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Mega-Events and Risk Colonisation
Risk Management and the Olympics

Will Jennings

LSE THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

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Abstract

This paper uses the idea of risk colonisation (Rothstein et al. 2006) to analyse how societal and institutional risks simultaneously make mega-events such as the Olympics a problematic site for risk management while contributing to the spread of the logic and formal managerial practice of risk management. It outlines how mega-events are linked to broader societal and institutional hazards and threats but at the same time induce their own unique set of organisational pathologies and biases. In this context, it is argued that the combination of societal and institutional risks create pressure for safety and security which in turn give rise to the growing influence of risk as an object of planning, operations and communication both in organisation of the Games and governance of the Olympic movement. This is consistent with the colonising influence of risk over time: both in the creation of formal institutions (such as risk management teams and divisions) and the proliferation of the language of 'risk' as an object of regulation and control.

Mega-events such as the Olympic Games present a special case for understanding the relationship between large-scale projects and societal and institutional risks, and how these in turn give rise to pressures for the management of risk. This paper applies the idea of risk colonisation (Rothstein et al. 2006) to analyse how societal and institutional risks make mega-events such as the Olympics a problematic venue for risk management while contributing to the spread of logics and formal organisational practice of risk management (e.g. Jennings and Lodge 2011). In light of trend towards the increasing attention to risk and its management in modern states and societies (e.g. Giddens 1991; Beck 1992; Jasanoff 1999; Hood et al 2001; Garland 2003; Power 2004), large-scale, spectacular 'mega' projects and events make for an extreme collision of wider societal and institutional forces. These intersecting trends highlight the confounding paradox of mega-projects (Flyvbjerg et al. 2003). That is, the puzzle of why vast and complex undertaking of this sort remain popular with governments and planners in view of their inherent riskiness, both in manufacturing societal risks (such as hazards related to pollution or transport accidents and threats from terrorism) and risks to institutions (for example, suffering from poor track records in terms of cost over-runs and shortfalls in their completion times, financial revenues and economic impacts). This paradox becomes all the more apparent when societal and institutional pressures for the management of hazards and threats are taken into account. The awkward relationship between risk and mega-events can therefore be unpacked to explain the colonising influence of risk over time in governance of the Olympics through the creation of formal institutions (such as risk management teams and divisions) and the proliferation of the language of 'risk' as an object of regulation and control. Mega-events are organised in a setting in which there is heightened institutional attention to risks, due to societal and institutional pressures for safety and security and to pathologies and biases specific to the organisation of mega-events in particular. This creates a climate in which there is intense dialogue about risk ahead of the event in the public domain (most of all in the media) and within stakeholder organisations.

Mega-events are large-scale events, linked to international sport, culture and leisure (Hall 1989: 263), with complex logistical operations that are reliant upon advance planning and wide-ranging programmes of investment in the construction of infrastructure, venues and facilities. Such events are non-routine and of limited time duration, requiring the management of large movements of spectators/visitors, workforces and participants. Further, mega-events tend to be *global* in scope with regard to their governance (under transnational authorities such as the International Olympic Committee), participation, tourist arrivals and penetration of media markets. Within countries the economic scale of mega-events, involving high levels of public and/or private investment, has consequences for the distribution of resources, with repercussions for host cities and national economies. These are, then, '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: 1). According to this definition, mega-events are made up of wider programmes that include, but are not limited to, large-scale construction projects known as 'mega-projects' (Flyvbjerg et al.

2003). In the mega-event context such construction works range from athletics stadiums and other sporting venues to residential accommodation, telecommunications networks, public transport infrastructure, energy and water supplies and the landscaping of public spaces (while some pre-existing venues and facilities are overlaid for the duration of the event). This paper argues that the planning and operational features of mega-events are linked to the production (or attraction) of social and economic harms, at the same time as creating institutional demand for the language of risk and for methods of risk management. The public visibility and symbolism of such events also tends to encourage debates about risk.

There is much debate over the social and cultural origins of the notion of risk (e.g. Douglas and Wildavsky 1982). In this paper, the relationship between mega-events and risk is organised in relation to the theoretical distinction between *societal* and *institutional* risks (drawing upon Rothstein et al. 2006). The former refer to objective risks to society and its environment (i.e. dangers to host populations, participants, workforces or spectators and to land, air, water, buildings and infrastructure), while the latter refer to risks to the activities of organisations (i.e. threats to legitimacy or reputation and to internal operations such as financial liabilities, cost over-runs, non-delivery). This distinction reflects the tensions inherent to thinking about risk, between approaches that focus upon the regulation of social and environmental hazards (e.g. Beck 1992; Hood, Jones et al. 1992; Breyer 1993; Hood et al. 2001; Vogel 2003), and latterly the threat from terrorism (e.g. Ericson and Doyle 2004; Haggerty and Ericson 2006), and those geared around the risks of risk management to institutions themselves (e.g. Power 2007). The construct of risk used in this analysis therefore integrates 'objective' forms of risk with the 'constructed' manifestation of risk as an object of communication and managerial planning and control within institutional settings, and the framing of hazards and threats to organisations.

The Olympics represents an ideal case for analysis of the relationship between mega-events and risk for a number of reasons. Foremost it satisfies any accepted definition of what constitutes a mega-event: it is recognised as the world's largest and most visible international sporting event, involving the coordination of hundreds of thousands of officials, participants, security personnel, accredited media and spectators, and often entails extensive programmes of construction of sporting venues and infrastructure. Further, the persistence of institutional *forms* over time (in particular the IOC and Olympic Organizing Committees) enables analysis of change and continuity in risk and its management. Alongside these organisational features, the status of the Olympics as a global 'media event' makes it susceptible to the heightened anticipation of threats and hazards, leading to the activation of special measures for running and securing the event (e.g. Boyle and Haggerty 2009; Richards et al. 2010; Bennett and Haggerty 2011). It is therefore a context in which the management of societal and institutional risks is of special relevance (Jennings 2012).

The paper is organised as follows. It first outlines how mega-events in general are linked to broader societal and institutional hazards and threats. In this, it explains how mega-events such as the Olympics contribute to the manufacture of societal risk and

institutional pressures for safety and security. It next explains some of the ways in which the planning and operation of mega-events are susceptible to their own unique set of organisational pathologies and biases. These conditions give rise to the colonising influence of risk in governance of the Olympics, leading both to the creation of formal institutions (such as risk management teams or divisions) and proliferation in the language of risk as an object of management and control inside Olympic organisations. This line of argument sheds some light on how mega-events of this sort are linked with exposure to particular sorts of hazards and threats and at the same time describes how there has been a long-term transformation of operational, financial and managerial practices in Olympic governance.

Mega-events and risk

The inherent scale and complexities of mega-events make them an extreme setting for understanding how states and societies are confronted with an ever widening range of societal risks that are produced during the course of social and economic activities. In some quarters it is argued that the world has entered a new era of extreme events and systemic risks, marking a shift towards man-made rather than natural hazards (e.g. Lagadec 1981; Giddens 1991; Beck 1992; OECD 2003). Globalisation in its various forms exacerbates the interconnectedness of risk (transmitted through global telecommunication and supply networks, international travel, migration and cross-border movement of goods, services and capital), while technological and scientific innovation also create opportunities for the inadvertent production of risk. These processes accelerate the contagion of risk, such as in the form of pandemic disease or shocks to the financial markets. Catastrophic disasters or near-misses, such as the Chernobyl nuclear disaster, the Exxon Valdez oil spill, the September 11th terror attacks, the SARS outbreak, avian influenza and the Fukushima nuclear accident, are often cited as evidence that social, economic and political cleavages increasingly cut across new boundaries, tearing up existing power relations and institutional structures. Ulrich Beck (1992) argues that risk is a product of modernisation itself, manufactured as an *externality* of social, technological and economic activities. This includes, for example, toxic waste and pollution created during the course of industrial production and hazards created in scientific or technological experimentation such as genetic modification and nanotechnologies. Even intentional threats from terrorism (unlike ecological and financial risks which are 'accidental') are linked to technological progress and processes of globalisation. This theoretical perspective therefore emphasises newness of man-made threats and hazards and the speed at which unexpected shocks travel through time and space: risk is society's response to 'hazards and insecurities induced and introduced by modernization itself' (Beck 1992: 21). (It also highlights a shifting of the boundaries of regulation and risk management beyond the borders of the nation state, which is discussed in brief later.)

The man-made aspect of societal risks is most apparent in system-level accidents and crises that result from the unanticipated interaction of human error, technological failure and blind spots in decision-making processes (e.g. Perrow 1984; Vaughan

1997). This of especial relevance in the context of complex technological and organisational systems which exhibit emergent properties (i.e. unexpected behaviours that arise from interaction of multiple parts of a complex system) just like those involved in the planning and operation of mega-events and the associated large-scale engineering and construction projects. One of the features of such complex systems is that organisational processes are opaque to observers such that their vulnerabilities are 'incomprehensible' at the time (Perrow 1984: 9), but not in hindsight. Societal risks are therefore generated through the malfunctioning of complex systems due to chains of events that are not foreseen. Further to this organisational perspective, the concept of risk is said to be interlinked with the anticipation of catastrophe and disaster itself (Beck 2006). Whether or not one subscribes to claims of the newness and the pervasiveness of the risks encountered in what is termed 'late modernity', 'the idea of risk is bound up with the aspiration to control and particularly with the idea of controlling the future' (Giddens 1999: 3). This will become more apparent when institutional risks are discussed later. The notion of societal risk is itself crucial for understanding the tensions that are integral to the organisation of mega-events.

Mega-events such as the Olympics exemplify the production of risk as an externality of social and economic behaviour. Indeed, unexpected environmental impacts are one of the features of large-scale construction and infrastructure projects (Flyvbjerg et al. 2003: Chapter 5). The preparation and operation of mega-events produce a wide range of externalities through their transformation of the urban environment (such as the construction of venues and infrastructure) and through the influx of large numbers of people, each of which can be linked to increases in consumption and the production of waste and pollution. For example, the development of land or the construction of new buildings and infrastructure can have adverse ecological impacts. Further, mega-events generate additional consumption such as energy and water usage, transport and food retail, which in turn create waste (e.g. rubbish, sewage), as well as congestion (e.g. road traffic, over-crowding on public transport, people congestion in public spaces and retail areas). For instance, electricity consumption during the FIFA 2006 World Cup in Germany amounted to 12.6 million kWh while the estimated carbon footprint was 92,000 tonnes of greenhouse gas emissions (Öko-Institut 2004), compared against 2.7 million tonnes of emissions at the FIFA 2010 World Cup in South Africa (Econ Pöyry 2009). It is therefore possible to think of the externalities of mega-events in terms of things such as noise, air emissions, toxic building materials, traffic jams, waste and effluent. All these represent potential social and environmental hazards associated with such events. Mega-events also entail large financial risks for host cities and governments due to the huge sums of public and private investment that are typically involved. In short, the organisation of such mega events can be linked to the creation of potential social, economic or environmental costs and adverse impacts, i.e. risks.

Turning next to the case of organisation of the Olympics, this provides an extended longitudinal sampling frame (dating as far back as establishment of the modern version of the event in 1896) where it is possible to explore change over time in the production of societal risk and in institutional attempts at risk management. While

upward trends in the scale, cost and complexity of the event might seem trivial, these are useful for demonstrating that growth in risk management is not just due to institutional pressures for safety and security, but also due to the generation of objective risks as a byproduct of growth of the event itself. The Olympics in particular is an interesting example of the links between risk and modernisation, as the event has manufactured man-made risk through its organisational scale, financial success and public image, while at the same time contributing to wider societal perception of certain hazards and threats encountered in modernity – in particular the threat of international terrorism – further accentuating the preoccupation of modern states and societies with risk. These aspects of the link between the Olympics and risk are now discussed in turn.

Organising risks

It is possible first of all to link the proliferation of risks entailed in organisation of the Olympics directly to the scale and complexity of the event. To this effect, the IOC-mandated Olympic Games Study Commission (2002: 7) has observed that 'the growth and size of the Olympic Games have reached the point where they present significant operational and organisational risks'. This pathology is characteristic of modernisation, in its combination of globalisation, technological progress and financial gigantism. In its current form the Games has been described by Dave Higgins (2007), Chief Executive of London's Olympic Delivery Authority (ODA) as 'the world's largest peacetime event' with the logistical operation involved being equated to the simultaneous staging of 33 world championships in a single city. The exceptional scale of the Olympics is evident in Table 1 which compares some basic indicators of event size (i.e. number of participants and spectators) with other major domestic and international events. When tracked across time, see Figure 1, it becomes apparent that the number of participants and events in the sporting programme has been subject to substantial growth, contributing to the requirement for more competition venues, facilities, services and accommodation and further adding to the complexity and interdependence of event planning and operations. This growth in event size creates externalities in terms of social and economic activities. For example, the carbon footprint of the Beijing 2008 Olympics was estimated to be 1.2 million tons of emissions, with international flights accounting for more than 60% of the total, and the competition venues and accommodation accounting for around 20% (UNEP 2009: 105). Higher volumes of passenger flows (i.e. of competitors, support staff, officials, media and spectators) across borders are also a potential source of public health risks due to local factors such as exposure of visitors to air pollution, and increased likelihood of cross-border transmission of infectious diseases. Such hazards have motivated the attention of host cities to public health preparedness and monitoring (e.g. Meehan et al. 1998; Jorm et al. 2003; Davis et al. 2008). New technologies also create opportunities for the emergence of new risks, such as the threat of cyber terrorism, with twelve million attacks reported per day during the Beijing 2008 Olympics (HM Government 2010: 29). In this regard, mega-events have the potential to create a platform for malevolent forces.

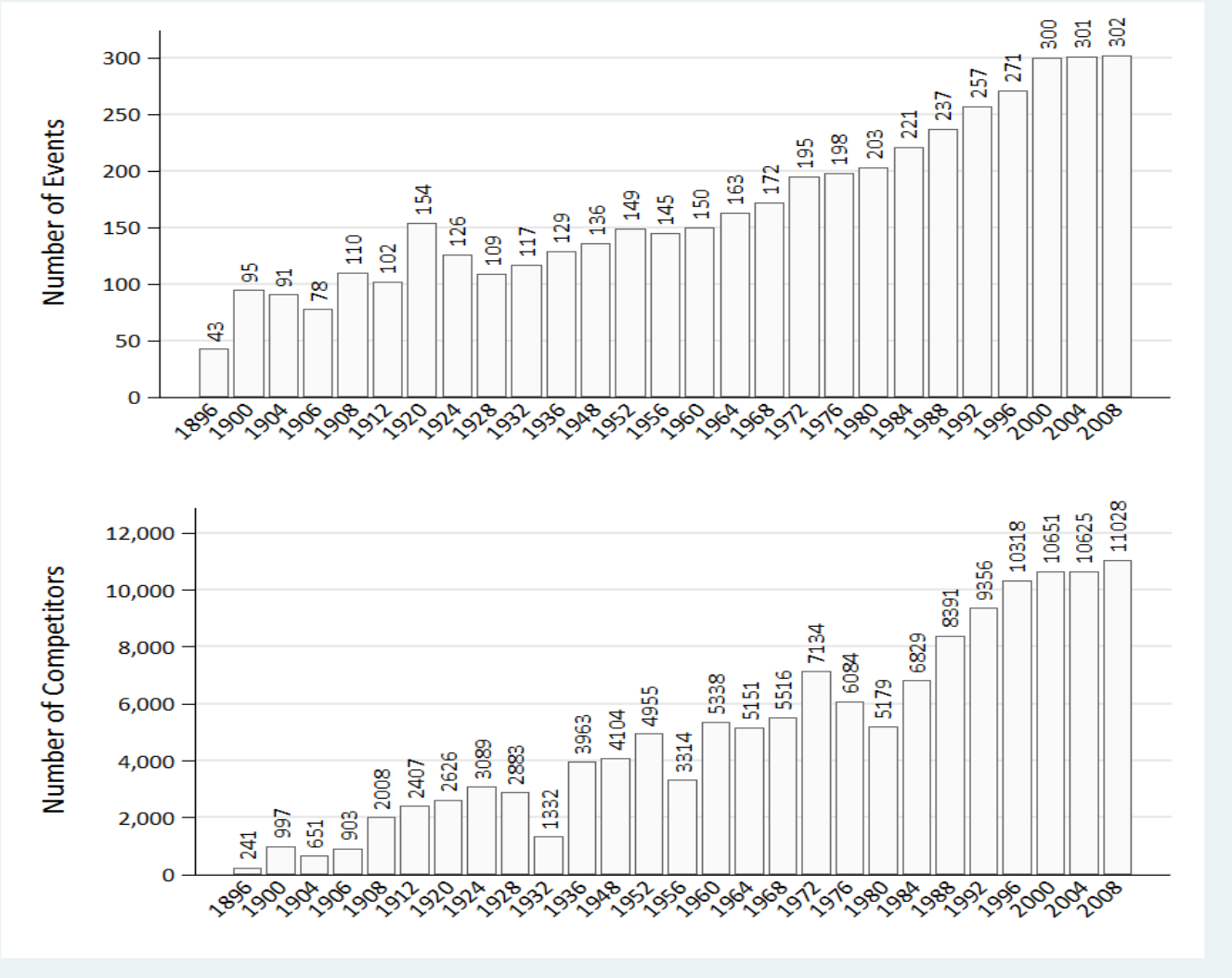
Table 1. Comparison of the Olympics, mega-events and other major events (UK)

	Year	Event	Duration of event (days)	Number of participants	Number of dignitaries and VIPs	Number of attending spectators
London	Annual	Notting Hill Carnival	2	10,000	n/a	850,000
	Annual	London Marathon	1	34,000	n/a	26,000
	Annual	Wimbledon Tennis	14	960	56	539,000
	2002	Golden Jubilee Weekend	4	15,500	540	1,000,000
	2002	The funeral of The Queen Mother	9	5,476	585	400,000
	2000	Millennium Celebrations (London)	1	2,000	500	1,000,000
England	Annual	Epsom Derby	2	1,000	3,000	100,000
	Annual	Royal Henley Regatta	4	16,000	12	60,000
	2003	UEFA Champions League Final	1	30	10	67,000
	2002	Manchester Commonwealth Games	10	5,717	30	900,000
	1996	UEFA European Championships	21	500	100	1,236,000
International	2010	FIFA Football World Cup – South Africa	31	736	n/a	3,178,856
	2009	IAAF World Athletics Championships –Berlin	9	1,984	n/a	400,000
Greece	1896	The Olympic Games (Summer) – Athens 1896	10	241	n/a	n/a
Italy	2006	The Olympic Games (Winter) – Turin 2006	17	2,508	n/a	900,000
China	2008	The Olympic Games (Summer) – Beijing 2008	17	11,000	50,000+	6,500,000
Canada	2010	The Olympic Games (Winter) – Vancouver 2010	17	2,622	15,000	1,500,000
UK	2012	The Olympic Games (Summer) – London 2012*	17	10,500	6,000*	9,000,000*

Source: Adapted from: Table 12.14, London 2012 Ltd (2004) *Candidature file for the 2012 Olympic Games*.

*Provisional estimate

Figure 1. Size of the Summer Olympics, 1896–2008

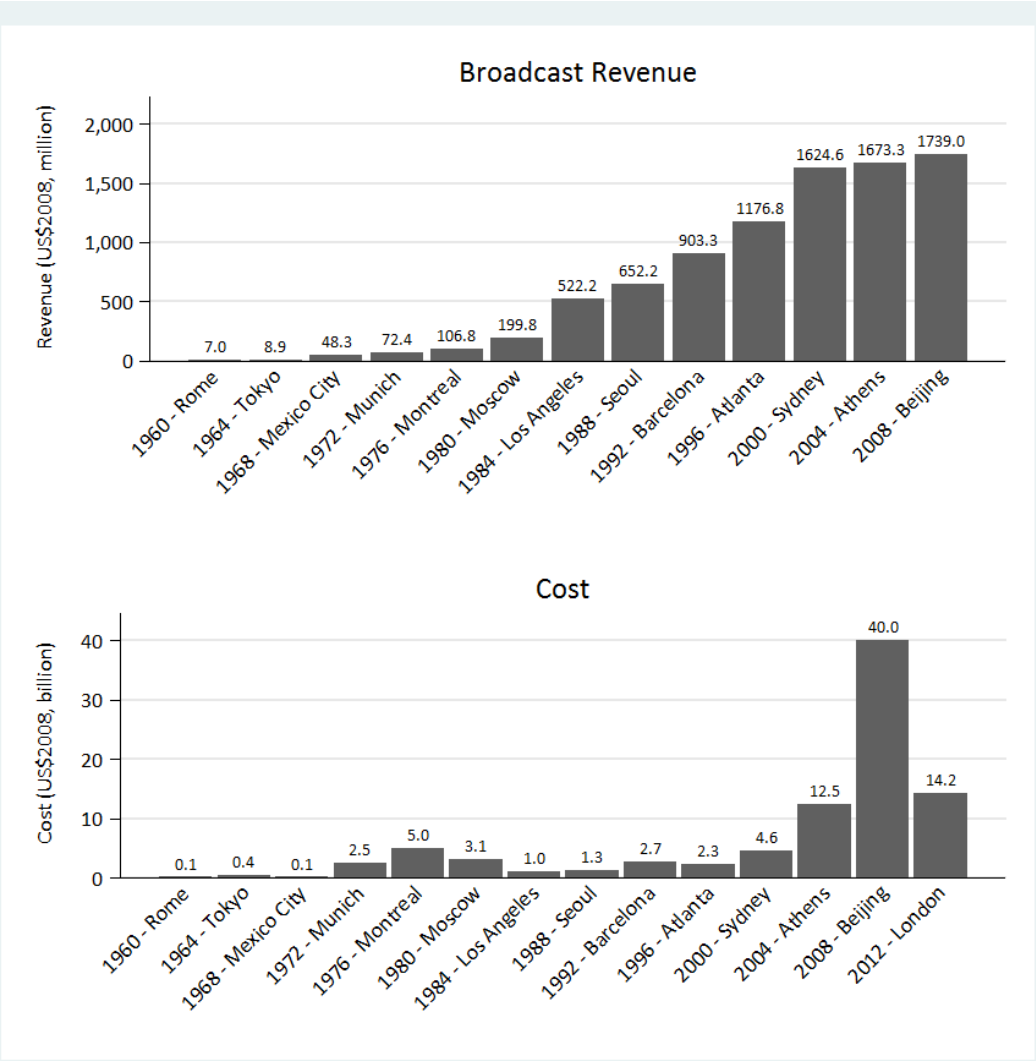


While social and economic externalities from event organisation often 'spill over' to become societal risks, such as in the form of environmental harms or financial debts left to host cities and taxpayers, the governance of mega-events is also interlinked with *institutional risk*: that is, risks to the activities of organisations. In the Olympic context, a wide range of stakeholders are put 'at risk' throughout the course of event planning, procurement, delivery and operations. These include the IOC as its sanctioning authority, the host government and organising committee ('OCOG'), the domestic intelligence agencies and police (responsible for security of the event), international sports federations, engineering and construction firms (contracted to design and build stadiums and facilities for the event), public health agencies, transport authorities, emergency services, international regulatory bodies such as the World Anti-Doping Agency, private investors, corporate sponsors, broadcasters, insurers and so on. Institutional risks can take the form of financial and legal liabilities, threats to reputation or legitimacy, operational vulnerabilities to disruptions or critical failures, and accountability to political masters or the wider public. An example of institutional risk is the potential for the loss of broadcasting revenues accruing to the IOC and OCOG due to event cancellation (with broadcasters in turn at risk of lost advertising revenues). Another is the potential reputational cost to the host government of an unfinished stadium or a serious security breach.

Further to this, the increasing technological ambition of the design and engineering of host cities and urban development agendas (Gold and Gold 2007) has also meant that the task of constructing facilities and infrastructure for the Olympics have required increasing levels of public and private investment. The growing financial gigantism of the Olympics, driven in particular through its commercial modernisation since the 1980s, can be observed in Figure 2 in the upward trends in the level of broadcast revenue and the cost of hosting the Games (with figures reported in US$ at 2008 prices to enable comparison across time). With host cities and the Olympic movement each subject to growing operational costs, the magnitude of financial risk has increased for the IOC (which raises revenue through the sale of broadcast rights and sponsorship partnerships) and for host cities (which depend upon revenues from ticket sales, domestic sponsorship, and a share of IOC revenues). This means the Olympics is now exposed to fluctuations in both national and global economies. A recent example is the public bailouts required of private sector developers of the Olympic Villages for the Vancouver 2010 Winter Olympics and London 2012 Olympics, which suffered financing difficulties due to the global financial crisis. Further, increasing financial reliance on revenues from broadcast rights and corporate sponsorship paid in US dollars has exposed host cities to the risk of exchange rate fluctuations. For example, the organising committee for the Vancouver 2010 Winter Olympics experienced a C$150 million shortfall due to a decline in the value of the Canadian dollar against the US dollar (Auditor-General of British Columbia 2006: 6–7, 35). These are examples of institutional risks integral to financing of the event.

Overall then it can be argued that a mega-event such as the Olympics is a contributor to the production of societal and institutional risk, in its links to processes of modernisation – consistent with the theories of Beck (1992) and Giddens (1991) – in

Figure 2. Broadcast revenue and cost of the Summer Olympics, 1960–2012 (US$ in 2008 prices)



organisational, economic and technological forms. With growth of the event, risk is generated, for example, in relation to adverse ecological impacts, financial liabilities, security threats and public health dangers. Mega-events bring potential costs as well as benefits to both society and institutions and these are an inevitable consequence of scale and complexity.

Experiencing and anticipating risk

Alongside societal and institutional risks, adverse incidents and the anticipation of such incidents have formed an integral part of institutional, media and public narratives of Olympic organisation, with lasting consequences for wider perceptions of risk in host cities and on the world stage. Mega-events are good examples of the social and economic production of fear and the anticipation of catastrophe as well as the creation of externalities during the course of social, technological and economic life (Beck 2006). By definition these are high profile, 'liminal' settings and moments in which collective memories and worldviews are created (Roche 2000; also see

Turner 1982). In this fashion, the Olympics has provided a heightened venue for the experience and anticipation of risk in late modernity – regardless of the objective basis of those risks. This is not least due to emergence of the Olympics as a global media event and as an ubiquitous 'super-brand' – in which risk and the anticipation of risk are recorded through local folklore, mass media, official reports, conventional wisdom among expert communities, and academic commentaries.

Because of its global reach and status, then, the Olympics has long been a platform for geo-political conflict (e.g. Espy 1979; Hill 1996) and for occurrence of other high impact incidents (e.g. protests over China's human rights record during the international torch relay for the Beijing 2008 Olympics). While some of these geo-political tensions remain isolated to the event itself, the global profile and political significance of the Olympics means that it also has the potential to transform wider societal relationships with risk, feeding back into general processes of modernisation that Beck (1992) describes. While the threat from international terrorism had emerged during the late 1960s and early 1970s with a series of aircraft hijackings, this reached a new and unprecedented watershed in the Olympic context with the dramatic events of the Munich massacre unfolding live on televisions across the world. Until the dramatic visual spectacle of September 11, this was arguably *the* defining event in modern terrorism and as such the Olympics helped shape global consciousness of the symbolic threat and potency of terrorism at major events in countries across the world. It is in part because of this that the Olympics is now a recognised target for security threats and has become a focal point for the coordination of military and policing responses (e.g. Richards et al. 2010). This structuring of risk perception has motivated the increasing severity of responses to perceived threats and the creation of long-term legacies for security and intelligence capabilities and for civil liberties in host cities (e.g. Boyle and Haggerty 2009; Richards et al. 2010; Bennett and Haggerty 2011). The imaginative aspects of security planning for the Olympics have further proved to be prophetic of the subsequent Al-Qaeda attacks on the World Trade Centre, with the contingency planning for both the Atlanta 1996 Olympics and Sydney 2000 Olympics contemplating the scenario of terrorist groups using commercial airlines as a missile. Ahead of Atlanta, National Security Advisor Richard Clarke and the counter-terrorism team of the Clinton Administration had prepared a plan for a hijacked plane being flown into the main stadium (Clarke 2004: 107–9). To similar effect, officials for Sydney prepared tactics for the scenario of a commercial plane being flown into the opening ceremony, reported to be 'the ultimate fear' of the IOC President Juan Antonio Samaranch (Magnay 2005). In fact, concerns about the threat of an aircraft being flown into the main Olympic stadium date to planning for the Munich 1972 Olympics (Wolff 2002). It is clear, then, that security concerns in the Olympic context have travelled far outside the defined perimeters of the event, between host cities and across time. At other times, the Olympic discourse about risk has mimicked wider perceptions of issues as risks. For example, ahead of Sydney action plans were devised in response to concerns over exposure of Olympic preparations to the Y2K problem (SOCOG 2001: 272). This followed the growing panic worldwide about the technological standstill that awaited the dawn of the new millennium.

The final important aspect of the perception of risk concerns how threats to reputation and legitimacy are framed. The profile of the Olympics, and close levels of media attention, might be expected to create extreme sensitivity of decision-makers to risk, given the potential for embarrassing and expensive failures or errors that cannot be rectified during the short time frame of the event. For example, journalists labelled the Atlanta 1996 Olympics the 'glitch Games' (Sack 1996) after it suffered a catalogue of minor operational and logistical problems with its transport system. Echoing this, one of the feasibility studies into a London bid for the 2012 Olympics warned 'the Atlanta experience showed the media can play an important role in defining the perception of the success or otherwise of the Games' (Luckes 1997: 66). In this regard the anticipation of risk has the potential to encourage institutions to look inwards, informing the incorporation of risk into decision-making processes, as is expanded upon later.

The mega-event paradox

Further to the general sorts of hazards and threats that an event such as the Olympics create or produce a platform for, mega-events exhibit a number of organisational pathologies and cognitive biases that make their governance an unenviable task. This is manifested in a paradox –why do ostensibly risk- and blame-averse officeholders (Weaver 1986; Hood 2002) commit political and financial resources to mega-events when electoral benefits are imperceptible and the risks are acute, suffering both from the unpredictability of complex systems and from the recurrent under-performance of mega-projects with regard to cost over-runs, completion times and expected benefits (Flyvbjerg et al. 2003)? The inability to measure and manage risk further contradicts the evaluative capabilities of the tools of the 'regulatory state' (Moran 2003) – such as cost-benefit analysis, audit and risk management – that are widespread in the governance of such projects. These countervailing forces contribute to the problem of the 'winner's curse' present in auctions subject to incomplete information (Thaler 1994), such as in the award of mega-events to host cities or countries through a competitive process, where the winning bid tends to over-estimate the value of the asset compared with other bids. The winner's curse is implicit to the governance of mega-events, since bidding processes tend to encourage under-estimation of risk during initial planning stages. This can lead to unexpected failures to keep within agreed budget limits, shortfalls against projected project benchmarks, or unexpected externalities due to superficial planning. Most of all, the organisational complexities of mega-events combined with their exposure to emerging risks due to the extended planning timeline makes them unusually susceptible to the production of societal and institutional risk.

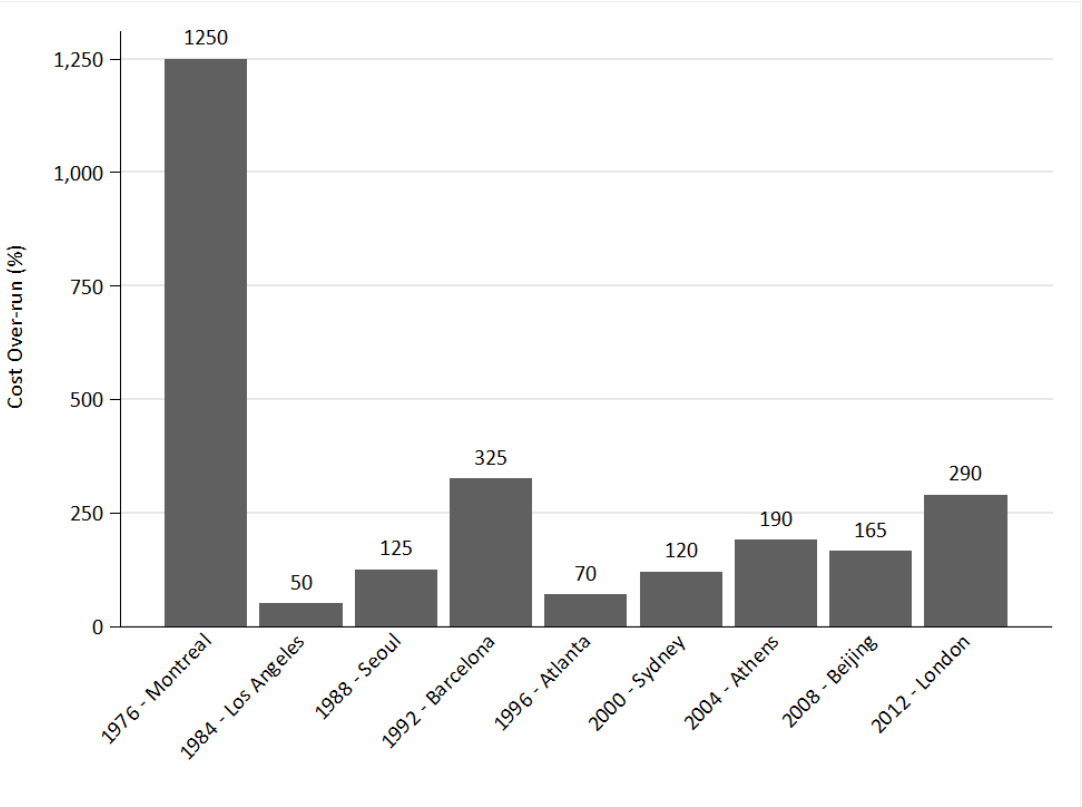
Behind the *political* paradox of mega-events, the decisions of elected politicians and administrators to pursue high risk projects with often imperceptible rewards tend to originate in the world of 'high politics', and specifically in the inclination of decision-makers towards 'icon politics' and the making of symbolic statements (Moran 2001:

417). Such behaviour can stem from ideological or partisan agendas, or the weakness of institutions in constraining decision-makers. It can also stem from conflict between local and central politics, such as the interest of civic leaders with the securing of inward investment or the accrual of 'soft power'. This disregard of risk at the expense of adversarial politics, prestige and reputational benefits in the political adoption of mega-events is consistent with systematic bias towards the under-estimation of risk in planning and management of large-scale construction and infrastructure projects, 'mega-projects' that are integral to their staging. This is typically manifested in the form of cost over-runs, completion delays and shortfalls against revenue targets (e.g. Merrow 1988; Flyvbjerg et al. 2003). Such tendencies give rise to a 'performance paradox' (Flyvbjerg et al. 2003) where mega-projects are increasingly proposed and built despite their poor track records and resistance to attempts to measure and manage risk and uncertainty. The problem of 'optimism bias' (which refers to the systematic over-estimation of positive outcomes and the under-estimation of risk) is especially relevant in the context of the Olympics due to its reliance upon sizeable construction programmes and selection of the host city through a competitive bidding process which encourages ambitious plans and imposes a strict deadline on construction projects and event operations. Because of this, bids are often concerned with winning the votes of a majority of IOC delegates first and subjecting their assumptions to scrutiny later. Indeed, the bid documents submitted to the IOC have been called the 'most beautiful fiction' by former IOC Vice-President Richard Pound (cf. Luckes 1997: 1). The positive 'spin' of such planning documents tends, therefore, to institutionalise the under-estimation of out-turn costs, such that the strategic under-attention of bids to inadequacies (Luckes 1997: 14) itself is a source of risk.

While the fixed deadline for the readiness of venues and facilities puts a prohibitive political and reputational cost on late completion for planners, optimism bias is evident from recurrent problem of cost over-runs in governance of the Olympics. The difference between cost estimates in bid books submitted to the IOC and the final out-turn cost for each Olympics between 1976 and 2012 is shown in Figure 3 (note that official figures for the Moscow 1980 Olympics are not available). Over this period, the average cost over-run was equal to around 200%. This includes the infamous 1,250% over-run at the Montreal 1976 Olympics, which left the city government with a C$1 billion debt, contrasted with much more modest over-runs at the Los Angeles 1984 Olympics, widely reputed as a model of a profitable mega-event, and the Atlanta 1996 Olympics.

Further to over-optimistic tendencies that can be traced to decisions in high politics, there is often limited funding available to bid teams for technical evaluation or for detailed costing of proposals. This is not least because of the potential for financial investment in the candidature process to deliver no return whatsoever. As a result, this encourages reliance upon standardised templates and generic bids. In preparation of the London bid, for example, evaluations of previous successful bid *documents* (Luckes 1998) and the formulation of a 'specimen bid' (ARUP 2002) revealed the concern of decision-makers with the perception of the bid rather than a systematic assessment of risk. Such fictions are characteristic of Clarke's (1999) account of the

Figure 3. Rate of cost overruns for the Summer Olympics, 1976–2012



'fantasy documents' produced by organisations to express uncertainty in terms of risk and provide reassurance to outside audience. Indeed, bid documents are precisely a form of organisational rhetoric aimed at imposing order and controllability in the face of a large number of unknowns. As a consequence, the candidature process involved in the selection of mega-event locations is a major source of divergence between the initial cost projections and the final out-turn cost. What is perhaps most notable is that the recent under-estimations of financial risk have occurred despite technical assessments of costs and use of expenditure controls (e.g. Auditor-General of British Columbia 2003; National Audit Office 2007). In these instances cost over-runs occurred despite knowledge of the high likelihood of this in the context of mega-projects. Indeed, the bid budget for London 2012 did not adhere to the British government's own guidance on budgeting for major projects and specifically, its procedures for dealing with optimism bias (Public Accounts Committee 2008). In this regard, the tools of the 'new public management' (Hood 1991; Pollitt 1995) and the 'regulatory state' have failed to overcome the politicisation of decision-making (Moran 2001: 415).

Alongside this over-confidence in planning, mega-events are also susceptible to what Perrow (1984) calls 'normal accidents'. This arises due to the complex interdependence of infrastructure (such as transport networks and power supplies) and event operations (such as policing, emergency services and ticket controls and barriers). Seemingly innocuous incidents have potential to cascade through systems with unexpected and disproportionate effects. For example, a technical problem with

the police dispatch system in Atlanta, which had not been updated with the new names given to Olympic venues, resulted in a ten-minute delay in the response time to a telephoned bomb threat because the operator was unable to override the system to dispatch a unit (Johnson 2008: 304–5). This minor, seemingly non-critical, feature of the 911 system therefore had unanticipated consequences, as Centennial Park had not been evacuated by the time the pipe bomb detonated. Such an incident helps illustrate the normal accident-type vulnerabilities of mega-events.

In addition to the unanticipated consequences of normal accidents, mega-events are vulnerable to 'emerging risks' (i.e. developing or changing risks that are not well understood but have potential to have a major impact) due to the extended duration of the bid, planning, organisation and decommissioning of the Olympics, which can sometimes last between 15 and 20 years. This creates a high degree of uncertainty for decision-makers in making forecasts about critical project details such as infrastructure costs, expected revenues and security threats. Errors in bid forecasting can occur either through incremental divergence from initial conditions (such as slow inflation in costs) or through sudden shocks that require the complete adjustment of planning assumptions (such as terrorist incidents or economic crises). For example, since exploratory studies into a London bid (cf. Luckes 1997, 1998; British Olympic Association 2000), the broader risk environment of the Games has undergone a series of fundamental transformations – with the escalation of some risks and others in relative decline. The threat of terrorism to the London 2012 Olympics changed with the events of September 11, 2001 and July 7, 2005 highlighting the threat from Al-Qaeda and extremist Islamic groups, while the threat of Irish republicanism on the British mainland (Luckes 1997: 15) has declined since the 1998 Good Friday Agreement due to the success of the Northern Ireland peace process. Most prominently, while proposals for the event were developed during a period of economic growth, the events of the global financial crisis have impacted upon public finances and investment from the private sector as well as having potential implications for revenue from ticket sales and sponsorship. While emergent societal risks of this sort are general in their origin, mega-events are especially exposed because of the long time horizon of planning. In juxtaposition to this, planning tends to be compressed in time due to the immovable deadline of mega-events. This means that there is low tolerance of failure or delays, which imposes additional costs to transfer and mitigate risks. In Olympic planning, event postponement is politically 'not an option', but means project non-completion would have a catastrophic impact and is therefore prioritised above all else. Concerns over the readiness of facilities ahead of the Athens 2004 Olympics demonstrate the reputational risks associated with project completion as well as the poor safety record in stadium construction that was linked to the race against the clock to finish projects on time (Howden et al. 2004). It therefore follows that the time pressures of mega-events, and mega-projects to a lesser extent, can be linked to increased likelihood of industrial accidents.

Although it might be argued that the risks that afflict mega-events are just everyday risks *writ large*, their governance is associated with a particular set of organisational biases and pathologies of over-optimism, normal accidents, extended planning

horizons and time compression, all of which have consequences for the predictability and manageability of risk.

Mega-events and risk colonisation: risk management and the Olympics

While mega-events are often resistant to attempts to measure and manage risk, their production of societal and institutional risk bring simultaneous pressures for safety and control. The growing influence of risk as an object of decision-making in the governance of mega-events must, however, be put in the context of a much wider 'qualitative shift towards the management of institutional risks' (Rothstein et al. 2006: 92). That shift is encapsulated in a number of overlapping trends across public and private sector organisations, such as the 'explosion' of the use of audit to measure organisational performance (e.g. Power 1997), the historical turn towards regulation and standard-setting as a mode of governing (cf. Moran 2002; Hood et al. 2001), and the rise of the risk industry and ubiquity of the tools of risk management within organisations (e.g. Power 2004). Together, these point towards the increasing importance of institutions' attempts to manage threats to their performance and their legitimacy and reputations. In light of the mega-risks that confront mega-events this is an organisational setting in which one would expect to observe similar institutional attention to risk, as well as discourse about risk that leads objects to be framed or reinvented as 'risks' rather than with reference to other organisational categories (cf. Power 2004; Rothstein et al. 2006). One might also expect to see the emergence of a professional community of mega-event risk managers and consultants, diffusing knowledge and practices across events. In the context of mega-event planning and management, then, institutions are highly attuned to risk given the potential for blame when things go wrong.

The emergence of risk management in the Olympic context is, therefore, an important case for assessing the extent to which there has been a similar shift towards the management of institutional risks in the governance of mega-events and the degree to which institutional forms and the language of risk has been replicated across events and over time (e.g. Jennings and Lodge 2011). In the analysis that follows the 'rise of risk management' and the spread of notions of risk and uncertainty in governance of the Olympics are outlined. The method of analysis is based on a combination of reference to official documentation and interviews with risk practitioners involved in the organisation of a number of recent Olympic Games. The increased influence of risk within Olympic-related organisations is examined in the form of development of the formal bureaucratic apparatus of risk management, such as the creation of risk management units within organising committees and in the wider spread of the language of risk as a means of internal control and communication.

The Olympics and risk management

While the 'formal' management of risk has become institutionalised in the Olympic context since the 1980s, organisational attempts to manage risk have taken numerous forms far predating this. One of the earlier methods was the purchase of insurance

against property and personal injury by organising committees (first documented in the Paris 1900 Olympics), and was of then especial importance due to the modest scale of commercial revenues and the absence of financial guarantees from host governments. This focus has shifted somewhat since the 1980s due at least in part to financial risks associated with exponential growth in revenue from the sale of broadcasting rights to major networks. The OCOG for the Sarajevo 1984 Winter Olympics was the first to take out insurance against the risk of cancellation to revenues from the sale of broadcast rights (Sarajevo '84 1984: 161–2) with the approach replicated in the purchase of coverage in the region of between US$100 million and $200 million for Calgary 1988, Barcelona 1992, Lillehammer 1994, Atlanta 1996, Nagano 1998, and Salt Lake City 2002. Despite much media fanfare when the IOC took out insurance cover against cancellation of the Athens 2004 Olympics in the recent aftermath of the September 11 attacks (e.g. Veysey 2004), then this fell within a broader systematic pattern of risk management via the tool of insurance.

The wider shift towards the formal management of institutional risk that has occurred in the Olympic context since the 1980s is consistent with the 'colonising' influence of risk as an object of regulation and of internal management and control. This might be precisely dated to 1982, in the creation of a specialist risk management sub-committee within the organising committee (OCO '88) for the Calgary 1988 Winter Olympics (cf. Chang and Singh 1988). Prior to this there is no evidence of dedicated units within Olympic-related organisations with a remit of risk management. Breaking new ground, Calgary's committee was responsible for developing a risk management programme aimed at the reduction or elimination of potential losses and liabilities, and this was managed through the conventional process of threat and hazard assessment, prior to the development of risk financing and loss control programmes. Statistical data on losses were also recorded and analysed through loss reports (Chang and Singh 1988: 51). During this developmental period, risk management was tied to the pre-existing organisational focus on insurance (risk financing). This situation of risk management within the insurance division of the host OCOG was replicated at the Albertville 1992 Winter Olympics and the Barcelona 1992 Olympics (COJO 1992: 228; COOB'92 1992: vol. 2: 79). It was only at the Atlanta 1996 Olympics, that risk management acquired a more holistic scope and meaning. For this reason, one former US Olympic Committee official considers it to have been 'the first Games built with a risk management infrastructure'.[1] This approach was replicated in the risk management programme developed for the next Olympics in Sydney (cf. SOCOG 2001: 271), exhibiting some 'institutional isomorphism' (cf. DiMaggio and Powell 1983) assisted through the movement of staff between organising committees. Even more comprehensive risk management systems have been implemented ahead of the Beijing 2008 Olympics, the Vancouver 2010 Winter Olympics and the London 2012 Olympics. For Beijing, risk management was integrated as part of the management of construction projects (cf. Loosemore 2007), and similarly risk management of London's construction programme was undertaken by the Olympic Delivery

[1] Interview with David Mair, Risk Manager for the US Olympic Committee and for the Atlanta 1996 Olympics.

Authority in collaboration with its delivery partner CLM (cf. ODA 2008: 67; Newman 2012).[2] Vancouver's organising committee (VANOC), implemented the 'Enterprise Risk Management' (ERM) framework, which consolidated its management of financial and operational risks – first prioritising construction risks, before looking at operational risks nearer to the event.[3] This trend of a shift towards the institutional management of risk in Olympic organising committees is summarised in Table 2. While the integration of risk management within organisational hierarchies has deepened over time, the similarities across institutions suggest considerable standardisation of organisational forms (i.e. with activities defined according to the generic categories of risk identification and risk assessment, risk transfer or insurance, loss control and contingency planning). In this regard, risk management has become a standardising notion that seeks to impose order on underlying complexity and diversity in mega-event organisation.

Further to the creation of risk management capacities *within* organizing committees, 'risk' has also become an object of governance in a broader sense at recent Olympic Games. For Vancouver, risk registers were maintained by the Olympics secretariats of the provincial and federal governments as managerial devices to track and manage issues and risks within their strategic responsibilities for the event. London's Government Olympic Executive maintains a similar register of programme risks, using general information from reports on threats and hazards to the UK (such as the Cabinet Office's *National Risk Register*) as well as Olympic-specific information compiled from the risk registers and risk logs of external bodies such as the Olympic Delivery Authority and the Metropolitan Police's Olympic Security Directorate. These sorts of governance arrangements are perhaps more revealing of the management of project and operational risks conducted at the level of the individual organisation – and their implementation of bespoke strategies for management of risk – since these devices reflect the growing influence of 'risk' as an object in strategic decision-making and in the categorisation of some aspects of event organisation. It informs, for example, the evaluation of risk and value-for-money in the Olympic Security Directorate's assurance of security projects competing for internal funding.[4]

In this regard, organisational objectives and performance can be framed in the language of risk, leading to certain sorts of institutional response and contributing to the 'colonising' influence of risks. The promotion of organisational rhetoric concerning risk can also be rather more democratic in nature. In both Vancouver and London, officials stressed the importance of nurturing a 'culture of risk management', facilitated through the bottom-up development of risk registers and the promotion of 'proactive thinking' in lower tiers of their organisation.[5] The application of risk management across large sections of London's Olympic programme, for risk practitioners at least, appears to have contributed to the creation of a shared language,

[2] Interview with ODA risk manager.
[3] Interview with risk manager, VANOC.
[4] Interview with security official, Olympic Security Directorate/Her Majesty's Inspectorate of Constabulary.
[5] Interviews with risk managers for VANOC, the ODA and the Government Olympic Executive.

Table 2. Risk management by Olympic Organizing Committees 1988–2012

Olympiad		Institutional Management of Risk
1988	Calgary	Risk Management Committee responsible for the identification, analysis and mitigation of risk: focused on exposures relating to people, public and property. Maintained a central record of losses, undertook risk assessments and managed risk through risk financing (insurance) and loss control (hazard assessment, safety training, contingency planning).
1992	Albertville	Risk management conducted within the insurance department of the organising committee, focused on management of insurable risks. Processes built on risk assessment, risk minimisation (and mitigation) and risk transfer through insurance.
1992	Barcelona	Development of a risk management plan contracted out to an external consultant, with the risk management plan organised around risk assessment, mitigation and transfer.
1994	Lillehammer	No formal division focused on risk management within the organising committee, exposure to risk dealt with in terms of insurance against financial liabilities.
1996	Atlanta	Separate risk management division tasked with risk assessment, risk transfer (i.e. insurance), risk mitigation (loss control, e.g. safety training and compliance monitoring), and risk administration (i.e. records management).
2000	Sydney	Risk management programme developed under the Finance Division of the organising committee undertook risk assessment and analysis, risk transfer (insurance), and mitigation (contingency and safety planning).
2002	Salt Lake City	Separate risk management division within the organising committee responsible for management of financial risks, undertaken through development of a comprehensive insurance programme and liaison with external partners to develop loss controls (e.g. venue owners, state government).
2004	Athens	Risk management section created under the Financial Services division of the Athens organising committee, responsible for insurance and, health and safety, and contingency planning.
2006	Turin	Risk management function of the organising committee was responsible for risk assessment, design of insurance cover, loss controls, and safety programmes.
2008	Beijing	Risk management conducted under the Project Management division of the organising committee, taking the form of risk identification, development of a risk management system (ROMS) to map risks to procurement, and loss control (e.g. safety inspections and emergency planning).
2010	Vancouver	Risk management was consolidated within the organising committee, implementing the *Enterprise Risk Management* standard through a 'top-down' mandate, encompassing risk assessments, audit and assurance, risk transfer and mitigation, and loss controls (e.g. contingency planning).
2012	London	Risk management conducted under the Risk Committee of the organising committee (with support from external consultants, Deloitte & Touche and KPMG), implementing a risk management framework for the identification of risks and conducting regular risk assurance (i.e. internal audit) (cf. LOCOG 2009: 37). Management of procurement risks also undertaken through the ODA which maintains a risk management system combined with audit and assurance functions.

or a 'boundary object' (Power 2004: 34; also see Bowker and Star 2000), enabling communication or coordination between organisations with discrete functions and professionals from different communities of practice (such as interactions between agencies concerned with programme-level risk, operational risk and business risks).[6]

The colonising influence of risk can also be seen outside the activities of organising committees and host governments in wider patterns of governance of the Olympics movement and in particular in the evaluation of the bids and preparations of host cities. For instance, the *IOC candidature procedure and questionnaire* (IOC 2004) requires bids to host the Games to present their plans in a standardised template, evaluated through assessments of the IOC Evaluation Commission. The IOC candidature process for the 2012 Games was an explicit exercise in risk assessment, with the IOC Evaluation Commission describing its mission as 'a technical and fact-finding one: 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 2004: 5). To assess bids, the IOC uses 'fuzzy set' methods that adjust for *uncertainty* attached to their qualitative scoring of the various assessment criteria (such as infrastructure, environmental conditions and impact, transport concept and finance). Further, risk is inter-linked with institutional attempts at regulation. After the candidature phase, the monitoring of host city preparations is conducted on a regular basis by the IOC Coordination Commission – with its inspection visits providing opportunities to identify risks in project management and operations. Such inspections can highlight areas of concern, such as was the case with the readiness of venues for the Athens 2000 Olympics, or generate more positive reports of progress, such as has been the case for London (e.g. Gibson 2009). For the IOC, oversight processes are an essential instrument of management of organisational and operational risk, which at the same time have the potential to further generate discourse over 'risk', 'readiness' and 'resilience' of Olympic planning.

Risk colonisation and mega-events

The governance of mega-events such as the Olympics now occurs in an age in which states and societies are increasingly organised in response to risk. Risk and its management is, in turn, an indelible feature of governance of these large-scale, complex and often spectacular enterprises. The inherent scale and complexity of mega-events, and the mega-projects that are often attached to them, make them an extreme setting for the manufacture of societal and institutional risk. In this regard, the growing operational size, financial success and cultural and economic globalisation of the Olympics had meant that the potential impact (i.e. losses) of hazards and threats has multiplied. Further to this, mega-events are a venue for broader societal process of the anticipation of risks and catastrophe (cf. Beck 2006), as settings in which attention to hazards and threats is accentuated and reinforced through the attempts of institutions to communicate and mitigate risks. At the same

[6] Interviews with officials from the Cabinet Office and the Department for Culture, Media and Sport, the ODA and Association of Chief Police Officers.

time, the global 'mega' status of the Olympics has on occasion led its experiences to feedback into much wider societal and institutional relationships with risk, for example in its influence over perception of the threat of international terrorism and its normalisation of risk-intolerant responses to security threats. Alongside this, it is clear that mega-events such as the Olympics are vulnerable to particular organisational pathologies and biases that further render the institutional management of risk problematic. The over-optimism of planners and the time compression of project management (due to the fixed completion deadline of projects for the event) make risks less controllable than is normal, in a context in which there is, perversely, pressure for the elimination of risk.

Most significantly, the governance of mega-events is susceptible to broader trends in contemporary governance that suggest a shift towards the management of institutional risk. This is to be expected in the mega-event context given the mega-risks that confront planners and organisers. In the Olympics' context this has been observed in the shift from insurance to integration of risk management within organising committees, while 'risk' has become an object of governance in a broader sense, such as in the IOC's evaluation of applicant cities and its monitoring of host city preparations. As such, while the heightened attention to risk and its formal management in governance of the Olympics suggests a pattern that might be observed across similar mega-events, it is also consistent with far broader changes in government and business. More widely, the inexorable growth of the modern Games and Olympics movement offers a fine example of adaption and evolution of a system of governance in response to risk – having survived political, financial, security, operational and reputational crises over the course of its history (cf. Payne 2006: 5–12). This also illustrates how the manufacture of risk is a potential side-effect of success and the organisational growth of such a mega-event.

From the interaction of these various trends, there is some evidence of the notion of 'risk colonisation' (cf. Rothstein et al. 2006), as the production of societal and institutional risk has in turn come to shape organisational behaviour (in particular the emergence of risk management as a practice, and its diffusion across events and over time) as well as redefining the language of event planning and organisation in terms of risk. Despite the colonising power of risk as an object of management and governance, its shaping of new practices and definitions cannot guarantee that a given mega-event will pass without serious incident, just as the security plans prepared for international terrorism for the Atlanta 1996 Olympics failed to prevent an attack by a lone domestic bomber (Clarke 2004: 109). In this regard, the shift towards the institutional management of risk might be linked to expectations of safety and security, as well as to the potential for eternal disappointment.

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Centre for Analysis of Risk and Regulation

The London School of Economics and Political Science
Houghton Street
London WC2A 2AE

tel: +44 (0)20 7955 6577
fax: +44 (0)20 7955 7420
email: risk@lse.ac.uk

lse.ac.uk/CARR