The Olympics, Risk and Governance

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Abstract

How is risk governed in the context of a mega-event such as the Olympic Games? With high levels of financial, operational, security and reputational risk Olympic decision-makers are faced with tough choices on how best to respond to the hazards and threats encountered in organising the Games. Should they seek to export or postpone risk, mitigate and control it, or otherwise build resilience into planning and operations so there is scope to bounce back from unexpected disturbances? This paper explores the exposure of mega-events, and governance of the Olympics in particular, to risk and decision-making biases. It highlights competing tensions between risk aversion and optimism bias that operate in the context of the Olympics. Further, the paper identifies three rival modes of risk governance – transfer-based mechanisms, anticipation- and resilience-focused approaches – and considers which of these have been applied in organization of the Olympics. It assesses the utilisation of these three modes of governing risks across time and suggests that their rationale can located in both optimism-bias and risk aversion. In themselves, they therefore become an unpredictable source of organisational risk for the running of mega-events, such as the Olympics.
Days before the Delhi 2010 Commonwealth Games, the collapse of a pedestrian footbridge leading to the main Jawaharlal Nehru stadium, injuring 27 labourers, accompanied concerns over safety against terrorist attacks and the condition of accommodation blocks in the athletes’ village. In response, some teams postponed their arrival in Delhi. A number of leading athletes withdrew altogether, raising questions whether the event would go ahead at all. Elsewhere, the preparations for the Athens 2004 Olympics and the Beijing 2008 Olympics were disrupted by domestic security incidents, with the bombing of the Kalithea district of Athens in May 2004 and an attack on a paramilitary border police barracks in the north-western Xinjiang province of China in August 2008 that was blamed on Uighur nationalists (and led to wider international disquiet over China’s treatment of ethnic minorities). Despite initial concern, neither incident turned out to pose a serious threat to the staging of the Games. These incidents illustrate how knife-edged the exposure of such mega-events is to disruptions or failures and how fast routine organisation and operation can turn into fire-fighting, finger-pointing and crisis management.

The management of risk presents challenges to decision-making in the context of mega-events and mega-projects (see Slovic et al 1979; Flyvbjerg et al 2002; 2003; Moran 2001; 2003; Altshuler and Luberoft 2003; Pidgeon et al 2003; Jennings 2010). On the one hand, there is systematic optimism bias of large infrastructure projects towards the underestimation of risk, whether this concerns money, time or feasibility (e.g. Merrow 1988; Flyvbjerg et al. 2003; Altshuler and Luberoft 2003; Flyvbjerg and Cowi 2004; Priemus et al. 2008). At the same time, however, there is a conflicting bias of risk aversion which gives rise to hyper-sensitivity to failure and losses. Given the high financial, operational and reputational stakes involved in the Olympics, as the world’s most recognised brand (Sponsorship Research International research, quoted in Vigor et al. 2004, p. 4) and largest peacetime event (Higgins 2007, p. 28), decision-makers have incentives to ensure that institutional design or managerial and operational procedures distance them from blame and responsibility should things go wrong.
The combination of a political taste for iconic events and monuments (Moran 2001, p. 417; Flyvbjerg 2002, p. 288; Hall 1980) and the presence of hazards and threats in organisation of these sorts of mega-events (such as terrorism, Richards et al. 2010) add to these conflicting pressures on decision-making. This paper traces these decision-making biases in the approaches taken to the management of risk in Olympic governance over time. Specifically, it identifies three distinct modes of risk management to determine how (a) these have been utilised in dealing with decision-making biases that are associated with a mega-event such as the Olympics, and (b) to what extent the choice and application of these risk management strategies themselves exhibit traits associated with optimism bias or risk aversion. It therefore investigates whether tools that are intended to mitigate particular risks are a potential source of risk themselves.

The paper proceeds in three steps. First, it explores the exposure of mega-events in general and governance of the Olympics in particular to risk and potential decision-making biases. Second, it identifies three rival modes of risk governance: transfer-based mechanisms, anticipation- and resilience-focused approaches. Third, it considers which of these modes of risk governance have been used in organisation of the Olympics over time and how these offset or exacerbate hazards and threats as well as the biases affecting decision-making.

**Mega-Events, the Olympic Games and Decision-Making Biases**

Mega-events are an important context for analysis of the management of risk. Roche defines mega-events as ‘short-term events with long-term consequences for the cities that stage them … associated with the creation of infrastructure and event facilities often carrying long-term debts and always requiring long-term use programming’ (Roche 1994, p. 1). Mega-events are occasional or one-off occurrences that require the construction of new infrastructure and facilities. Mega-events tend to move locations and change organisers. They are exceptional in their profile, scale, scope and limited time scale. Public and private sector operations such as commercial air travel and rail services and policing and emergency services require adjustment. Although some of the constituent projects essential for the
operation of the Olympics (such as infrastructure enhancements) are potentially on a smaller scale than those typically considered in studies of mega-projects (Morris and Hough 1987; Merrow 1988; Flyvbjerg et al. 2003; Altshuler and Luberoff 2003), the overall Olympic programme requires major financial investment in both infrastructure and operations and forces a suspension of ‘business as usual’ in the mega-event locality. As such, the Olympics’ profile is different from other major public, entertainment or sporting events.

Both the size and geographic concentration of the event (at the main Olympic site) lead to interruption of daily services, as spectators create high volumes of passenger traffic on public transport and local roads are closed, while emergency services are diverted from their routine operations. Likewise, diversion of security resources to protect the main Olympic site and stadia can leave other targets vulnerable to attack. Further, because the Olympics are a multi-stadia and multi-site event (due to venue requirements for sports such as equestrian, sailing and rowing), it involves the completion of multiple large scale infrastructure projects at different locations. In fact, it has been compared to the equivalent to synchronous staging of 33 world championships (Higgins 2007, p. 28). For the Beijing 2008 Olympic Games, the construction programme consisted of 12 new venues, 11 renovated venues and 8 temporary venues or overlays. The London 2012 Games were expected to showcase 26 sports hosted at 31 competition venues over 16 days of competition, bringing together 204 participating states, and an estimated 10,500 athletes, 6,000 officials and coaches, 20,000 media and 17.9 million spectators expected in total (with up to 500,000 visitors to the main Olympic site each day). The construction programme for London is smaller than Beijing. It nevertheless consists of eight new venues (in addition to the Olympic Village and International Broadcast Centre/Main Press Centre), 7 temporary venues and 13 existing venues. In themselves, the Games’ infrastructure requirements create high levels of risk for Olympic organisation – due both to the immovable deadline of project completion and increasing levels of public expenditure on the Games (Preuss 2000; 2006). For London, the scale of direct public investment in Olympic projects totals £9.3 billion – with the UK Department of Transport
responsible for an additional £5 billion expenditure on projects that are considered essential for success of the Games but are not Olympic-specific.

Financial risk also arises for both the IOC and host cities due to the mega-revenues generated through broadcasting rights, sponsorship, licensing and tickets. The projected level of revenues for the London Organizing Committee for the Olympic Games (LOCOG), generated through ticket sales, domestic sponsorship and licensing, is around £2 billion, and is required to finance the cost of operating the Games. The International Olympic Committee (IOC) is dependent upon revenue from the sale of broadcast rights for the Games, which totalled $1.5 billion for the Athens 2004 Olympics and $1.7 billion for the Beijing 2008 Olympics and more than $3 billion (combined) for the Vancouver 2010 and London 2012 Olympics, and its ongoing TOP worldwide sponsorship programme, which raised $866 million between 2004 and 2008 (and has raised around $2.7 billion since its establishment in 1985). The IOC uses 10% of these revenues to finance its own activities, with the remaining 90% disbursed to support the Olympic movement through financing of international sporting federations, National Olympic Committees and Olympic Organizing Committees. Overall, the revenue generated from the Olympic Games are critical for financing both the staging of the Games itself and the Olympic movement, so revenue shortfalls represent a serious risk.

In addition to financial pressures, there are substantial reputational risks due to both the symbolic political influence of the Olympic Games (e.g. MacAlloon 1981; Hoberman 1986; Hill 1997; Senn 1999) and its unique cultural power as a global media and entertainment event (Roche 2000) – with 3.5 billion estimated viewers of television coverage for Sydney 2000, 3.9 billion for Athens 2004 and 4.7 billion for Beijing 2008. These global audiences are concentrated during the opening and closing ceremonies in particular, meaning that the Games constitute a prime target for symbolic attacks or protests. Other ceremonial and sporting events such as the torch relay and the marathon are difficult to police due to their format, making them soft targets.

More broadly, the task of organising mega-events such as the Olympics resembles some of the difficulties of risk managing against ‘normal accidents’ in non-linear and tightly
coupled industries that might lead to ‘multiple and unexpected interactions of failures’ 
(Perrow 1984, p. 5). The Olympics are ‘tightly coupled’, in that there is potential for multiple interactions to cascade through the system should a disruptive incident occur (and not all disruptions, such as a dirty bomb, are easily recognised or anticipated). The Olympic system of organisation combines interdependent programme and network of essential infrastructure (e.g. transport networks, venues, water and electricity supplies, accommodation and media facilities) and operations (e.g. ticket barriers, policing, traffic management, catering, first aid) with a fixed deadline for the completion of Olympic projects and the limited slack in the programme of sporting events. The Olympics therefore resemble those technological systems where a single error or failure to cause further effects as processes do not follow a linear or predictable sequence (in contrast to the breakdown of a processing line).

These exposures to risk are amplified by two additional factors. The first is that there is limited scope for drawing upon past experience, due to unique geographical features and political and security context of each Games, as well as the changing global environment. Although both the Winter and Summer Olympic Games are staged at regular intervals, the rotation of the event location every four years and the high rate of personnel turnover between Games creates limits to inter-event learning and restricts the expert community of knowledge to an exclusive group of Olympic consultants and experts. The second factor is the rigid time-dependence of Olympic planning and organisation (due to the fixed completion deadline and the rigid timetable of both ceremonial and sporting events), meaning that there are limited opportunities for ‘bouncing back’. This provides little room for manoeuvre in the event of serious failures or interruptions; the venue for the Games cannot be switched at the last minute, there is limited space in the television or sporting schedules for changing the timing of events and the high volumes of spectators and competitors cannot easily be dispersed or relocated. Indeed, the host government and OCOG, bound by the Host City Contract with the IOC, have no legal rights of cancellation (although in practice any incident where cancellation was a serious consideration, such as the 1972 Munich Massacre, would in itself have global repercussions and the legal obligations in all likelihood would become secondary).
Governance of the risks outlined above are affected by two decision-making biases that coexist in the organisation and the operation of such mega-events. One is optimism-bias, the under-estimation of risks, and the other is risk aversion, the hyper-sensitivity to threats and hazards. Decision-making in the inter and intra-organisational context is shaped by individuals’ subjective estimation of probabilities and asymmetric evaluation of prospective losses and gains (Kahneman and Tversky 1979a; 1979b). At the same time, conflicting organisational pressures for risk aversion and risk-taking further add to this paradox of disproportionate weighting of both losses (risk aversion) and gains (optimism bias). The presence of optimism bias and risk aversion in mega-projects and mega-events is therefore attributable both to the psychological biases which affect decision-making and the organisational context in which the decisions are made.

Optimism bias emerges from two sources. As noted, mega-events and mega-projects are iconic ‘hallmark’ enterprises. These often represent the once in a lifetime chance for politicians, administrators or entrepreneurs to stage a particular event. Such projects are susceptible to symbolic considerations, conceived for their contribution to national prestige and the historical reputation of leaders (Moran 2001, p. 417). This means that individuals’ decisions in adopting and designing mega-events tend to be liable to optimism bias, as the prospects of large-scale reputational, financial and economic gains, lead to reluctance to listen to warnings of potential downsides, administrative failures and financial shortfalls. Decision-makers instead emphasise investment (and ‘legacies’), overstate benefits and underestimate costs, despite the inevitable additions to financial budgets due to unforeseen spending requirements and the wider insight that mega-projects do not follow a ‘Newtonian world of cause and effect’ (Flyvbjerg et al. 2003, p. 6). The psychological bias towards over-optimism, often accentuated by the self-belief in the feasibility of professional challenges – for example, in terms of engineering (Weinstein 1980) – also leads to a belief in the possibility of planning and control. Such optimism bias is, as noted, observed in the systematic under-estimation of costs and completion times of large scale infrastructure
projects (see Merrow 1988; Flyvbjerg et al. 2002; 2003; Altshuler and Luberoff 2003; Priemus et al. 2008).

In the context of the Olympics optimism bias in planning and budgeting is particularly evident in the divergence between the designs of formal bid documents and the subsequent programmes of infrastructure construction and event operations. The right to stage the games is awarded by the IOC through a competitive candidature procedure, encouraging a ‘bid first, ask questions later’ approach. As bids are conceived with the aim of winning the votes of IOC members, they tend to underemphasise inadequacies (Luckes 1997, p. 14). Over-optimism is further amplified by the limited resources that tend to be assigned to bid formulation, leading to reliance upon templates, guesswork and organisational models from past Games, rather than planning on the basis of first principles. In drawing up the Salt Lake City bid for the 2002 Winter Olympics, Chairman of the Organizing Committee Frank Joklik admitted that to prepare the budget, the bid team took information on the finances from the Albertville 1992 Winter Olympics and other Games, “…cobbled them together and applied a few factors” (interview with the Salt Lake Observer, September 1998, quoted in Luckes 1998, p. 25). Optimism in decision-making is therefore exhibited in these ‘fantasy documents’ (Clarke and Perrow 1996; Clarke 1999), which often extrapolate from the content of previous winning bid documents (e.g. Luckes 1998) and from assumptions of specimen bids (e.g. Arup 2002). With bid dossiers representing the first attempt at the estimation of risks and benefits, this is likely to introduce a significant degree of (over-optimistic) path dependence into the planning process.

Adding to the optimism bias of competitive bid procedures, the influence of political blocs and wider political considerations in the award of the right to stage mega-events means that it is not necessarily the most technically superior (i.e. lowest risk) bid which is selected. The IOC’s tradition of voting blocks and, more importantly, the supposed promotion of distinct agendas through its activities in general and its selection of host cities (e.g. economic growth, urban regeneration, environmentalism, legacies) further attracts over-optimistic announcements and bidding documents.
However, over-optimistic belief in planning and control in Olympic governance is counter-balanced by considerable risk aversion once the Olympics have been awarded. Decisions are therefore more sensitive to prospective losses than to gains (Kahneman and Tversky 1979a). This aversion to risk is consistent with strategic behaviour of both elected and unelected officials – who tend to seek to minimise their exposure to blame (Hood 2002; 2010). Nobody wants to be identified as the scapegoat should things go wrong, whether in terms of strategic oversight and programme coordination or in terms of responsibility for the delivery of Olympic construction projects and the operation of venues and facilities during Games-time. Risk aversion is increased further by the immovable completion deadline, strict timetable of sporting competitions and perpetual media coverage. All these factors motivate the heightened sensitivity of Olympic organizers to risk, since the potential costs of serious failure are catastrophic both for staging of the event and its reputation.

In Olympic planning and organisation, the anticipated occurrence of negative events has encouraged the pursuit of ‘absolute security’ (e.g. Hinds and Vlachou 2007), requiring a strong emphasis upon active surveillance and monitoring of hazards and threats. The heightened concern of decision-makers about security was influential in planning for the Salt Lake City 2002 Winter Olympics (see Decker et al 2005) as well as encouraging transnational cooperation for the security effort for the subsequent Athens 2004 Summer Olympics (US Government Accountability Office 2005). This sensitivity to security threats has contributed to substantial cost inflation in Olympic security budgets over the Noughties at the same time as underpinning processes of securitization of the Games (e.g. Karyotis 2007, p. 286; Yu et al. 2009) in which host governments’ suspend normal approaches to policing, security and public safety. Similar states of heightened surveillance are evident in activities such as public health monitoring conducted in the lead-up to and during the Games (e.g. Meehan et al. 1998; Jorm et al. 2003; Davis et al. 2008). Risk aversion can, furthermore, be triggered by an intra-organisational state of ‘high arousal’ (Weick 2001): if lower levels of an organisation are over-aroused due to external or internal pressures, there is a tendency to avoid problems and risk taking.
This bias towards risk aversion and the consequent attraction towards technologies of risk management creates a two-level paradox for the governance of (Olympic) mega-events. The first paradox is the puzzle of why decision-making elites associate themselves with high risk iconic projects, such as the Olympics, given the likelihood that once the high prestige events and entertainments are over, host cities and governments are left with the bill and the clean-up operations – while the electoral benefits for incumbent governments appear marginal at best. There are incentives for Olympic bids to be optimistic and speculative in order for the plans of candidate cities to secure domestic support as well as to win the votes of IOC members. This encourages a process where risk averse bids tend to fail whereas over-optimistic bids are more likely to be rewarded. Bids face something of a prisoner’s dilemma, where conservative proposals are vulnerable to the defection of their more optimistic rivals. This also can lead to self-reinforcing feedback loops, as ever more optimistic estimates are generated to justify continuation of the project. At the same time, decision-makers exhibit risk aversion in their sensitivity to possible losses, most of all where security and reputational concerns are at stake. This tends to occur long after the optimism of the initial bid, planning and budgeting, during later stages of project completion and as the opening ceremony nears.

The second paradox concerns how the organisational setting in which mega-events such as the Olympics are governed can, at the same time, encourage both risk aversion and optimism bias. With respect to the former, cognitive evaluation of hazards and threats is reliant upon information-gathering – whether these are targeted on security, energy or public health. As these grow, in the form of technologies of modelling, surveillance and formal reporting, the sensitivity of decision-makers to risk also increases – as the number of potential sources of disturbance that need to be accounted for and controlled grows in tandem. Risk analysis therefore creates demand for risk management. Further, it increases the likelihood of false positives due to the increasing number of recorded hazards and threats. However, there is danger of over-confidence in the trust placed in the validity and the reliability of methods of hazard and threat analysis, reporting systems and technologies of risk management. This optimism is all the more problematic in the face of the sorts of normal accidents noted earlier.
Trust in administrative forms and technologies is observable both in the false sense of security and control provided by bid documents and in the frequent invocation of locally commissioned macroeconomic impact studies that tend to overstate the benefits of hosting the Games (Baade and Matheson 2002).

**Three Rival Modes of Risk Governance at the Olympics**

This section considers three modes of risk governance that have been utilised in organisation of the modern Olympics. Drawing on the wider literature on the private and public management of risk (Lodge 2009; Boin et al. 2005), the three modes reflect a distinction between market-, anticipation- and resilience-based approaches in risk management (not dissimilar to Hood and Jones 1996, Chapter 2, Power 2007). The rival modes of risk governance can be distinguished as relating to (1) risk-pricing and transfer mechanisms, (2) risk management and reduction, and (3) risk resilience and adaptation. Each of these modes is observed in governance of the Olympics, entailing an administrative doctrine in addition to observable implications for the management of risk.

The decision-making biases and organizational pressures inherent to governance of the Olympics are expected to shape both the utilization and consequences of each approach - where their selection can be a response to particular biases but at the same time can also be the source of risks themselves, requiring further accommodation. Risk aversion and optimism bias are each potential bedfellows of hierarchical risk management: faith in technocratic solutions resonates with optimism bias, whereas emphasis upon box-ticking and process are consistent with risk aversion in insulating decision-makers from criticism if things go wrong. However, over-optimism might also lead to an emphasis on resilience or transfer of risk to the market, insofar as the expectations of each solution might be unrealistic. At the same time, the market pricing of risk might be the most parsimonious solution for risk averse decision-makers, while resilience-based approaches could be perceived as the most failsafe option in accepting the likelihood of organizational and operational failures that require system redundancy and clean up operations.
The balance of approaches to the management of risk in a mega-event, the Olympics between 1896 and 2012, suggests a mixed portfolio of markets-mechanisms, anticipation and resilience. While the dominant recent trend is the increasing use of internal controls and formal risk management practices in staging the Games (Jennings 2010), similar trajectories in Olympic governance are observed in the increasing use of transfer mechanisms (risk redistribution and risk transfer) and efforts directed towards inter-Games learning and the organisational building of resilience. All these are consistent with the increasing organisation of the Games in response to risk (Jennings 2008; 2010). Table 1 provides an overview of the following discussion.

**Table 1. Overview of Logics of Tool Choice**

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Administrative Doctrine and Observable Implication</th>
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<tbody>
<tr>
<td>Risk Transfer</td>
<td></td>
</tr>
<tr>
<td>Contracting Out</td>
<td>‘Risk is insurable and transferable, let the market decide’</td>
</tr>
<tr>
<td>Insurance</td>
<td>Prices and transfers risk, but does not change organisational style.</td>
</tr>
<tr>
<td>Risk Anticipation</td>
<td></td>
</tr>
<tr>
<td>Internal Controls</td>
<td>‘Risk is manageable through the right technologies’</td>
</tr>
<tr>
<td>Formal Risk Management</td>
<td>Modifies organisational culture, perception and behaviour.</td>
</tr>
<tr>
<td>Risk Pricing and Transfer Mechanisms</td>
<td></td>
</tr>
<tr>
<td>Redundancy</td>
<td>‘Risk cannot be anticipated, create capacity to bounce back’</td>
</tr>
<tr>
<td>Learning</td>
<td>Encourage redundancy, innovation, reliance on ‘experienced’ managers and leaders, training and preparation.</td>
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The practice of managing risk has historical roots in the insurance of trade (Trenerry 1926), in particular in the maritime industry (e.g. Bernstein 1996, pp. 88-95, also Ericson and Doyle 2004). In its capitalistic form (distinct from cooperative forms of insurance) this commercial pricing of risk transferred the burden of losses to the insurance underwriters, at a price derived from the estimated likelihood and impact of the hazard. The modern transfer and pricing of risk involves both the mathematical demands of actuarial science and the use of financial instruments such as derivatives to hedge against risk. The use of insurance does not seek to alter the state of the world, but rather calculate the price of risk and then sell it on for a fee (i.e. the insurance premium). Should risks be uninsurable, or too unprofitable to insure, such mechanisms cease to be available and behaviour must then either be modified or collectivist solutions sought out.

Since the 1970s, governance of the Olympics has increasingly engaged in the transfer of risk to the market, combined with the increasing use of financial instruments to manage risk. This represents something of a return to the influence of private enterprise and entrepreneurialism in organisation of pre-First World War Games, after the relative dominance of state-intervention and coordination from the 1930s to the 1980s (Jennings 2010). Overall, market-based mechanisms in Olympic governance have witnessed greater application, for example in contracting out of service and delivery functions in fields as diverse as catering and security. Ever since the cost overruns in construction of the main stadium for the Montréal 1976 Olympics left the Montréal City government with a deficit of over $1 billion, a variety of mechanisms have been used in which the private sector has assumed financial risks in the provision of Olympic infrastructure and facilities. Some of these have drawn upon the commercial resources of the host Organizing Committee while others have focused upon the external operation or financing of projects.

In the recent North American Olympics, construction risks were mitigated through the use of existing stadiums and facilities or the outsourcing of projects to private developers, from whom facilities are rented for the duration of the Games. This constricted the overall level of capital expenditure, at the same time as transferring risk to the market. The profitable
business model of the Los Angeles 1984 Olympics mainly leased existing sports facilities in the city (with the exception of construction of the new swimming venue and velodrome, each funded by private developers, see Preuss 2000; 2006). Likewise, the funding model for the Atlanta 1996 Olympics was based on market-based arrangements – with the Organising Committee (ACOG) funding the construction of the Centennial Olympic Stadium through its own commercial revenues and private finance, later transferring the ownership of the stadium to the Atlanta Braves baseball team. Elsewhere (in host cities in Europe, Oceania and Asia), state funding of both direct and indirect capital expenditure linked to the Olympics is far more common, with less recourse to private equity and finance. This is evident in the high levels of public funding of the Sydney 2000 Olympics (around £800 million) (Auditor-General of New South Wales 2002), Athens 2004 Olympics (£6.3 billion) (House of Commons Library 2005, p. 37), Beijing 2008 Olympics (estimated at $50 billion) and London 2012 Olympics (£9.35 billion). Nevertheless, mixed public-private models of financial governance are increasingly common in governance of recent Games – in particular via the creation of state-owned enterprises responsible for the construction of competition venues, facilities and infrastructure.

One of the pioneers of the modern public-private model of Olympic risk sharing was the joint venture for the Barcelona 1992 Olympics between Spain’s federal government and Barcelona City Council which created a public corporation, Barcelona Holding Olímpic S.A., responsible for construction of the main competition venues, new road infrastructure and the Olympic Village. This was financed through a mix of public and private funds, coordinating the programme of urban regeneration linked to the Olympics. Similar public-private arrangements have been used at subsequent Games, for example with the Birds Nest stadium for the Beijing 2008 Olympics developed by the China International Trust and Investment Corporation consortium and the Beijing Municipal Government’s Beijing State-owned Assets Management Company. Other Games have undertaken more direct transfer of risk to private developers – through contracting out projects to third parties. For the Sydney 2000 Olympics, the Olympic Coordination Authority (OCA) invited tenders from the private sector to design,
construct, finance, operate and maintain a stadium at Homebush Bay, awarding the contract to the Stadium Australia consortium. This approach was designed to shift risk from the public to the private sector so the NSW Government was not subject to the risk of future revenues from the stadium to amortise its capital expenditure on the stadium. The Organizing Committee for the Vancouver 2010 Winter Olympics (VANOC) likewise reduced its required level of capital expenditure through entering into ‘risk-transfer’ agreements with third parties to build venues, such as the speed skating oval in Richmond and athletes’ villages in Whistler and Vancouver, providing a grant towards the overall cost (Auditor-General of British Columbia 2006, pp. 26-27). Meanwhile, organizers at other Games have contracted out delivery and service functions to commercial partners. Although the Olympic Delivery Authority (ODA) for the London 2012 Olympics is directly funded through public expenditure, it contracts a private sector partner, the CLM consortium (which consists of CH2M Hill, Laing O’Rourke and Mace), for project delivery functions.

The transfer of risk to the market creates its own risk. For example, the public float by the Stadium Australia consortium that was intended to finance the Olympic Stadium suffered a shortfall of around $200 million, requiring the balance to be paid by underwriters (Jeffries et al 2002, p. 356). Further, the public-private partnership created risk for both the consortium and NSW State government, as well as for long-term economic development of the Homebush Bay area, as commercial operation of Stadium Australia was in competition with smaller, pre-Olympic, State-run venues such as the Sydney Football Stadium (Searle 2002). Likewise, the private developer of the athletes’ village for the London 2012 Olympics, Lend Lease, encountered difficulties in raising private equity and debt funding for the project to fulfil its commitment of £650 million – due the wider contraction of credit markets as result of the global financial crisis. This required a government-led rescue package, drawing upon the Olympic programme contingency as well as £268 million investment from Triathlon Homes, a consortium of housing associations and registered social landlords (itself supported by a £100 million grant from the Homes and Communities Agency). Indeed, a private sector alternative was rejected because the private sector had become more risk-averse because of
the prevailing economic climate and, as a result, its proposals would have subjected the ODA to ‘an increased level of risk’ (Jowell 2009).

There is a risk, then, that such public-private schemes can lead to the privatisation of profits, and the socialisation of risk and, ergo, losses. For example, risk-transfer agreements put in place for the Vancouver 2010 Winter Olympics left the construction process outside the direct control of the Vancouver Organizing Committee (VANOC), requiring the imposition of reporting controls, project milestones and legal remedies or penalties for non-performance of developers. Nevertheless, such contract management procedures did not eradicate the risk of a venue partner defaulting on its commitment, creating further pressure on costs or completion dates which would fall on the ultimate guarantor of venue completion— the province of British Columbia (see Auditor-General of British Columbia 2006, pp. 26-31). Because of the formal commitments given to the IOC in the host city contract and the reputational importance of the Olympics, the state is under considerable pressure to step in at times of market failure.

Insurance is an age-old solution to the management of financial risk in organisation of the Olympics. In the period after modern revival of the Olympics in 1896, the purchase of insurance became an integral mechanism through which organizers, often entrepreneurs receiving little government support, sought to manage financial and operational risks – providing cover both against revenue shortfalls and liabilities for personal injury claims from workers, athletes and spectators. Organizers of the Paris 1900 Olympics purchased cover against both its workers and insurance for construction (see Mérillon 1900, p. 188). For the Berlin 1936 Olympics, extensive cover was taken out with the Victoria Insurance Company by the organizing committee, against injury or loss to both athletes and spectators (see Organisationskomitee für die XI. Olympiade Berlin 1936 e.V. 1937, p. 212). Likewise, there is a longstanding record of the use of insurance against the risk of disruption of the programme of competitions – such as through cancellation or postponement of specific events. The Vancouver 2010 Winter Olympics lost $400,000 in ticket revenues due to heavy warm rains making the standing spectator area at the Cypress snowboard stadium unsafe for spectators. Insurance can provide financial security for organizers, compensating them for
shortfalls in expected revenue. This can be dated back at least to the Amsterdam 1928 Olympics where insurance was purchased to safeguard revenues for events that were dependent on weather conditions (Netherlands Olympic Committee 1928, p. 150). After the events of September 11, 2001, the IOC took out cover against cancellation due to terrorism or natural disaster for the first time, purchasing $170 million of cover for the Athens 2004 Olympics at a reported premium of $6.8 million (Buck 2004). The IOC’s coverage against cancellation currently consists of a long-term policy that spans multiple Games (Lenckus 2008), protecting the IOC against disruption of its cyclical revenue stream.

Using insurance against catastrophic risk and cancellation therefore predates the changes in the global security environment that occurred with the events of September 11. Insurance received more extensive attention since the 1970s as the financial stakes involved in organisation of the Olympics multiplied (the insurance premiums for events such as the Olympics have, though, increased since September 11). However, traditionally, because the IOC requires the host government to provide a guarantee of financing for the Games, Olympic Organizing Committees (OCOGs) have not tended to take out insurance against cancellation. In the US, unwillingness of state governments to provide a formal commitment to the IOC, sometimes due to the results of public referenda (such as the voter-approved measure, Charter Amendment ‘N’, that prohibited the expenditure of public monies on the Los Angeles 1984 Olympics), meant that alternative provisions had to be put in place. For example, even ahead of the terror attacks of September 11, 2001, the Salt Lake Organizing Committee (SLOC) for the 2002 Winter Olympics purchased coverage against cancellation from Lloyd’s of London. While insurance is designed to offset the losses arising from catastrophic incidents it does not reduce the likelihood of occurrence of threats or hazards themselves. The transfer of financial risk to insurance markets (added to the build-up of a sizeable IOC reserve) has, however, ensured that the Olympic movement would survive the financial losses an event cancellation.

*Risk Management and Internal Organisational Controls*
A different response to risk is observed in the growing influence, throughout the public and private spheres, of formal administrative systems of risk monitoring, reporting and behaviour modification. This mode of risk governance is present both in mechanisms of internal organizational control in businesses (e.g. Power 2007) and across socio-political regimes for regulating hazards and threats (e.g. Hutter 2010). Such approaches stress the importance of the principles of precaution and/or anticipation. Seeking to rationalise risk management through technologies of control is based on assumptions that risk can be controlled through selection of the most appropriate instrument of control given a tolerable level of risk (‘risk appetite’).

This spread of risk management as a formal administrative practice is evident in Olympic governance, with the rise of strategies of anticipation and mitigation as an alternative to insurable risk (Jennings 2010). Indeed, since the 1980s the language of risk (‘risk talk’) has been pervasive in organisation of the Games and in governance of the Olympic movement more widely (likewise FIFA’s technical reports speak of different risk measures). This has occurred both through the importing of measures from the commercial sector, as well as in response to specific organisational and operational failures. In particular, the problem of cost overruns led to greater focus on budgeting controls, such as audit and assurance. Likewise, allegations of corruption against a number of IOC delegates and organizers in relation to the Sydney 2000 Summer Olympics and the Salt Lake City 2002 Winter Olympics accelerated a process of formalisation of Olympic governance – with increased regulation of the bidding process and of preparations for the Games and institutional reform of the Olympic movement directed towards greater transparency and accountability. All this has also contributed towards an increased application accounting, audit and risk management technologies in the governance of the Olympics.

At the IOC level, there has been a move towards a far greater concern with risk and its management in the selection of host cities and the monitoring of preparations for the Games. Past difficulties with venue readiness, operations and financial management have contributed to extensive standardisation of the candidature procedure, with a bid document
template and questionnaire provided to bidders as part of the IOC Candidature Procedure (IOC 2004a). This is further regulated through the verification of bids by the IOC Evaluation Commission, which reports to the IOC membership on the risk profile of each candidate host city. The IOC described the selection process for the 2012 Games as an risk assessment exercise, ‘to verify the information stated in the candidature file, to determine whether proposed plans are feasible and to make a qualitative assessment of risk’ (IOC 2004b: p. 5). Further, preparations of host cities are also subject to regular programmes of monitoring and evaluation from the IOC Coordination Commission appointed for each Games in order to conduct assessments of its progress, overall preparedness and exposure to operational risks during Games-time.

Risk has also become a unifying theme in the internal structures and processes of Olympic organisations – at both the domestic and transnational level. The establishment of a dedicated risk management team within an OCOG, undertaking formal management of risk, was first observed in preparations for the Calgary 1988 Winter Olympics (Chang and Singh 1990). The use of such internal mechanisms of control was expanded at the Atlanta 1996 Olympics which one former Olympic official described as ‘the first Games built with a risk management infrastructure’. These management practices have evolved over time to use more complex methodologies and processes, with probabilistic methods of analysis applied to identify and weight risks and estimate risk exposures for the Sydney 2000 Olympics (New South Wales Audit Office 1999, p. 136). Such probabilistic techniques, reliant upon the identification and ranking of project and operational risks, have since been applied as an instrument of internal control to inform organisational behaviour in governance of the Games. For example, the Government Olympic Executive for the London 2012 Olympics use a probabilistic model to manage risks identified at programme level, with information fed into its model from a number of other Olympic bodies.

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1 Interview with David Mair, Risk Manager for the US Olympic Committee and for the Atlanta 1996 Olympics.
Internal controls have become more far-reaching over time, both in their scope and influence on organisational behaviour as well as in their level of reporting requirements. The organisation-wide application of administrative processes to manage risk has become the norm for recent Games. The Beijing 2008 Olympics, in reaction to anxieties over readiness of facilities ahead of Athens 2004, was the first time that an OCOG had been required to report to the IOC on the risk management of its construction programme (see Loosemore 2007). The Organizing Committee for the Vancouver 2010 Winter Olympics was the first to implement the industry ‘gold standard’ Enterprise Risk Management, a generic framework that sought to exercise control over organisational behaviour and which combined internal control and strategic planning – first through identification and evaluation of risks, second in selection of responses to risk (avoid, reduce, share, accept), and third in the monitoring of risks, through audit or assurance.

Further, such mechanisms of internal control sometimes require extensive and regular reporting of information to higher organisational levels. For Vancouver 2010, risk registers were maintained by the Winter Games Secretariat of both the federal government of Canada and the province of British Columbia, while a register is maintained for London 2012 by the Government Olympic Executive. These databases record threats and hazards to the Olympic programme as a whole, aggregating information from partner organisations provided through formal reports or consultation exercises, with the risk management processes in turn being reliant upon ongoing programme assurance and audit. As mechanisms of internal control, they require financial and human resources for information gathering and analysis. Furthermore, these supposedly system-wide approaches require standardisation of risk identification, reporting and assessment in order for risk information to be interpretable on a consistent basis (see National Audit Office 2008, p. 14).

Probabilistic models, which often are deterministic even if built upon more complex mathematical principles such as Bayesian estimation, are vulnerable to under-estimation of

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2 Interview with David Mair and Ron Holton, Vice President for Risk Management and Assurance, VANOC.
the risk of outliers (see Sornette 2003). Failures in forecasting are likewise observed in the disproportionate occurrence of large cost-overruns in major infrastructure projects (Flyvbjerg et al 2003). A probabilistic cost assessment applied to the budget of London’s 2012 bid (PricewaterhouseCoopers 2003) suggested there was an 80% chance of the overall cost of the Games totalling between £3.4 and £4.2 billion, with just a 5% chance it would be higher than £4.32 billion. Even anecdotal evidence from past Games budgets would suggest this was a highly optimistic view of the likelihood of inflation in Olympic costs. The current estimate of the public cost of London 2012 is now £9.35 billion, while the operating budget of LOCOG is a further £2 billion. Some of this divergence between the initial estimate and outturn cost is attributable to rules of the Olympic accounting game; for example, the bid budget did not include off-site security, now estimated at £600 million, or value added tax on infrastructure and regeneration costs of £800 million, inflating the budget but accruing to the Treasury. Nor did it include a £2.7 billion contingency, which factored cost overruns into the budget. Probabilistic models were anchored to the paradigm of the bid budget, rendering them fictional when substantive modifications were made to plans for infrastructure, regeneration, facilities and operations. Even probabilistic methods, then, used to counteract the problem of cost control in large projects, were unable to contain budget expansion in the face of changing terms and scope of the project. These instead provided political legitimacy through procedural verification, rather than challenging underlying assumptions of planning, on paper, at the bid stage.

Overall, this concern with formal management of risk is associated with principles of precaution and foresight – as risks must be identified, evaluated and controlled. These do not guarantee that all risks can be avoided. Formal anticipation instruments are reliant upon the quality of information being fed into risk management systems. While the optimistic endorsement of these formal mechanisms signals to a wider audience that risks are being managed, the utilisation of these mechanisms can trigger side-effects as failures of risk management and control generate further exercises in verification. These processes have each
contributed to growing utilisation of such approaches to governance of risk over time in the context of the Olympics.

3. Risk Resilience and Adaptation

Alongside the growth of formal administrative practices of risk management, there is increasing interest in the idea of resilience. Rather than anticipating and preventing risks from occurring, systems are supposed to be able to bounce back from unanticipated interruption, and to do so quickly (Wildavsky 1988, p. 77, Carpenter et al. 2001). In the governance of risk, resilience implies the ever-presence of potential crises and advocates the design of organizational structures that are capable of responding to, and adapting in the face of, future unknown threats and hazards. For the governance of the Olympics specifically, sources of resilience are identifiable in event rehearsals and stress-testing, and in the creation of redundancy.

Test events and technical rehearsals are essential for both the assurance and piloting of Olympic infrastructure, facilities and operations. Such exercises are a longstanding practice in Olympic planning and assist in the identification of problems or risks. These are dependent, however, upon the preparedness of venues and transport links in advance of the Games. The Olympic Stadium for the Atlanta 1996 Olympics opened just three months before the Games and the fitting out of the main press centre commenced with just days to go, whereas the venues for the Sydney 2000 Olympics were available for event rehearsals with around a year remaining (Chappel et al. 2000, pp. 43-44). Late completion of the construction programme for the Athens 2004 Olympics restricted opportunities for event testing at venues. Programmes of event testing are now often extensive, however: preparations for the Beijing 2008 Olympics involved 42 test events while there will be some 74 test events for the Sochi 2014 Winter Olympics, with event rehearsals due to start in 2011 some three years ahead of the Games (Wilson 2010). The Olympic rehearsals increasingly involve tests of the integrity of systems and support services, for example with rehearsals ahead of Sydney 2000 on emergency responses in public health (Jorm et al. 2003, p. 103). Such stress-testing is not, however,
without limitations itself. The police response to a bomb threat at the Atlanta 1996 Olympics was subject to critical delay because new names given to Olympic venues had not been updated in the police dispatch system and the operator was unable to override the computer system to dispatch a unit. While the dispatch system had not been identified as a critical component of the response in the event of a terrorist incident, this small flaw had significant consequences, consistent with Perrow’s theorisation of system (or ‘normal’) accidents.

Security planning for the Olympics has long engaged in methods of scenario analysis, for example in the simulation of decision-making processes, responder exercises and event rehearsals (Thompson 2008, p. 47). Such tabletop ‘gaming’ exercises at top of the command chain and the practical training of personnel through rehearsals are becoming more prevalent across the diverse functions of Olympic facilities and operations. Modelling and simulation was a feature of the Process Logistics Advanced Technical Optimization (PLATO) approach of the Athens Organizing Committee (ATHOC), developed for planning and designing venue operations because of the complex interdependence of processes, actors and venues (Beis et al. 2006). Ahead of the Vancouver 2010 Winter Olympics, IT planning identified around 600 possible scenarios for rehearsals in a formal ‘playbook’ which also documented procedures to follow in the event of an incident (Bradbury 2010). Scenario analysis was conducted through a ‘shadow team’ of expert saboteurs (drawn from VANOC, Atos Origin and Bell Canada, an Olympic partner firm) who assessed the contingency response to hardware failures, network disruptions or illness to key personnel, for example. As Bradbury (2010) notes, this scenario testing was ‘designed to test just how much punishment the precisely orchestrated ecosystem could take while achieving its goal – to get information from the Olympics out to everyone who needed it.’ As the IOC’s Worldwide IT Partner for the Olympic Games since 2000, Atos Origin maintains a pre-existing set of scenarios that are adapted for host-specific conditions. As such, local resilience intersects with the transnational network of Olympic governance and its delivery partners.

To deal with the risk of institutional memory loss, since the late 1990s the IOC has developed the Olympic Games Knowledge Management (OGKM) programme. This initiative
originated in SOCOG’s ‘Transfer of Know How’ programme for the Sydney 2000 Olympics developed in conjunction with the IOC (Watson 1999). Its integrated framework of services and documentation now consists of an observer and secondment programme for officials from future host cities, workshops, technical manuals, a Games evaluation process and debriefing. While such processes enhance lesson-learning and continuity between the otherwise sporadic and dispersed distribution of organisational knowledge across the global Olympic movement, there remains a danger of positive reinforcement or ‘group think’ (Janis 1972) in formation of planning assumptions and scenario modelling due to a small world of Olympic partner firms, contractors and consultants (Jennings 2010, p. 155). In other words, a reliance on increasing resilience through redundancy has been a common feature across the Olympic governance of risk. However, such strategies are built upon worst case (risk averse) assumptions and often create inefficiencies through unused redundancy.

Conclusions

The governance of mega-events such as the Olympics provides insights about risk and decision-making, and the consequences of the choice of particular approaches or technologies for managing risk. This paper has sought to enhance the understanding of tensions between biases towards over-optimism and risk aversion in governance of mega-events and mega-projects. These biases do not just occur at different times, or in parallel, but rather they interact within the very same contexts - risk management tools are both an expression of optimism-bias and risk aversion and these interactive effects create their own unpredictable effects on the governance of Olympic risk. Over-optimism is attributable both to psychological biases which affect decision-making such as the planning fallacy and illusions of control and in anchoring against the prospect of sizeable financial, economic and political gains, while institutional features of the candidature process for awarding the Games encourage ‘fantasy’ bid documents and the deferral of tough decisions on budgeting for example. Such insights are of practical consequence for the governance of the Olympic movement – since in recent times, the IOC has given particular attention to enhancing its
financial security while also promoting the importance of risk both within the candidature procedure for awarding the Games and in oversight of planning and preparations of host cities.

The formal and informal management of risk has become ubiquitous, as all the three rival modes of risk governance – market, anticipation- and resilience-based approaches– have each come into increasing Olympic use over time. This is in part attributable to the growing importance of ‘risk’ as an organising category, but also reflects a broader interest in organisational control and responses to the changing risk environment of the Olympics. At the same time, risk management is nothing new: the use of insurance-based measures is traceable to Games during the first half of the twentieth century, so do not reflect the more recent rise of complex financial instruments. Likewise, the use of private contractors seems to be dependent upon favourable economic conditions, rather than reflecting a clear-cut trend towards growing marketisation over time.

Overall, an increasingly diverse portfolio of tools for the management of Olympic risk are in evidence. It is not clear that this is attributable to any form of intentional design, as these approaches to risk governance have emerged in an ad hoc way over time, reflecting both broader trends in organisational practice and changes in the risk environment of the Olympics itself.

What is clear is that the selection and application of various modes of risk governance technologies is in itself be an expression of the decision-making biases both of risk aversion (‘the more risk management the better to reduce uncertainty and blame’) and optimism bias (‘the more risk management the easier it is to manage risk’). Rival models of risk governance do not resolve the contradiction between the over-optimism present in Olympic planning and risk aversion towards crises and blame. Indeed, the choice of tools of risk management might itself be a source of risk, as over-optimism in the controllability of particular risks collide with the realities of unpredictable events and the presence of risk-aversion in which responsibilities are shuffled to the side or where organisational processes become ever more complex.
References


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