A Critical Assessment of the

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Police and Crime Rates in Canada: A Comparison of Resources and Outcomes

Critical Assessment By:

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Introduction

In September 2014, the Fraser Institute published a study by Livio Di Matteo, a Professor of Economics at Lakehead University, entitled *Police and Crime Rates in Canada: A Comparison of Resources and Outcomes*. The study develops a model that is used to assess the "efficiency" of 82 police services in Canada. This assessment model concludes with lists of the 10 "most efficient" and the ten "least efficient" police services based on the data and analytical criteria selected in the model.

This critical assessment focuses on the integrity of the model and the degree to which the model provides insight into the funding and staffing of Canadian police services, and those involved in police governance, management, and policy development.

Premise of the Study

The first sentence of the opening *Summary* of the study lays out the study's primary focus: *"There is rising policy concern in Canada over growing policing costs given that crime rates have fallen dramatically in recent years."*

From the discussion and analysis that followed, it is clear that the focus of the study is on an economic case for lower expenditures on police since there have been falling crime rates, in general, in Canada. This implies that there is an economically "efficient" level of spending on policing that is directly related to crime rates. In this case, less crime, fewer police, and lower government spending (and, presumably, lower taxes) should be the case. However, this is not being realized.

In the third paragraph of the *Summary*, Di Matteo recognizes the complexity of the problem. "Policing has evolved beyond just dealing with crime and includes a wider range of problem social behaviours, which are factors in police and expenditure growth." It is generally accepted that today's police officers are "Type E's" (i.e., everything to everyone), meaning they initiate as well as react to responsibilities, which may include enforcement of laws, crime prevention, emergency management, public-order maintenance, victim aid, and customer-service. Police officers are further required to balance all of the above-noted with court and administrative duties. Responsibilities continue to alter with technological developments, advancements, and social media, which can compound the resource and/or labour-intensive workload.

With the generally accepted "community policing" model come challenges related to the unique nature of each community. There is no outright contemporary community policing model, particularly with increasingly assorted cultures, the expansion of police roles and expectations, socio-economic discrepancies, and religion to name a few. Nevertheless, community policing is based on a philosophy that forms and promotes strong, constructive functioning partnerships/relationships between police services and a community and its stakeholders. Identifying, prioritizing, and problem-solving, targeted citizen-oriented issues, and solutions (not necessarily indications), cause people, vital partner organizations, and the police to come together (Anand, 2009).

Even though there is recognition in the Di Matteo study that contemporary policing has become more complex, and there is general acceptance of greater demands on police services given community needs, the model used in the study, admittedly, does not incorporate the complexity of contemporary policing. In the section of the paper reporting the results, Di Matteo writes that there are influences from "…other micro-level differences such as local variations in crime composition, work-loads, collective agreements, community preferences, and other geographic or police technology issues.

These additional micro-level differences unfortunately could not be incorporated into the analysis due to data limitations." [p.29]. Data limitations are only some of the limitations of this study.

The Data

There are serious deficiencies in the data that were used in the study:

- Data from census years 2001, 2006, and 2011 are used in deriving the model's estimates.
    - The estimates used to determine the "most efficient" and "least efficient" police services are for 2011. The estimates based on the historical, census data are for a point in time - 2011. Should there have been changes in, for instance, rising or falling crime since 2011? These estimates would not necessarily reflect the efficiency of a police service in, 2013. The conclusions reached using this data should not be the basis of current management practices or policy recommendations.
- The data used is for Census Metropolitan Areas (CMAs).
    - Of the 15 CMAs in Ontario, only 14 are used in the study. (Why is the Oshawa CMA excluded and not addressed?) Of the 14 Ontario CMAs in the study, only one – the CMA of Greater Sudbury – closely matches the police area for that area. However, within that area are two First Nations police services, making the Greater Sudbury area served by more than one police service. The areas served by police services in Ontario do not correspond to Census Metropolitan Areas used in the study.
    - There is no mention in the study that CMAs do not correspond to the geographical areas served by police services. CMA data cannot be assumed to be an accurate reflection of the realities of the areas the police services in this study serve. As recognized in the study, there are data limitations; it would be difficult, but not impossible, to collect data only for the areas served by police services. Even though the Canadian Centre for Justice Statistics does have a method to determine the relationship between police services and CMAs it is not used, or even mentioned in the study. The Canadian Centre for Justice Studies does not provide police service expenditure by CMAs.
    - CMA data is much more convenient to collect, however, does not match the subjects being studied. Making judgments on the efficiency or inefficiency of a specific police service based on data that is not specific to the area that any police service serves brings into question the reliability of the conclusions and their use in police governance, management, or policy development.

The Model

The dependent variables (i.e., the measures that are being influenced by the factors chosen by the author) in the model are from CMA data (i.e., not data from the geographical areas of the police services used in the study).

There were two dependent variables chosen for the study:

1. "Criminal code incidents per 100,000 population for Canadian CMAs," and
2. "Police officers per 100,000 of population for Canadian CMAs."

These two measures provide the basis of the assessment of those police services that are ranked as "most efficient" or "least efficient." The variables chosen to explain the dependent variables were also based on CMA data. These were geographical and socioeconomic factors chosen to explain the two dependent variables.

Several observations about the nature of the model that are worth considering:

- The only measure of police activity included in this model is the number of "criminal code incidents per 100,000 population…" This suggests that the number of criminal code offences is the primary determinant of the activities of a police service. Several concerns arise from this assumption:
    - The Ontario *Police Services Act*, Sub Section 4(2) states that a "… Police Service must include, at a minimum, all of the following:
        - crime prevention
        - law enforcement
        - assistance of victims of crime
        - public order maintenance
        - emergency response."

      "Criminal code incidents", central to the results that come from this model, only address one – "law enforcement" – of the five responsibilities of police services as defined by the *Act*. This model neglects a contemporary view of policing in favour of a common model of the past that emphasized law enforcement. Even though there are references to the complexity of contemporary policing in the study, the model does not reflect that reality.
    - To provide a sense of the scope of contemporary policing, beyond law enforcement, recent information from the Peterborough-Lakefield Community Police Service reveals:
        - Of 33, 856 9-1-1 calls received in 2013:
            - 60% were for police service
            - 34% were for EMS
            - 6% were for fire service.

          Many EMS and fire calls require a police response. Of the calls that were police-related, 82% were non-criminal in nature. However, all involved police related work.

The Results

There is a statistically significant (at the 5% level)[1] relationship between the number of officers and the number of criminal code incidents (per 100,000 population across the 82 CMAs studied) – that is, more officers, less crime. The regression analysis used to explain the two dependent variables offered the following results:

- For the dependent variable "Criminal code incidents per 100,000 population for Canadian CMAs"
    - All areas outside of Ontario have higher, statistically significant, levels of criminal code incidents
    - The socioeconomic factors that are found to be statistically significant (i.e., at the 5% level or better) are:
        - "Proportion Single Parent Families" a positive relationship – that is, the higher the proportion of single parent families, the higher the number of criminal code incidents;
        - "Proportion Aboriginal" - a positive relationship – that is, the higher proportion of aboriginal people, the higher the criminal code incidents

      No other socioeconomic factors (population density, income, unemployment, proportion of the population aged 15 to 24) proved to be statistically significant (at the 5% level or better).
    - The socioeconomic factors (i.e., the independent variables) included in the model "explained 36% of the variation in crime rates" (p. 29). That is, this model does not explain 64% of the variation in crime rates. The author offers a comment "suggesting there are other unexplained local differences that account for variations in crime rates" (p.29). That is, almost two-thirds of the factors leading to variations in crime rates are not included in the analysis that leads to a conclusion regarding the 'most efficient' and 'least efficient' police services.
- For the dependent variable, the number of "Police officers per 100,000 population for Canadian CMAs".
    - Geographically, only the West has a statistically significant, lower level of police officers per 100,000 population for the CMAs studied than Ontario;
    - The socioeconomic factors that are found to be statistically significant (i.e., at the 5% level or better) are:
        - "Population Density" – the higher the population density the fewer police officers;

[1] Statistical significance at the 5 % level implies that there is only a 5 % chance that the observed statistical relationship is not reliable, or 95% sure that it is reliable. Therefore, statistical significance at the 1% (rather than 5% level) indicates greater reliability of the estimate. Generally it is common practice to assign statistical significance does not necessarily mean economic significance.

- "Median Family Income" – the higher the median income is associated with more police officers;

No other socioeconomic factors (unemployment rate, proportion of the population aged 15 to 24, proportion of single parent families or aboriginal peoples) proved to be statistically significant (at the 5% or better level).

- The socioeconomic, independent variables included in the model "explained 39% of the variation in crime rates" (p. 29) for the CMAs investigated. That is, this model does not explain 61% of the variation in the number of police officers. The author suggests that this "…could be the result of other micro-level differences such as local variations in crime composition, workloads, collective agreements, community preferences, and other geographic or police technology issues" (p.29), That is, almost two-thirds of the factors accounting for the variation in the number of police officers are not included in the analysis that leads to a conclusion regarding the "most efficient" and "least efficient" police services. In recognition of the unaccounted for factors, the author writes, "These additional micro-level differences unfortunately could not be incorporated into the analysis due to data limitations." There are, however, "micro-level" data available (see the section entitled Alternatives, below) that could be incorporated into a more comprehensive, realistic, and informative model of police service "efficiency".

Other Considerations

There are some additional observations that must also be made concerning that nature of this study:

- The term "police force" is frequently used. In contemporary discussions the term "police force" tends to refer to the model of police that was dominated by law enforcement from a more militaristic perspective. A "police service" implies the broader range of social responsibilities that is consistent with common practices in community policing.

- In building the analytical foundations for the analysis, Di Matteo's reference to recent findings more often than not referred to studies undertaken in the United States rather than utilizing available existing Canadian research and information from relevant peer countries available through the United Nations Office on Drugs and Crime (UNODC).

- Policing strategies may differ across police services due to the characteristics of a community, the complexities of crime, effective policies and priorities of a police service as well as the relationship, and reporting lines with the local Police Services Board. These factors are not recognized in the Di Matteo study.

A Police Services Board is a collection of civilian members that represent the community's interests, and provides oversight to ensure service delivery and effective policing for a community. Police Services Boards acknowledge challenges and issues in policing based on ever-changing factors such as emerging crime trends that often differ across police services, demographic shifts, and emerging technologies. With the complexity and diversity of issues being experienced in policing in Canada today, the central role of Police Service Boards in overseeing the "efficiency" of their service must be taken into account in any analysis of policing.

Implications

The purpose of Di Matteo's study was to determine the "efficiency" in the delivery of police services. This determination was done by using the results of the analysis to estimate the number of officers the model suggests are required in each CMA, then evaluate the estimate relative to the actual number of officers in the CMA. Based on the model used and the result attained, the 10 locations where the actual number of officers is lower than the estimated number were deemed "most efficient" and the 10 where the actual number of officers is greater than the estimate were deemed the "least efficient." The integrity of these results, especially regarding their relevance to those responsible for public policy related to policing, must be viewed critically in light of the following:

- Only data for Census Metropolitan Areas (82 of them) were included in the study; data for the actual geographical areas police services serve was not used,

- Only the number of Criminal Code incidents (per 100,000 population in the CMAs studied) were used to represent the activities of police,

- The only statistically significant (at the 5% or better level) socioeconomic factors found to explain the number of Criminal Code incidents (per 100,000 population in the CMAs studied) were the proportion of single parent families, and the proportion of aboriginals (both contributing positively to the number of incidents),

- The only statistically significant (at the 5% or better level) socioeconomic factors found to explain the number of police officers (per 100,00 population in the CMAs studied) were population density (contributing negatively to the number of officers), and median family income (contributing positively to the number of officers), and

- Only one-third of the variations in Criminal Code incidents and the number of officers (the variables are the heart of the analysis) can be explained by the explanatory factors included in the model – two-thirds is unexplained.

Overall, the basis of the "most efficient" and "least efficient" rankings are based on a narrowly defined model that offers little insight into the actual operations of police services, or their "efficiency."

Alternatives

There are a number of occasions in this study where Di Matteo does not include relevant factors in the analysis due to, what he describes as "data limitations." This should not be interpreted as suggesting that there is no data that could provide insight into the assessment, even perhaps efficiency, of the provision of police services. In the study, many different sources of information are mentioned and some data from various measures is offered. However, the data that was used to reach the efficiency conclusions is a small subset of all the relevant data available.

Below are examples of data that are available to offer insight into policing and could be used in a more thorough and insightful assessment of efficiency in policing. More current data regarding an area that was identified in the Di Matteo study as one of the 10 "least efficient", Peterborough, ON, is provided to offer some sense of the nature of the data that could be used in assessing the "efficiency" of a police service.

- There is relatively recent crime data (i.e., 2013 data is currently available, whereas 2011 data were used in the Di Matteo study) that is specifically related to police services that is much more informative than simply Criminal Code incidents. These include:

    - The Violent Crime Severity Index

        - This index number for the Peterborough-Lakefield Community Police Service in 2013 (76.08) was slightly higher than the national value (73.7), and higher than the value for Ontario (61.89)

    - The Non-violent Crime Severity Index

        - The Peterborough Lakefield Community Police Service value in 2013 for this measure (62.5) was lower than the national value (66.76), but higher than the Ontario value (48.96).

    - The Overall Crime Severity

        - For this measure in 2013, the Peterborough Lakefield Community Police Service (66.22) was lower than the national value (68.72), but higher than the Ontario value (52.49).

  This data was collected through the Uniform Crime Reporting Survey from Statistics Canada.

- The Uniform Crime Reporting Survey from Statistics Canada also offers data regarding specific police service Clearance Rates (i.e., the proportion of cases opened and closed in a calendar year).

    - In 2013, the Peterborough Lakefield Community Police Service 'cleared' a larger percent of its cases (55%) when compared to Ontario (44%) and Canada (41%).

- As an alternative to the number of police per 100,000 population in CMAs the population per police officer (popularly referred to as "Cop to Pop") for specific police services is readily available.

    - In 2013, there were 649 people per police officer in the area served by the Peterborough Lakefield Community Police Service. In Canada, there were 508 people served per officer, and 515 people served per officer in Ontario.

- Based on the actual expenditures on policing by municipalities in Ontario, the data compiled by the Ontario0 Ministry of Municipal Affairs enables the comparison of municipal police service costs per capita to be readily available.

    - For 2012, the cost per person in the area served by the Peterborough Lakefield Community Police Service was $286.40. The cost per capita across Canada was $378.00 and $336.62 per capita in Ontario.

Conclusion

The Di Matteo study of police "efficiency" provides little insight into the realities of contemporary policing in Canada. The data used – CMA data rather than data for the actual police service areas – puts the analysis on weak foundations. Using Criminal Code incidents as the only measure of police activity belies the realities of today's police service obligations, responsibilities, and activities. The explanatory power of the model is poor.

The deficiencies of this study should be taken into account when assessing the veracity of the conclusions. Inevitably, the conclusions of the study, especially for those communities on the "least efficient" list, will be used for political purposes without regard to the study's deficiencies. For those involved in police governance, management, and policy development, there are many other sources of relevant and current data that can be appealed to, and more comprehensive and realistic approaches available, in assessing the effectiveness and "efficiency" of Canadian police services.

Biographies

Thomas F. Phillips, Ph.D.

Dr. Tom Phillips a retired member of the faculty at Fleming College since 1986. He is currently an Adjunct Professor in Business Administration and the Masters in Sustainability Studies programs at Trent University. He has an Honours B.Sc. from Trent University, M.A. from York University, and Ph.D. from the New School for Social Research in New York City – all in Economics. His primary research interests are in economic growth and community economic development. In the Peterborough community he has been a member of the Board of Governors of Trent University, and a Director at the Y.M.C.A., Greater Peterborough Area Economic Development Corporation, Art Gallery of Peterborough, Peterborough Community Access Centre, and Jr. 'A' Lakers Lacrosse Club – to name a few. At Fleming College, he received the Community Service Award in 2007. From 2007 to 2012, Dr. Phillips was seconded to the Greater Peterborough Innovation Cluster where he provided economic and planning support for faculty and organizations at various stages of research, innovation, and commercial development.

L. Faith Ratchford, Ph.D.

For more than twenty-five years, L. Faith Ratchford was a Professor at Fleming College in Peterborough, Ontario. She held various positions, including coordinating the high-profile Police Foundations Program for aspiring police candidates. In addition, Ratchford has facilitated courses for both Trent and Athabasca University.

Her passion in justice studies and global partnerships has included working and providing student and faculty experiences in New Zealand, Western Australia, India, Oman, and Qatar. Recently, Dr. Ratchford has lived and worked in the Middle East, developing curriculum and training modules for the security and emergency management fields. She is passionate about implementing Problem-Based Learning (PBL) as an instructional technique.

Previously, Dr. Ratchford was employed as a Police Constable and formerly held various positions with the Ministry of Correctional Services.

She received her Ph.D. in Sociology and Equity Studies from the University of Toronto, where her research concentrated on educational credentials in policing.