



Response to “critically reflecting on Loh's “trends and structural shifts in health tourism””



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In May of 2015, I published a paper in this journal entitled “Trends and structural shifts in health tourism: Evidence from seasonal time-series data on health-related travel spending by Canada during 1970–2010” (Loh, 2015). The study aimed to examine the trends in health tourism and their association with changing domestic health care market characteristics. The econometric modeling take into account a potential change in the trend structure, referred to as a structural break, derived from the shifts in the health traveler demographics and the types of health services sought abroad. The analysis employed the Health Related Travel (debit series) of the Balance of Payments Statistics (BOPS) database, which is maintained by the International Monetary Fund (IMF) as a proxy for health tourism activity. I identified a structural shift point which marked the beginning of an accelerated growth and a flattening seasonality in Health Related Travel spending (HRT). I also found that HRT is responsive to domestic market characteristics during the post-break period but not during the pre-break period. Given the timing of the break point and the characteristics of the pre- and post-break period differences, I suggested a possible linkage of the structural break to the inception of General Agreement on Trade in Services (GATS) on January 1, 1995.

In a commentary published in this issue of Social Science and Medicine, a set of Canadian researchers offer several criticisms of the paper (Crooks et al., 2016). Their assessments cover four areas, which I respond to respectively below.

1. Responses to limitation 1: lack of definitional clarity

In my paper, health tourism is conceptualized as “embodying the activities of consumers traveling abroad for health services and

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medical procedures” (Loh, 2015, pp. 173). The dependent variable of interest, Health-Related Travel (HRT) from the BOPS database, is consistent with this broadly defined notion. This variable was also employed in other recent studies that focused on health services consumption abroad in general (Lautier, 2008, 2014; Loh, 2014). My econometric model is specified to examine the association between factors that most often relate to medical tourism, likely the most significant part of health tourism defined in the paper. The other part of health tourism, specifically wellness tourism, should be less likely to respond to these factors because of its non-urgent nature. Thus, the findings that HRT is responsive to these influences during the post-break period, but not during the pre-break period, may also partly reflect the increasing importance of medical tourism in the broadly defined category of health tourism.

2. Responses to limitation 2: what exactly does the BOPS capture?

My study does not consider the further differentiation of “cross border care agreements” and “routine care accessed by expatriates” from broadly defined health tourism. These sub-categories also reflect the demand in excess of the domestic physical supply of health care, which is what the broadly defined health tourism notion covers. I agree that travelers accessing emergency health care when they are ill or injured abroad should be separated from the notion of health tourism because emergency medical care is not the intent of the travel. While such activity cannot be separated from the HRT variable, the results in my analysis seem to be largely robust relative to the inclusion/exclusion of such type of activities for several reasons. Since a medical emergency is a random incident, it is safe to assume that the probability of such events remain fairly stable over time. If the average cost of medical emergencies grows at the same rate as the rest of the HRT spending over time, the spending on emergency medical care should be roughly proportional to the HRT. As all statistical relationships estimated in my analysis were identified using variation over time, my results on the HRT should be no different from those that would have been obtained had emergency medical care spending been excluded from the HRT.

However, if the proportion of emergency medical care spending in the HRT varies over time, my examination of the HRT as a share of

personal travel spending (HRT Share; Loh, 2015, pp. 176) will also be helpful because the total personal travel spending, which is also subject to this proportion, is employed as a control. To see why, let PT_t denote the personal travel spending and $NHRT_t$ the non health-related travel spending at time t ; so $PT_t = HRT_t + NHRT_t$. Assume that the proportion of travel spending related to emergency health care during any type of travel is a time varying p_t . The HRT Share can thus be expressed as

$$\frac{HRT_t}{PT_t} = \frac{HRT_t}{(HRT_t + NHRT_t)} = \frac{HRT_t(1 - p_t)}{(HRT_t + NHRT_t)(1 - p_t)} \quad (1)$$

The last numerator in Equation (1) is HRT less emergency health care spending, while the last denominator is personal travel spending less emergency health care spending. That is, the HRT Share variable can be considered as free of emergency health care spending. My analysis of HRT Share resulted in the same structural break point, and the same finding that the association with the covariates exists during the pre-break period but not during the post-break period (Loh, 2015, Table 3). The fact that my conclusions based on both HRT and HRT Share are quite similar is a strong indication that emergency medical care spending has a small role in the findings.

3. Responses to limitation 3: mischaracterizations and misunderstandings

Crooks et al. raise a question stating “While [Table 1 – Health related travel services spending by country] provided does show Canada as the highest total spender on health-related travel services ..., there is no rationale provided for the countries against which it is contrasted, nor are the examples of spending adjusted for population or income.” This is a reasonable, although minor, inquiry. Other than those reported in the table in my original paper (Loh, 2015, Table 1), countries that have some data in the debit series of the Health-Related Travel variable in the BOPS database include Armenia, the Bahamas, Belarus, Belgium, Belize, Costa Rica, Cyprus, Czech Republic, El Salvador, Estonia, Ethiopia, Georgia, Germany, Hungary, Macedonia FYR, Malaysia, Moldova, Morocco, Mozambique, Tonga, and Turkey. None of these countries have greater Health-Related Travel spending than Canada. Recognizing the fact that countries whose data are unavailable in the BOPS database may not necessarily all have smaller Health-Related Travel spending than does Canada, I stated “Canada is among countries with the highest spending on health tourism”.

Crooks et al. alerts readers regarding my reference to a “non-peer reviewed” wait time statistics produced by the Fraser Institute, a “think tank well known in Canada for its reputation of producing ideologically driven research”. I agree that caution should be used when citing statistics from non-peer reviewed sources, whether they are reports from the Fraser Institute, which Crooks et al. criticized me for citing, or industry reports, which Crooks et al. cited in their commentary. Regardless of the quality of wait time statistics produced by the Fraser Institute, the wait time issue being underscored is an undisputable challenge faced by the Canadian Health Care system.

Crooks et al. also stated that “Loh’s analysis is unable to distinguish the effects of wait times on Canadians traveling for care from other factors that are also known to be at play, such as the availability of domestically unapproved procedures abroad, patient perceptions of care quality, and the affordability of un/underinsured procedures such as cosmetic surgeries and dentistry” This is, in a large part, due to a misconception regarding my econometric procedure. In the first stage of the modeling, variables are included to capture domestic wait time and price related association. The residuals from the first

stage, \tilde{y}_t (Loh, 2015, pp. 176, Equation (1)), reflecting the remaining variation including those due to other factors, are sequentially employed for the identification of the structural break in the data and the truncation lag. This is also the reason why my interpretation of the structural break can be conceptually separated from domestic wait time and price factors.

Crooks et al. states that “Loh’s discussion illustrates a lack of familiarity with the Canadian system by asserting “Canadian consumers, facing persistent wait lists under the public system, were more able to respond to the shortage and the rising cost of domestic private alternatives by seeking health services offered in foreign countries” (Loh, 2015, pg. 179). Indeed, a defining feature of Canadian health care is that there is no private alternative for medically necessary and publicly insured care (i.e., public specialist care where queues are utilized)” Perplexed by the reason underlying their assertive criticism on my familiarity with the Canadian system, I am more than happy to point out a few aspects of the Canadian system which these researchers seem to have overlooked.

First, since a health service covered by the provincial health insurance in one province may not be covered by the provincial health insurance in another, the service can exist in both public and private forms within Canada. For example, a Quebec patient seeking in-vitro fertilization (IVF) treatment may consider purchasing the service in a private fertility center in another province as a private alternative. (Note: Quebec has been the only province in Canada to publicly insure IVF treatment. Ontario is joining the short list in December 2015.)

Second, private alternatives exist even within the same province. While federal law does not allow private clinics to provide services covered by the Canada Health Act, many private clinics do perform some medically necessary services (MRI, knee and hip surgery, etc.) and charge an overhead fee on top of the funding provided by the provincial health insurance policy (Lett, 2008; Glauser, 2011). In addition, alternative medicine can be a substitute for conventional medical treatment for health problems such as musculoskeletal system injury, etc. and is mostly private in Canada.

Researchers interested in studying Canadian health tourism should not limit the understanding of how the Canadian system works to a stereotypical “defining feature”. The facts I offered here are not trivial and have important implications for understanding the decision making processes of Canadian health tourists in reality.

4. Responses to limitation 4: looking to the general agreement on trade in services

Crooks et al. suggest that “A significant shortcoming ... is that he is not able to show that Canadians’ international health spending took place in countries that had liberalized consumer access to health services”. Indeed, without detailed bilateral trade data, it is impossible to assert that the spending took place in countries that have committed to GATS. This is why I only suggest GATS as a contextual factor, or a possible explanation. It is no different from what empirical researchers have to repeatedly face when conducting inferential statistics.

Crooks et al. also states “Mode 2 under GATS (this being the Mode that medical tourism falls under) – and we say this noting that we have already pointed out above that the BOPS data used draws together multiple mobilities, many of which would not fall under GATS Mode 2, and is thus not specific to medical tourism”. This statement is contrary to the literature, which suggests that the health-related travel expenditures in BOPS are a proxy for GATS’ Mode 2: health services consumption abroad (Lautier, 2008, 2014; Karsenty, 2001).

Beyond providing some clarifying details in my analysis relative to misunderstandings in the commentary, I will comment on

another statement made which reads “*there are international groups whose sole purpose is to advance the medical tourism industry, such as the Medical Tourism Association, who may seek to spread the message in Loh’s paper - that Canadians’ pursuit of “health tourism” is increasing - because this message is advantageous for their agenda.*” I do not believe that researchers should consider whether the message will be advantageous or disadvantageous for a certain interest group’s agenda when deciding if evidence should be presented. Such a mindset will most likely lead to publication bias in the literature in health tourism, as well as in all other research areas.

5. Other misunderstandings

In the commentary I find a misleading statement, which I shall point out: In the first paragraph of the commentary it states “*Loh asserts that 1995 marks a “structural shift” in the cycle and volume of health tourism by Canadians, coinciding first with the signing and implementation of the General Agreement on Trade in Services (GATS), an international trade agreement that liberalizes global trade in services, ...*” In fact, I suggest that the implementation, not the signing of GATS, was a possible explanation for the structural break.

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