

Comment on “Assessing São Paulo’s Large Drop in Homicides: The Role of Demography and Policy Interventions”

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Version 09/09/09

Joao De Mello and Alexandre Schneider (henceforth, DMS) present and discuss a remarkable social phenomenon: after increasing significantly over the 1990s, homicide rates in the State of Sao Paulo, Brazil, roughly halved in the first quinquennium of this century. Readers expecting some sort of magic policy formula to produce this fabulous trend would be disappointed. The authors’ explanation for the sudden drop in the number of homicides is as far from policy as one can get: they attribute the decline to long run demographic trends.

DMS argue that a question of timing discards policing innovations as the most likely explanation of the decline, as the majority of the new policies were implemented after the crime rate began to fall. It should be fair to note, however, that while it is true that crime peaked in 1999, most of the decline occurred after 2001: homicides per 100,000 inhabitants were around 50 in 1999, about 45 in 2001 and close to 20 in 2006 (Figure 2). The bulk of the decrease either followed or was contemporaneous with most of the policy innovations listed by the authors in Table 1.

Also, the authors' interpretation of the decrease the arrest/population ratio –namely, that arresting became more lax or that it just accompanied the decrease in crime rates– is misleading. While the rate of arrests declined just 15% after 2001, homicide rates fell around 55%. If homicides are a proxy for crime in general, as the authors argue, then the *probability of arrest* –the relevant measure for crime deterrence– increased by around 90% ($0.85/0.45=1.88$). Such an increase in deterrence should appear at least as a serious candidate to account for some of the reduction in crime rates.

One of the reasons why the authors think that something deeper than policy changes has been behind the bewildering fall in crime rates in Sao Paulo is the supposedly similar crime trend elsewhere in Brazil. These similarities, however, are on the eye of the beholder and in the scaling of the graphs. My own impression is that there's something Paulista about Sao Paulo: the decline in the homicide rate from the previous peak was 53.5% (peaked in 1999), compared to around 18.2% in Rio (2002), 4.5% in Minas (2004), 2.7% in Rio Grande (2005), 9.5% in Pernambuco (2001), 8.7 in Amazonas (2003) and 4.7% in Goiás (2004). There is a very large Paulista specificity going on that demands a Paulista explanation.

DMS contend that the homicide rate rose and fell hand in hand with the percentage of young people in Sao Paulo’s population. The share of the population in the “Trouble Age” (15-24) reached a maximum around 2000, as the populous cohort born around 1980 turned 20; as this numerous “Trouble Cohort” matured, homicide rates declined.

As a first approach to measure the effect of age structure on homicides, DMS present the murder rates that would have prevailed in each year t if the age-specific homicide rates of a base year are applied to the age structure of that year t . This counterfactual estimate is compared to the actual evolution of homicide rates. The visual effect of this superimposition of curves (Figures 11 and 12) is impressive: actual homicide rates and homicide rates predicted solely by changes in age structure move hand in hand.

The unusual practice of using axes with different scaling for actual and predicted values, however, makes the exercise quite deceptive. A visual correspondence between the trends of predicted and actual homicide rates obtains only when one of the axes (actual rates) varies between 100 and 200 and the other spans only from 100 to 104. With the same age-specific murder rates of 1984, the variation in the age distribution would have accounted for changes in homicide rates from an index of 100 in 1984 to a maximum of around 104 in 1999 and back to around 100 in 2004. The curve of actual homicide rates shows the same inverted-U pattern, though with a much wider amplitude. Homicide rates reached almost 190 (1984=100) in 1999 and fell to around 150 in 2004.

The bottom line should be that most of the change in overall murder rates has to be accounted for not by variations in age structure but in age-specific crime rates. For the DMS argument to be correct, an increase in the proportion of the "Trouble Age" group would have to lead to an increased incidence of crime among youngsters and/or among other age groups, a far from obvious connection on which most of the demographic argument should rest given the weak direct effect of age structure estimated in their counterfactual exercise.

The authors explore econometrically the connections between age and crime across Paulista cities, in panel data exercises covering fifteen years. The estimates come with a steep age-elasticity of homicide rates – up to 5% in the highest case, implying that a 1% increase in the "Trouble Age" population leads to a 5% increase in homicides. Again, such a high number implies a change in age-specific homicide rates as a result of variations in age structure. It is only natural to wonder whether the omission of additional variables is affecting these results. For example, variables related to economic conditions –which are discarded in the abstract but never discussed in the paper– and to security policies –harder to measure– are among the most striking omissions.

While demographic trends can certainly be a source of movement in crime rates in general and homicide rates in particular, changes in age structure normally –ie, in the absence of episodes such as wars or massive migrations– move at low speed. Unless some very powerful externalities and scale effects are at work, they are, thus, hardly capable of explaining wide short-run variations in aggregate crime behavior, such as the one observed in Sao Paulo.

ADDENDUM FOR THE EDITOR:

Author often quoted as "Zimiring" in the paper is actually "Zimring".