WINNING STREAKS: A PROXY FOR EFFECTIVE ELITE SPORT POLICIES?

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Synopsis:
This paper is concerned with measuring whether continuous improvement (or 'winning streaks') in the Olympic Games can be used as a proxy for a nation having an effective elite sport development system.

Abstract:
AIM
In the Olympic Games it is unusual for nations to show sustained periods of continuous improvement in the total number of medals they win. In most cases, nations that win medals tend to fluctuate up and down randomly and patterns of continuous improvement (and indeed decline) are comparatively rare. A period of two or more Olympic Games showing growth from an initial baseline is what we call a 'winning streak'. Between 1896 and 2012 the Olympic Games has been staged 27 times and the total number of participation occasions for all National Olympic Committees is 2,555. During this period there have been 57 occasions when a nation has increased its totals medals won in two consecutive editions of the event; 22 occasions of three editions of continuous improvement; and just seven occasions of four editions of continuous improvement. The aim then of this paper is to test whether or not winning streaks provide any insight into nations having an effective elite sport development system.

LITERATURE REVIEW

There had been plenty of research into the economic determinants of Olympic success since the 1950s (for a full review see De Bosscher 2007). These researchers were primarily concerned with quantifying how many medals nations would reasonably be expected to win given their macro economic resources such as population, wealth and other variables such as climate, religion and type of government. The headline finding from these studies is that typically the two variables of population and wealth (measured as Gross

Domestic Product per head of population) explain just over half (c. 53%) of nations' success in the Olympic Games. Other significant variables include being a former communist country (De Bosscher 2007 op. cit.); being host nation (Shibli et al 2012) ; and previous performance (Bernard and Busse 2004). Previous performance is typically operationalised as share of medals won in previous editions of the Olympic Games, for example t-1 and t-2. The hypothesis for this research is that continuous improvement in total medals won in two, three or four editions of the Olympic Games is evidence of a successful elite sport development system. That is to say that the observed improvements are the result of initiatives put in place such as the 'Nine Pillars' outlined in the SPLISS model (De Bosscher et al 2008) and are not due to unrelated factors such as increases in population and wealth.

METHODOLOGY
The research is currently a work in process. Following the London 2012 Olympic Games we have a database of all nations that took part in London 2012; their macro economic data such as population and wealth; and, numerous measures of medal winning success and non-medal winning success (e.g. Olympians produced and places 4-8). In a separate database we have the medal winning performance of all nations that have won at least one medal since 1896. For the EASM conference we will bring these two databases together to establish whether the 'winning streaks' variable is significantly and positively correlated with medal winning success. Should this prove to be the case we will add the winning streaks variable to our multiple regression model to identify whether it adds anything to our existing model which currently explains 53% of success.

RESULTS
Early analysis of the data appears to be promising. In 2012 there were two nations which were on a four edition winning streak and which have a chance of achieving the first ever five edition winning streak in 2016. These two nations are the United Kingdom and Azerbaijan. The United Kingdom is known to have invested heavily in its elite sport development system since the Sydney Olympiad including an investment of £264m in the London Olympiad. From 1996 the UK's total medals won has increased as follows: Atlanta 1996, 15; Sydney 2000, 28; Athens 2004, 30; Beijing 2008, 47; London 2012, 65). For Azerbaijan the scale of success has been on a smaller scale, 1 medal in 1996; 3 in 2000; 5 in 2004; 7 in 2008 and 12 in 2012. However for a nation of 9.5m people and modest wealth, Azerbaijan is a country which exceeds the number of medals that would otherwise be predicted on the basis of its macro economic variables and former communist political system. Azerbaijan has sought to position itself as a sporting nation, as perhaps well demonstrated by it being the inaugural hosts of the European Games in 2015. These results will be developed in much greater statistical detail for September 2015.

References:
Bernard, A. and Busse, M. (2004) Who wins the Olympic Games? Economic resources and medal totals. Review of Economics and Statistics, vol. 86, pp413-417.

De Bosscher, V.(2007). Sports Policy Factors Leading to International Sporting

Success. Published doctoral thesis. Brussel: VUBPRESS. ISBN-978-905487-421-8

De Bosscher, V., De Knop, P., van Bottenburg, M., Bingham, J. and Shibli, S. (2008), The global sporting arms race: Sports policy factors leading to international success, Meyer & Meyer, Brussels.

Shibli, S., Gratton, C. and Bingham, J. (2012). A forecast of the performance of Great Britain and Northern Ireland in the London 2012 Olympic Games. Managing Leisure: An International Journal, vol. 17, no. 2-3, pp274-290.