-0.0118	-0.2009	0.4329
	(0.7998)	(0.3678)	(0.6056)	(0.3142)	(0.3170)
Gendarmerie (t-1)	0.0994	0.2768	-3.2202	0.0231	-0.2882
	(2.8059)	(1.2904)	(2.1247)	(1.1022)	(1.1120)
City Police (t-1)	0.9566	0.6003	0.9929	0.3399	-0.8177
	(1.3665)	(0.6284)	(1.0347)	(0.5368)	(0.5415)
Adjusted R2	0.6210	0.8722	0.5976	0.7297	0.8097
Chi-Square	1.9285	0.5985	0.9310	3.3250	0.1995
p-value (df=2)	0.3813	0.7414	0.6278	0.1897	0.9051
	Drug offences	Damage to vehicles	Illegal weapon ownership	Violence against police	
Police (t-1)	0.4645	0.1250	1.4143	0.4724	
	(0.5016)	(0.5100)	(0.6653)	(0.4474)	
Gendarmerie (t-1)	-0.0072	4.1751	-5.2801	-5.2468	
	(1.7597)	(1.7893)	(2.3342)	(1.5696)	
City Police (t-1)	-0.1282	-0.9561	-1.0808	1.1868	
	(0.8570)	(0.8714)	(1.1367)	(0.7644)	
Adjusted R2	0.7733	0.8609	0.7721	0.8590	
Chi-Square	0.7315	2.3940	0.2158	0.6338	
p-value (df=2)	0.6937	0.3021	0.8977	0.7284	
Years: 1994-2000. Number of Observations: 665.					
Notes: See previous table. Instruments are the fraction in 3 age-categories of policemen, work in same region as was born (these variables are measured at t-1), the fraction of votes for the left, extreme right, others at parliamentary elections (average of t-1 and t-2 votes, Cevipof data).					

July 2002

<i>Persons above 55, Inactive</i>	Victim of Burglary or Car Theft		Victim of Assault or another Theft		Protection (Alarm or Fortified Door)	
	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.
Intercept	-1.6798	0.1132	-1.9244	0.1282	-0.8909	0.0717
Woman	-0.0697	0.0560	0.2081	0.0677	0.0297	0.0393
Foreigner	0.0009	0.1480	-0.0113	0.1562	-0.0775	0.0972
Age 65 to 75	-0.2446	0.0684	-0.1514	0.0742	-0.0821	0.0464
Age above 75	-0.1127	0.0744	-0.3371	0.0840	-0.0987	0.0521
Isolated house	-0.0503	0.0763	-0.2589	0.0890	-0.0002	0.0501
Apartment Building	-0.0497	0.0912	0.0010	0.0935	0.2417	0.0606
Project Housing	0.0367	0.1050	0.0728	0.1134	-0.0077	0.0827
Mixed Housing	0.0453	0.1151	-0.1315	0.1246	0.1444	0.0750
Rural area	0.0916	0.1004	0.0803	0.1104	-0.0194	0.0642
City, size less than 100,000	0.2191	0.1057	0.1837	0.1186	0.1408	0.0684
City, size more than 100,000	0.2112	0.0968	0.2327	0.1035	0.4350	0.0615
Paris	0.4280	0.1448	0.3074	0.1501	0.2296	0.0938
Deteriorated Neighborhood	0.1762	0.0628	0.3155	0.0658	0.1938	0.0437
Single	0.0003	0.0724	0.2517	0.0679	-0.1420	0.0473
Family of three and more	0.4341	0.0820	-0.2144	0.1146	-0.0477	0.0619
Low Income	-0.2992	0.0904	0.0400	0.0895	-0.2604	0.0588
Middle-low Income	-0.0813	0.0770	-0.1251	0.0887	-0.1386	0.0515
High Income	0.2742	0.0779	0.0695	0.0925	0.4235	0.0574
Fraction Unemployed in city	1.6326	0.6759	-0.3945	0.7307	0.2328	0.4566
Fraction Foreigner in City	-0.4520	0.9218	0.7230	0.9242	2.6981	0.5857
Fraction 15 and Below in City	2.1379	1.3502	0.4487	1.5958	0.7523	0.9423
Low Income in a Low-wage city	-3.2622	4.3555	-1.3299	4.2071	1.7322	2.1087
Low Income in a High-wage city	0.2682	1.9084	1.1631	1.6500	2.4520	1.1632
High Income in a Low-wage city	7.0996	2.8705	1.3040	3.4583	-4.6295	2.0853
High Income in a High-wage city	0.9102	1.0088	0.9302	1.0055	0.5296	0.6662
Victim (Burglary) and Low-Income					-0.0862	0.2352
Victim (Burglary) and High-Income					-0.3857	0.1566
Victim (Attack) and Low-Income					0.1429	0.2283
Victim (Attack) and High-Income					-0.2386	0.1956
Correlation Burglary and Assault	0.1462	0.0576				
Correlation Burglary and Protection	0.1363	0.0529				
Correlation Assault and Protection	0.1627	0.0594				
Number of Observations: 5,947. Estimated by Maximum Likelihood. Victimization Survey, 1999 Census, and other local administrative sources						

July 2002

<i>Persons between 25 and 55, Active</i>	Victim of Burglary or Car Theft		Victim of Assault or another Theft		Moved House the Year After	
	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.
Intercept	-1.0093	0.0895	-1.0308	0.1016	-1.2568	0.1282
Woman	0.0082	0.0429	-0.1512	0.0491	-0.0638	0.0604
Foreigner	-0.2841	0.1150	-0.1235	0.1243	0.0054	0.1549
Age above 40	-0.0091	0.0440	-0.2008	0.0504	-0.3298	0.0654
Isolated house	-0.0843	0.0598	-0.2085	0.0710	0.1008	0.0883
Apartment Building	0.0887	0.0700	0.0713	0.0813	0.3228	0.1016
Project Housing	-0.0161	0.0795	-0.0270	0.0856	0.1472	0.1131
Mixed Housing	0.0275	0.0798	-0.0833	0.0944	0.3033	0.1093
Rural area	-0.0212	0.0726	-0.0851	0.0792	-0.1127	0.1033
City, size less than 100,000	0.0000	0.0839	0.0615	0.0918	0.0362	0.1081
City, size more than 100,000	0.2149	0.0707	0.0340	0.0815	-0.0902	0.0978
Paris	0.1105	0.1020	-0.0048	0.1114	-0.2892	0.1560
Deteriorated Neighborhood	0.2845	0.0471	0.2224	0.0522	-0.0280	0.0690
Single	-0.1897	0.0898	0.1257	0.0921	0.0417	0.1055
Family of three and more	-0.0305	0.0566	-0.1493	0.0622	-0.3837	0.0763
Low Income	-0.2147	0.0691	0.0340	0.0758	0.0269	0.1191
Middle-low Income	-0.0335	0.0608	-0.0355	0.0707	0.0844	0.0889
High Income	0.0039	0.0614	0.1528	0.0682	0.1521	0.1051
Fraction Unemployed in city	1.0685	0.5464	-0.1995	0.6141	-0.0216	0.8335
Fraction Foreigner in City	1.1223	0.6684	0.0385	0.6756	0.4805	0.9403
Fraction 15 and Below in City	0.8683	0.9607	0.2442	1.0859	-2.0225	1.4054
Low Income in a Low-wage city	4.2791	2.6528	-0.7335	2.4155	1.8724	3.3397
Low Income in a High-wage city	2.8370	1.4085	0.2908	1.6027	-2.2202	2.8220
High Income in a Low-wage city	-4.1963	2.6626	-3.3034	2.4522	1.6852	3.3324
High Income in a High-wage city	-1.5739	0.7691	-0.7649	0.8514	0.7149	1.1796
Victim (Burglary) and Low-Income					-0.2061	0.2338
Victim (Burglary) and High-Income					-0.0712	0.1811
Victim (Attack) and Low-Income					0.3229	0.2304
Victim (Attack) and High-Income					-0.1186	0.2148
Correlation Burglary and Assault	0.1058	0.0353				
Correlation Burglary and Flight	0.1347	0.0630				
Correlation Assault and Flight	0.0164	0.0736				
Number of Observations: 5,002. Estimated by Maximum Likelihood. Victimization Survey, 1999 Census, and other local administrative sources						

July 2002

<i>Persons below 25, at School or at University</i>	Victim of an Assault		Victim of a Theft		Going out at Night	
	Est.	Std. err.	Est.	Std. err.	Est.	Std. err.
Intercept	-1.1548	0.0950	-1.5023	0.1060	0.7929	0.0752
Woman	-0.3699	0.0488	-0.2556	0.0471	-0.2962	0.0364
Foreigner	-0.0814	0.1603	-0.2545	0.1567	-0.0523	0.1158
Middle-School	0.2087	0.0766	0.2317	0.0797	-1.0903	0.0587
High-School	0.1810	0.0671	0.1430	0.0693	-0.6562	0.0497
Vocational Middle-School	0.2970	0.0858	0.3813	0.0862	-0.4206	0.0664
Vocational High-School	0.2301	0.0961	0.2620	0.0961	-0.1241	0.0757
Rural area	-0.0893	0.0787	-0.0254	0.0832	-0.0408	0.0592
City, size less than 100,000	-0.0350	0.0952	0.1364	0.0930	0.0266	0.0709
City, size more than 100,000	0.0223	0.0766	0.0950	0.0770	0.0255	0.0576
Paris	0.1144	0.1048	0.1429	0.1061	-0.1412	0.0845
Project Housing	-0.0437	0.0805	0.0700	0.0757	-0.0513	0.0628
Deteriorated Neighborhood	0.2587	0.0516	0.2501	0.0512	0.0653	0.0414
Single	0.0225	0.1297	0.4121	0.1181	0.4896	0.1008
Family of two	0.0525	0.1002	0.2382	0.0969	0.2772	0.0793
Family of three and more	-0.0094	0.0574	0.0361	0.0580	-0.0915	0.0436
Low Income	-0.2955	0.0690	-0.0573	0.0711	-0.0773	0.0533
Middle-low Income	-0.0849	0.0684	0.0614	0.0716	0.0464	0.0543
High Income	-0.1134	0.0767	0.1236	0.0814	0.0847	0.0624
Fraction Unemployed in city	-0.9387	0.5742	0.2052	0.5563	-1.7722	0.4209
Fraction Foreigner in City	-0.3703	0.6754	0.6104	0.6532	0.5757	0.5138
Fraction 15 and Below in City	-2.3095	1.0351	1.9840	1.0318	-0.7991	0.7643
High Income in a Low-wage city	1.3310	3.5289	3.3743	3.2973	-3.9205	2.5988
High Income in a High-wage city	0.0234	0.8268	0.6269	0.8414	-0.3140	0.7284
Correlation Assault and Theft	0.3267	0.0370				
Correlation Assault and Going out	0.1024	0.0313				
Correlation Theft and Going out	0.0900	0.0311				
Number of Observations: 5,465. Estimated by Maximum Likelihood. Victimization Survey, 1999 Census, and other local administrative sources						

July 2002

Conclusions of the Data Analysis

- Security mattered in the recent elections: more extreme-right votes is associated to more street crime
- Unemployment and crime are unrelated or negatively related (with département fixed effects) even though, in the cross-section they are positively associated
- An increased number of policemen or gendarmes does not induce a general decrease in crime: effects (magnitude and signs) depend on the type of crime and the respective role of the security forces: What is the production function of policemen and gendarmes ? How do they select the type of crime they fight ?
- Property crime is better explained than other crimes
- Crime affects more those living in a deteriorated environment.
- Most persons aged 55 protect their homes when they have high income, but with lower income, protection often comes after a burglary
- Even though these persons do not suffer more from crime in cities with many foreigners, they do protect their homes more often in these cities

Conclusions of the Data Analysis (continued)

- Active adults do not move house because of burglaries, car thefts, personal attacks or other thefts. Apparently, there is no « cité » (project housing) or « urban » flight in France in relation to crime: more may come from bad schools, changes in family composition,... They move from apartments to houses.
- Students suffer from crime at school (10%) and more often in the streets (70%) during the day (i.e. not because they go out at night).
- Crime affects those students in the vocational system and in middle-schools
- The young steal from the young but do not assault the young
- Burglars in low-wage cities select old high-income persons