

Unsolved Homicide in Canada: Logistic Regression of Homicide Clearance 1991 - 2005

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Homicide Clearance

- This research is interested in the differences between cleared and uncleared homicide cases
- Have seen an increase in uncleared homicide cases over the past 35 years
- Problematic
 - Often used as a measure of police effectiveness
 - Can make the general population feel uneasy
 - Trauma by victims families without the knowledge of the responsible individual

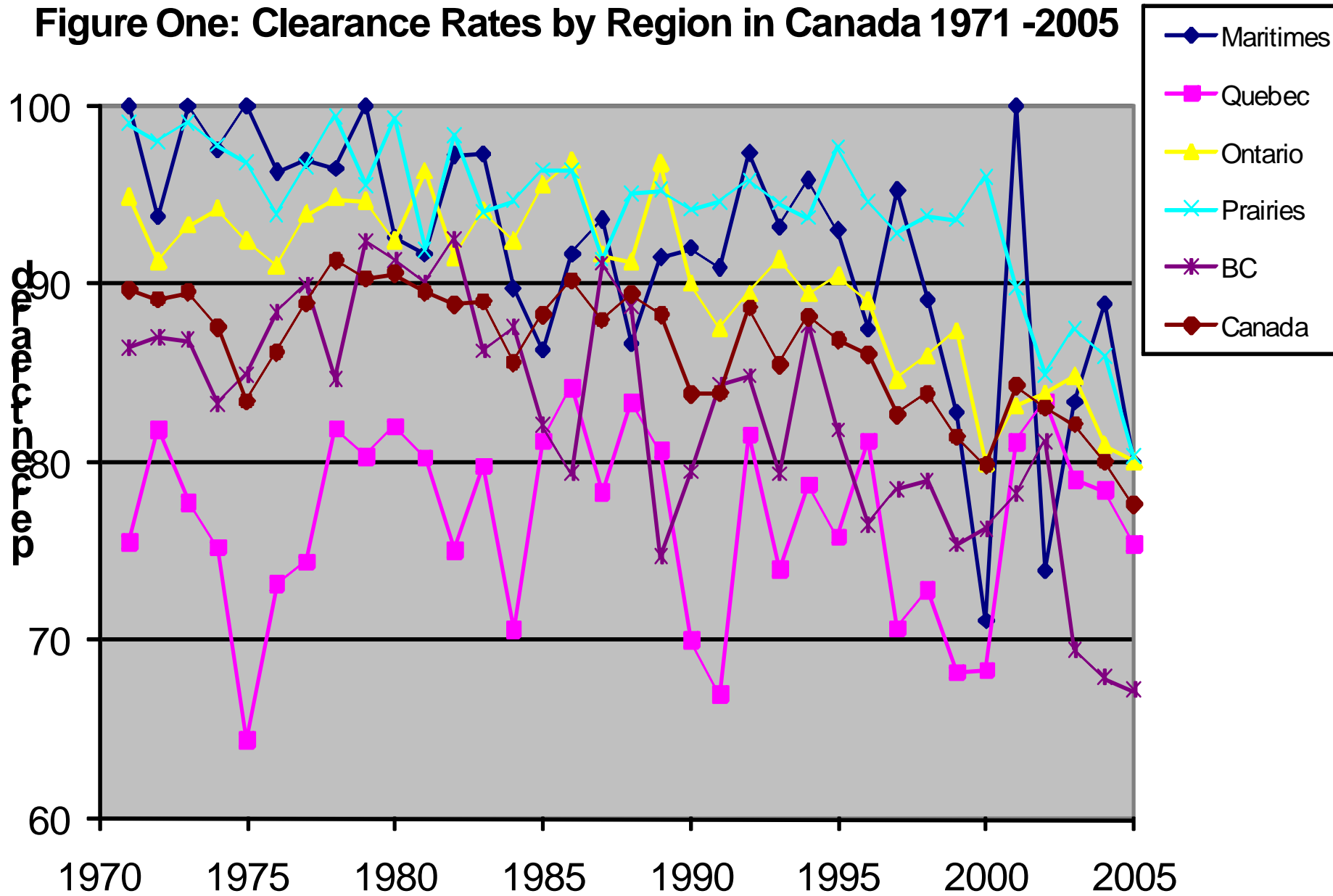
Research into Clearance

- Although there is a large amount of research into homicide very little into homicide clearance especially in Canada
 - Exceptions: Silverman & Kennedy (1987) relationship between victim and offender, Regoeczi et al (2000) US/Canadian comparison, Pare et al (2007) community variation in clearance in Quebec

Time and Geography

- Homicide Clearance Rates have Decreased over time in Canada
 - Clearance in the 60s was approximately 95% for homicide, then around 90% in the 70s, now approximately 85%
- Homicide Clearance Rates are not evenly distributed across the country
 - Quebec has had consistently lower clearance rates, but now BC's clearance rates are similar if not lower

Figure One: Clearance Rates by Region in Canada 1971 -2005



Clearance Changes Expected?

- The clearance rate decrease is not matched with an increase in homicide.
 - Case loads do not seem to be heavier with respect to homicide
 - The provinces with the lowest clearance rates do not have the highest homicide rates in fact Quebec has one of the lower homicide rates, whereas Alberta has one of the higher homicide rates

Theories of Case Clearance: Distribution of Law

- *Black's Theory of Law* (1970, 1976) – police may use discretion in clearing homicide cases based on the social characteristics of victims (male, white, age)
- *Vulnerable Victims* – certain victims are perceived to be more vulnerable than others and therefore police will pay more attention to their cases (women, children, elderly, oppressed)
- *Equality Thesis/Case Dependent* – Wolfgang (1958), Gottfredson & Hindelang (1979) & Klinger (1997) – homicide is the most serious crime – police will give equal attention to all
 - but certain characteristics of the case will effect clearance (location, time, weapon, drugs/gangs)

Measures for Competing Theories

Victim Characteristics

- Women – lower clearance (Black's Theory (BTL))
higher clearance (vulnerable victims (VV))
- Aboriginal victim– lower clearance (BTL), higher clearance (VV)
- Age – higher for older (BTL)
higher for younger (VV)

Homicide Event Characteristics

- Weapon used – lower clearance for guns
- Location of homicide– higher clearance for homes
- Concomitant offence – higher clearance
- Time of day – higher clearance for day time
- Gangs/drugs – lower clearance

Question:

- Are the regional and temporal variations explained away by the addition of other factors?
 - Do victim characteristics explain these differences and changes?
 - Do homicide characteristics explain these variations?

Data and Methodology

- Homicide Survey from the Canadian Centre for Justice Statistics
 - Data include all homicides in Canada from 1961-2005 – utilizing all homicide cases from 1991-2005
- Logistic Regression – form of regression with a dichotomous outcome with independent variables of any type

Table One: Descriptive Statistics of Canadian Homicides 1991-2005		
N=10,580		
CLEARANCE	Uncleared Cases	16.33
GEOGRAPHY		
Region	Quebec	21.64
	Maritimes	5.32
	Ontario	31.64
	Prairies	23.38
	BC	18.02
VICTIM CHARACTERISTICS		
Age Category	under 10	6.38
	10 to 19	9.97
	20 to 29	25.26
	30 to 39	22.23
	40 to 49	17.17
	50 to 64	11.99
	65+	6.98
Gender	male	71.50
Aboriginal Status	aboriginal	11.94
OFFENCE CHARACTERISTICS		
Method	firearm	30.78
Concomitant Offence	concomitant offence	36.65
Location of Homicide	home	57.54
Population Density	urban	63.87
Gangs/Drugs	gang/drug related	18.88
Time of Day	daytime	41.47

Table Two: Logistic Regression Results for the Prediction of Homicide Clearance in Canada 1991-2005 (N=10,510)

	Model One		Model Two		Model Three	
	Odds	SE	Odds	SE	Odds	SE
Year	0.952**	0.006	0.963**	0.006	0.964**	0.007
Region						
Maritimes	2.565**	0.366	2.701**	0.392	1.725**	0.266
Ontario	2.041**	0.143	2.156**	0.156	2.091**	0.165
Prairies	3.525**	0.305	3.408**	0.315	2.650**	0.263
BC	1.290*	0.088	1.291*	0.101	1.116	0.095
Age Category						
under 10			1.445	0.275	1.486	0.294
10 to 19			0.725	0.109	1.762**	0.286
20 to 29			0.478**	0.061	1.242	0.174
30 to 39			0.577**	0.075	1.119	0.156
40 to 49			0.630*	0.084	1.092	0.156
50 to 64			0.772	0.110	1.051	0.158
Gender						
female			1.656**	0.110	1.137	0.085
Aboriginal Status						
aboriginal			1.740**	0.205	1.145	0.144
Offence Details						
no firearm					2.285**	0.145
in the home					2.802**	0.177
no concom crime					0.612**	0.039
daytime					1.059	0.068
no gangs/drugs					2.064**	0.147
rural					2.068**	0.144
model chi-square	-4537.585		-4423.566		-3877.539	
df	6		14		20	
AIC	9087.171		8877.132		7799.079	
BIC	9130.771		8986.133		7958.946	

* $p < 0.01$; ** $p < 0.001$

Discussion

- Time continues to have an effect on clearance
- Geography holds – Québec continues to have the lower clearance probabilities; however, addition of all variables we see BC is no longer different than Quebec
- Little support for Black's Theory of Law – some support for vulnerable victims in Model 2 – there tends to be no gender difference in full model and no difference for natives in the full model – they are mediated by offence characteristics
- It is event characteristics that seem to consistently have an impact on clearance – location, method and whether the offence was gang or drug related are both key factors in clearance of homicide cases

Concluding Remarks

- Although age category, gender and native status appear to lose their impact on clearance as event characteristics are included, I would argue that perhaps interaction exists here and should potentially be examined more thoroughly – need to further look at the 10 to 19 year olds
- Future analysis will include disaggregation by time period and by region
- Future analysis should look at Black's theory with geographical units
- Examination further of region can include characteristics of Policing such as police per capita