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COMPETITIVE BALANCE IN ELITE ATHLETICS

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Theoretical background

International competition at Olympic Games has become increasingly competitive. More nations have developed medal winning capability and new countries have entered the Olympic market (Shibli, De Bosscher, van Bottenburg, & Westerbeek, 2013). In such a dynamic competition, the strategy and performance of a country cannot be understood independently of the competitive environment within which the country operates (Spanos & Lioukas, 2001). The objective of this paper is to evaluate the historical and the current level of competitive balance in one specific sport (athletics). Previously, Ramchandani and Wilson (2014) compared the historical trends in competitive balance at the Commonwealth Games, while De Bosscher, Dubois and Heyndels (2012) evaluated the internationalisation in athletics between 1986 and 2006. Based on the IAAF top 100 rankings, De Bosscher et al. (2012) indicated that high levels of static and dynamic internationalisation reflected the high competitive nature of elite athletics. Elite athletics became more international; dominant countries lost market share and new countries entered competition.

Methodology

Competitive balance was measured using three different indicators for competitive balance; the concentration ratio of the top 4 performers (CR4), the coefficient of variance (CV) and the Herfindahl-Hirschman index (HHI). They were applied to the top 8 point awarded in the placing table of world championships (WCs) and Olympic Games (OGs) between 1993 and 2013. The placing table quantifies nations top 8 performance by converting top 8 places into specific points (8 points for a gold medal, 7 points for a silver medal, etc.). The analysis provides a longitudinal comparison (for all events, men and women separately) as well as a comparison between different discipline groups. These standard indicators enable to compare competitiveness over time, even when the number of countries or events changes. To evaluate the trend of competitive balance, WCs and OGs were ranked according to their score for each indicator of competitive balance. Correlation analysis was used to analyse the change of competitive balance over time.

Results and discussion

In 2013, more than 71% of all participating countries were unable to achieve a top 8 ranking, whereas more than 82% did not win any medal at all at the 2013 Moscow WCs. Changes regarding the proportion of medal winning and top 8 level countries between 1993 and 2013 were not significant. According to the analysis of CR4 in 2013, long distance running was the most dominated (men [76.85%] and women [84.26%]), while throwing events for men (50.00%) and jumps for women (59.03%) were most competitive.

For two of the three indicators of competitive balance (CR4 & CV), the 2000 Sydney Olympics were the most balanced, while the HHI indicate the 1997 and 2001 World Championships as the most competitive. The most dominated or inbalanced competitions were the 2011 WC (for CR4) and 2012 OG (for CV and HHI). Overall, between 1993 and 2013, there has been a significant reduction in competitive balance based on all three indicators ($.509 \leq r \leq .609$, $p < .05$). Whereas no indicator demonstrated a significant increase of dominance among men events in athletics, all indices indicated a strong significant reduction in competitive balance for all women events in athletics ($.664 \leq r \leq .796$, $p < .01$).

The analysis by women event group indicated a significant decrease of competitiveness for middle distance running events ($.951 \leq r \leq .721$, $p < .02$) and long distance running events ($.768 \leq r \leq .856$, $p < .01$), demonstrated by all three indicators. Only the CV indicated an increase in dominance for jumps ($r = .521$, $p < .04$) and sprint/hurdles ($r = .585$, $p < .02$). No significant changes found for throwing, multi-event and race walking events. In contrast to the analysis of women events, the competitive balance of the eight event groups has not significantly changed since 1993. Only for throwing events, competitiveness improved significantly for throwing events according the HHI ($r=-.564$, $p < .03$).

Athletics as a sport has lost competitiveness during last two decades. Especially women middle and long distance running events show a strong and significant reduction in competitive balance. These events are more dominated than their male counterparts. More than 70% and more than 80% of all top 8 points are won by the top four competitors for male and female events. As a result, sporting success is concentrated among a smaller number of competitors. These findings provide an insight into the contemporary trends in elite athletics competition and set the scene for an exploration on the strategy of market leaders in different event groups of athletics.

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