

Is it all too much?

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I couldn't help but notice the recent press reports of how the weather was going to be dealt with for the 2008 Beijing Olympics.¹ Having picked the wettest month of the year to hold the Olympic Games, the Chinese have developed one of the world's largest weather modification strategies. Weather patterns over Beijing in recent decades indicate a 50% chance of rain during the Games. Clearly, this a problem that is in dire need of an Olympic-standard solution.

If a storm approaches the city, the Chinese reportedly said they would seed the clouds with silver iodide to force rainfall at a distance from the venue, thereby ensuring spectators and athletes stay dry. I gather from the reports that this is not an exact science because if too much silver iodide is added to clouds heavy with moisture, it can overwhelm their ability to condense, thereby stopping the rain or, even worse, producing hail. Scientists must make educated guesses about how much silver iodide should be dispersed, the best time for it and the best method of delivery.

Apparently this field is rich in history with devices such as ground generators or cannons that create a mist of silver iodide particles that float upward toward the clouds. Pyrotechnic rockets have also been used for more dramatic effect. More modern methods to disperse the silver iodide use seeding by airplanes. The Chinese government is spending approximately US\$100 million (£51 million, €74 million) on these projects and training about 1500 scientists to administer them. Just a drop in the ocean of the Olympic budget.

As an interested observer, I can't help but be left wondering whether this is getting a little out of hand. From what I read, the total cost of the Olympics is a staggering figure measured in tens of billions of dollars. For the same amount, many nations could feed their people effectively, or methods to prevent the adverse effects of climate change could be funded.

Two decades ago, the Americans made the Los Angeles Games the first ever money-making Olympics. Although they invented the concept of an Olympic economy, these Games, however, were a

"low impact" style requiring minimal infrastructure investment. Other Games such as Atlanta in 1996 have had a "moderate" cost impact through developing additional sports facilities. At the top end of the scale, Games with a more "substantive" impact (requiring massive transformations of the urban environment), such as Tokyo in 1964 and Montreal in 1976, are more costly. Beijing clearly fits into the last of these categories.

Increasingly, it seems to observers that cities hosting the Olympic Games must commit to significant investments in sports venues and other infrastructure in order to win the bidding process. It is commonly assumed that the scale of such an event will create large and lasting economic benefits to the host city. Ex-post studies, however, have consistently found no evidence of positive economic impacts from mega-sporting events even remotely approaching the estimates in pre-Olympics economic impact studies.²

For the 1996 Summer Olympics in Atlanta, an economic impact study was prepared for the State of Georgia. As one might expect, the study predicted significant economic benefits to the host city and State. The Games in Atlanta did have a definite impact on net exports in Georgia, but there is little evidence of extraordinary economic performance in Atlanta due to the Games, bringing into question who actually benefits from increased exports and how this affects the local economy.

In an ex-post study, Baade and Matheson² found a modest boost in employment that was short-lived. Even according to their most positive estimates, the city of Atlanta and the State of Georgia spent US\$1.58 billion (£0.8 billion, €1.2 billion) to create 24 742 full-time or part-time jobs, which averages out to US\$63 860 (£32 406, €47 421) per job created. Legacy effects listed in the Atlanta study emphasised three categories: facilities, media exposure for Atlanta and the State of Georgia, and community benefits. The long-term beneficial effects on decisions regarding investment, trade, corporate relocation, government spending, convention sites, the location of major sporting events, and

vacation plans will likely be among the most enduring, yet statistically untraceable, legacies of the Games. In Atlanta, the Olympic Stadium became the new home stadium for the Atlanta Braves professional baseball team rather than remaining as a "public" venue. Overall, Baade and Matheson² found only 31% of the Games expenditures were in areas that could reasonably be expected to provide a measurable economic legacy.

The funding needs of ever-increasing infrastructure development can also have long-term adverse effects at a societal level. Recent news reports³ regarding the London 2012 Olympics suggest the budgeted cost of holding the Games to be approximately £9.3 billion (€14 billion, US\$18 billion). A significant part of the funding (approximately £2.2 billion (€3.2 billion, US\$4.3 billion)) will come from various lottery funds. This in turn means that groups and charities currently relying on lottery support may have their projects and plans compromised through redirection of funding.

Every host city of the Olympic Games sees it as an opportunity to showcase their country to the world with the hope of encouraging long-run tourism or investment increases. Beijing's hopes of the transformational power of the Olympics point to China's ambitions on the world stage. According to the original budget estimates, only about 13% will be spent on sports venues and the Olympic Village. The remainder of the budget is being spent on urban renewal, infrastructure and environmental development. It appears that Beijing intends to use the Olympics as a catalyst for environmental improvements in the areas of air quality, water conservation, waste disposal, clean energy development and "greening up" of the landscape. Transportation improvements are part of the environmental improvements. Plans include expansion of public transportation systems and conversion of city buses to clean energy. The transportation plan addresses a wide range of topics, everything from highway construction and pollution control to teaching English to cab drivers and improving the driving habits of the general population.

The capital investments for Beijing 2008 are nearly nine times larger than the revenue and operating expenses of the Games themselves. The question is: how much of the capital investment should be considered a cost of the Olympic Games? The degree to which capital infrastructure investments are worthwhile depends on how useful they can be after the Games. Many projects, such as transportation, communication and environmental improvements cer-

tainly provide social benefits. But if the benefits of such projects outweigh the costs, why would an Olympic Games be necessary to spur the project forward, especially in China, where public affirmation in a political marketplace is not necessary?

Perhaps the citizens of Beijing will simply be happy with the fact that it

won't rain on them for 2 weeks in August 2008. I wonder what it would have cost to give them all umbrellas instead.

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Associate Professor Caroline Finch is widely regarded both internationally and nationally as Australia's leading sports injury epidemiologist. In addition, she has a background in non-communicable diseases epidemiology, biostatistics and clinical trials. She is a National Health and Research Council Principal Research Fellow and Professor of Human Movement Science in the School of Human Movement and Sport Sciences at the University of Ballarat in Victoria, Australia. She has been a lead investigator on many sports injury research projects since the early 1990s. Her sports injury research focuses on methodological advances in sports injury surveillance, evaluations of sports injury prevention measures, and assessing attitudinal and behavioural barriers towards the implementation of sports safety measures. This research has been disseminated widely through more than 150 authored publications in peer-review journals, book chapters, and government reports.



Figure 1 Caroline Finch.

Expression of concern about content of which Dr Paul McCrory is a single author

This paper is authored by Dr Paul McCrory. During 2021 and 2022 there was an investigation by BJSM and BMJ which found that some of his work was the product of publication misconduct. Such misconduct includes plagiarism, duplicate publication, misquotation and misrepresentation in publications in respect of which he was listed as the sole author.¹ We are placing a notice to readers on all content in relation to which he is identified as the sole author to alert them to the conclusions of our investigation.

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