Comment on “Asian Participation and Performance at the Olympic Games”

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Noland and Stahler (2016) shed light on Asian participation and performances at the Olympic Games. This paper presents a wide range of fact findings regarding Asian Olympic performances, including the performances of three outstanding Northeast Asian countries, China, Japan and Korea; the better performances of Asian women than men; and the better performances in weight-stratified contests, such as wrestling, judo, taekwondo, and weightlifting, and in size-free games, such as table tennis, shooting, badminton, archery, and gymnastics. I broadly agree with what Noland and Stahler discover and their forecasts for the 2016 Rio de Janeiro Olympic Games.

As is often argued with positive economics, the proof of a good theory depends on its forecasting (predictive) power. We need to wait to see whether Noland and Stahler’s approach will still be justifiable after the 2016 Olympics. At this stage, we can say that medal forecasting would be quite accurate for three major countries – China, Japan, and Korea – while those for the rest of Asian countries would contain substantial errors. I will give some reasons in the following.

I have two broad questions concerning with this paper at this moment. First, Noland and Stahler rely on Bernard and Busse (2004), Johnson and Ali (2004), and Otamendi and Doncel (2014) for their theoretical framework and econometric estimation methods. Their empirical approach is used extensively in this research field. These authors use the production function approach to the Olympic caliber athletes by assuming that (i) the expected medal share accruing to a country should be equal to its share of the total population of countries participating in the Olympics, and that (ii) the production function for generating Olympic caliber athletes for a country \( i \) in year \( t \) requires people, money, and some organizational ability. In other words, the authors assume that talent is distributed equally across countries, and the production technology is basically the same across countries except for constant terms (including dummies for regions, the host country, and the communist block dummy). As the actual Olympic records show, many individual sports require physiological advantages, so that competition itself may not be fair from the Asian point of view. This reflects the fact that talent is not distributed equally across countries. Production technology of caliber athletes is also quite different among countries due to various sociocultural differences. In addition, as we know from the industrial organization literature, market share competition depends on the

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marginal cost of firm \( i \), the response that firm \( i \) expects from all other firms per unit change in its own output, and the price elasticity of firm’s demand. If we use the analogy of this literature, the medal share must depend not only on own population, per capita gross domestic product, the average years of schooling, gender labor ratio, foreign-born population, but also on other country’s efforts to obtain medals in the Olympics, its fiscal cost, society’s elasticity of medal demand, and a market competition structure (e.g. Herfindahl–Hirschman Index for country’s medal shares). At least, Noland and Stahler should pay some attentions to competition among other countries, since sport is a game after all.

Second, the econometric approach Noland and Stahler use is known to face two well-known problems called the incidental parameters problem and the initial conditions problem. The case in point is evident from Noland and Stahler’s (2016) figure 3. Medal forecasting for three major Asian countries would be quite accurate in the upper panel of figure 3, while those of other Asian countries would be very unpredictable in the lower panel of figure 3. In short, the initial conditions and fixed effects (including dummy variables) create estimation biases in the parameter of interest in the case of dynamic non-linear panel data model (see Greene, 2004 and Wooldridge, 2005). There is no convincing solution to these problems. We know that it is better to trim some heterogeneous data and keep the dataset as homogeneous as possible. I suggest that Noland and Stahler divide the sample according to regions/communist block or religious groups and compare parameters of interest. If parameters differ in the different samples, there exist incidental parameters and/or initial conditions problems. This solution creates another problem because the athletes, indeed, compete with each other with quite heterogeneous backgrounds. The trimming method reduces the sample size substantially.

References


