

Peer Review Report

Review Report on Are wealthier times healthier in cities? Economic fluctuations and mortality in urban areas of Latin America

Original Article, Int J Public Health

Reviewer: Richard Cooper

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EVALUATION

Q 1 Please summarize the main findings of the study.

This report utilizes the SALUBRAL data resource generated by the Drexel research group and investigates whether total and cause-specific mortality varies in relation to temporal changes in GDP in a large sample of Latin American cities. The principal finding is pro-cyclical relationship for the sample as a whole, driven primarily by CVD, and large in women than men. A countercyclical trend is observed for homicide. In appears the Mexico and Brazil, the two largest countries, have a smaller or null relationship to changes in levels of GDP. The authors offer a range of potential interpretations, which unfortunately cannot be tested specifically with the available data.

Q 2 Please highlight the limitations and strengths.

The short-term trends in mortality associated economic growth or contraction has been studied in a wide range of social units. Contrary to the standard "naive" notion, a pro-cyclical pattern is more commonly observed,

The major strengths of this report are the large sample size of cities and the availability of recent data. Disaggregation into gender, cause of death, and by SES level adds further insight into the underlying phenomenon.

The primary concern with demographic studies of this character relate to the quality and completeness of the data that are available, and how limitations in the data are addressed. The authors provide a careful description of the procedures that were used, although much of the primary information is included in the cited literature. The quality of vital records data continues to improve in LA, although a substantial number of events are likely to be missed – primarily in more rural areas. Assignment of cause of death is a very complex problem and it would have been helpful if the authors had stated whether any validation studies have been conducted in the countries that were studied. Sudden or unobserved death is a particular problem, and usually accounts for approximately 1/3 of CVD mortality. On the hand, since the primary focus is on trends it is generally assumed that systematic biases do not change rapidly over time, and would not preclude an analysis of the type undertaken here.

Q 3 Please provide your detailed review report to the authors. The editors prefer to receive your review structured in major and minor comments. Please consider in your review the methods (statistical methods valid and correctly applied (e.g. sample size, choice of test), is the study replicable based on the method description?), results, data interpretation and references. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

Concerns:

Major: This report is intended primarily for a specialist audience, that would in general already be familiar with the general aspects of data quality, For the no-specialist, however, it would be important if some – perhaps

brief – discussion was directed to the problem of quality and completeness of the data. It is understood that imputation is required, and given the number of demographic units it would be difficult to generalize, but some range of estimates on this issue would be useful.

A variety of models are used, as summarized in Table 2. In descriptive studies of this sort the investigators are free to choose from a range of available options, in contrast to an RTC where the outcome and the method of analysis are specified ahead of time. It would be important to know if the analysis that is presented followed a pre-existing plan, or whether there was a need to shift focus and alter the methods once the data were being examined.

A number of sub-group outcomes are presented, although fortunately there is a clear trend in one direction. A pro-cyclical relationship would most likely have been predicted ahead of time, since that is what has become more common in modernizing societies. The major deviations from that pattern are the larger effect in females and the contrast between Brazil and Mexico with the rest of the sample. The authors provide some speculative remarks about the potential reasons for this results, but the gender difference in particular is not entirely satisfactory. Perhaps it would be useful to put the gender-specific results in the context of the broader literature.

A major quandary that arises from studies of this character is more or less simultaneous relationship between trends in economic growth and mortality. All the main causes of death, except infections, are long-term processes, so some acute event must be occurring that increases mortality among those who are already highly susceptible. Given the data available it is recognized that there is no basis for identifying an empirical answer to that issue. However some further attempt to illuminate this issue would be helpful. Air pollution is certainly the most obvious candidate it seems likely that some data on trends in air quality with GDP should be available and they could be briefly summarized. Other investigators have invoked the nebulous factor labelled "stress", which is not of any explanatory value.

PLEASE COMMENT

Q 4 Is the title appropriate, concise, attractive?

Yes

Q 5 Are the keywords appropriate?

Yes

Q 6 Is the English language of sufficient quality?

Yes

Q 7 Is the quality of the figures and tables satisfactory?

Yes.

Q 8 Does the reference list cover the relevant literature adequately and in an unbiased manner?)

Yes

QUALITY ASSESSMENT

Q 9 Originality



Q 10	Rigor	<div><div></div><div></div><div></div><div></div><div></div></div>
Q 11	Significance to the field	<div><div></div><div></div><div></div><div></div><div></div></div>
Q 12	Interest to a general audience	<div><div></div><div></div><div></div><div></div><div></div></div>
Q 13	Quality of the writing	<div><div></div><div></div><div></div><div></div><div></div></div>
Q 14	Overall scientific quality of the study	<div><div></div><div></div><div></div><div></div><div></div></div>

REVISION LEVEL

Q 15 Please make a recommendation based on your comments:

Minor revisions.