Cheating in world chess championships is nothing new, study suggests

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Chess championships offer an especially fertile research opportunity, say two Washington University economists, because international chess matches have been meticulously documented for decades, providing a wealth of solid data that's ripe for econometric analysis.

World Chess Championship matches now taking place in Kalmykia, Russia, were suspended late last month amid allegations that Russian chess master Vladimir Kramnik used frequent bathroom breaks to cheat in his match with Bulgarian opponent Veselin Topalov. When play resumed, new allegations surfaced charging that Kramnik's moves seem suspiciously similar to those generated by a computer chess program.

While it's doubtful that these allegations will be proven, new research from economists at Washington University in St. Louis offers strong evidence that Soviet chess masters very likely engaged in collusion to

gain unfair advantage in world chess championships held from 1940 through 1964, a politically volatile period in which chess became a powerful pawn in the Cold War.

"We have shown that such collusion clearly benefited the Soviet players and led to performances against the competition in critical tournaments that were noticeably better than would have been predicted on the basis of past performances and on their relative ratings," conclude study co-authors, John Nye, Ph.D., professor of economics, and Charles Moul, Ph.D., assistant professor of economics, both in Arts & Sciences at Washington University.

"The likelihood that a Soviet player would have won every single candidates tournament up to 1963 was less than one out of four under an assumption of no collusion, but was higher than three out of four when the possibility of draw collusion is factored in," the co-authors wrote.

The study, presented at several academic meetings this summer, has sparked ongoing discussion on economics- and chess-related blog sites, such as Freakonomics, since it was posted on a popular site for economics working papers: papers.ssrn.com/sol3/papers.cfm?abstract_id=905612 .

Titled "Did the Soviets Collude? A Statistical Analysis of Championship Chess, 1940-64," the study includes a review of a growing body of research that uses the tools of economic analysis to explore factors influencing competitive advantage in a range of sporting events, including tennis, golf, soccer and even sumo wresting.

Chess championships offer an especially fertile research opportunity, the authors suggest, because international chess matches have been meticulously documented for decades, providing a wealth of solid data that's ripe for econometric analysis.

What's more, the longstanding format of chess championships — round-robin tournaments in which early-round contestants battle multiple opponents for either a win, loss or draw — allows exploration of interesting competitive strategies not often seen in sports such as tennis or golf, where contestants tend to play their individual best in each match, eventually reaching a decisive win or loss.

Tilting the playing field

In chess tournaments, contestants get one point for a win, no points for a loss and a half-point for a draw. This incentive structure opens the door to collusion and other strategies that may tilt the playing field in favor of one or more individuals, providing economists with a working model of the sort of unfair competition and market manipulation that often crops up in international trade disputes and other business dealings.

Nye and Moul used the tools of econometric analysis to demonstrate that players from the Soviet Union very likely acted as a cartel in international tournaments, intentionally playing into relatively quick-and-painless draws in early matches with each other.

The strategy, perhaps orchestrated by communist leaders for political purposes, ensured that designated Soviet top contenders reached the finals relatively fresh and untaxed by the rigors of highly competitive early matches, a huge advantage in round-robin tournaments known to be emotionally and intellectually exhausting.

The study's findings offer interesting implications for the structuring of competitive strategies in business settings, such as the design of incentive pay packages. Salesmen, for instance, might employ similar collusion strategies to game an internal quota system, ensuring that each reaches a mandatory sales target.

Nye, who researched the history of chess cheating as part of this study, would not be surprised if cheating were uncovered in the current chess championship.

With the onslaught of computers and PDA's, there are more opportunities for cheating than ever. That's why there's been so much fuss over Kramnik's 50 trips to the men's room during recent games. But the allegations by a member of the Topalov camp that Kramnik's moves resembled those suggested by the program Fritz were also too crude to demonstrate cheating. In particular, it would require a more sophisticated analysis of Kramnik's play both during and prior to the current championship for anyone to make a responsible claim that Kramnik had benefited from access to computers in the first few games, Nye said.

The tournament is expected to conclude Oct. 12 with Topalov and Kramnik taking equal shares of a $1 million prize, regardless of who wins.

Source: Washington University in St. Louis