COMPETITIVE BALANCE IN ELITE ATHLETICS

Synopsis:

Abstract:
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 (16 competitions). 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. Spearman rank correlation analysis was used to analyse the change of competitive balance over time. For each indicator, scores of all 16 competitions were ranked, with 1 representing the most balanced edition and 16 for the most unbalanced. To evaluate the trend of competitive balance, correlations between these rankings and the ranked competitions between 1993 (rank 1) and 2013 (rank 16) were calculated. Positive correlations imply a reduction of competitive balance or an increasing dominance. Negative correlations are interpreted as a an increase of competitive balance and a more open competition where dominance decreased.

Results and discussion
The current state of competitive balance for 2013 indicates that 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. According to the analysis of CR4 in 2013, long distance running was the most unbalanced (men (76.85%) and women (84.26%)), while throwing events for men (50.00%) and jumps for women (59.03%) were most balanced or competitive.
Changes regarding the proportion of medal winning and top 8 level countries between 1993 and 2013 were not significant. 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 reduction of competitive balance in male events in athletics, all indices do for women events ($.664 \leq r \leq .796$, $p < .01$).
Looking at the most balanced and most unbalanced competitions, two of the three indicators of competitive balance (CR4 & CV) pointed at the 2000 Sydney Olympics as most balanced, while the HHI indicated the 1997 and 2001 World Championships as the most balanced or competitive competition. The most dominated or unbalanced competitions are the 2011 WC (for CR4) and 2012 OG (for CV and HHI).
The discipline specific analysis revealed a significant decrease of competitive balance for women middle distance running events ($.951 \leq r \leq .721$, $p < .02$) and women long distance running events ($.768 \leq r \leq .856$, $p < .01$), demonstrated by all three indicators. No significant changes has been found for throwing, multi-event and race walking events. For male events, no significant reductions of competitive balance have been found since 1993. Only for throwing events, competitive balance improved significantly according the HHI ($r=-.564$, $p < .03$).
Competitive balance in athletics has reduced during last two decades. Especially women middle and long distance running events show a strong and significant reduction in competitive balance. Even though De Bosscher et al. (2012) found that competition has become more international, these results indicate that top 8 success became more unbalanced or dominated. These findings set the scene for an exploration on the strategy of market leaders how they prioritise government investment among sports/events and allocate organisational resources to achieve international sporting success.

References:
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