Governing the Games in an Age of Uncertainty: the Olympics and organisational responses to risk


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Abstract

This chapter considers the importance of threats and hazards to organisation and staging of the Olympics. It relates wider debates about the rise of risk management in the public and private sectors to the Olympic experience of risk and changes over time in organising strategies used to manage and mitigate risks. It first presents a theoretical dissection of different forms of Olympic risk: highlighting cross-cutting internal-external and national-transnational dimensions. It then proceeds to assess some decision-making biases and errors that are common in bidding for, organising and staging the Games and that can lead to under- or over-estimation of risk. Last, it reviews the changing nature of organisational responses to risk throughout Olympic history, with particular reference to organisation of security. This notes origins of Olympic governance in entrepreneurial, philanthropic and state-sponsored forms, followed by state-dominated responses from the 1930s onwards, and since the 1970s increased transfer of risk to markets, spread of regulation and risk management as organising logics and methods, and the ever more interconnected character of information and organisational responses to risk. While the main authorities engaged in staging and securing the Olympics – such as the host government, IOC and the host OCOG – are much the same as was the case in 1896, these shifts in the ownership and management of risk have contributed to a more complex and diverse organisational environment that has had profound effects upon administration of the Games and its response to security and other risks.
“Security and risk management are part of the Olympic package – as well as for almost every national and international gathering today.” (Richard W. Pound, IOC Vice-President 1996-2000).1

Risk, Modernity and Control

Some argue that the world has entered a new era of extreme events and risks (e.g. Beck 1992; OECD 2003; Lagadec and Michel-Kerjan 2005; Lagadec 2007); citing examples such as the AIDS epidemic, Chernobyl nuclear disaster in 1986, the Sarin nerve gas attacks on the Tokyo Subway in 1995, September 11, 2001 terror attacks, the major power outages in North America during August 2003, the Asian Tsunami of December 2004, Hurricane Katrina in September 2005, and the Credit Crunch of 2008/09. Beck (1992, p. 21) argues risk can be understood as modern society's response to “hazards and insecurities induced and introduced by modernization itself”. This changing risk environment is attributed to processes of globalisation (in its economic, technological, cultural and environmental forms), increasing interdependence, urbanisation and technological innovation.2 The scale and form of modern life is at the root of its own instability and vulnerability. The complex and systemic relationship between modern organisations, technologies and individuals is said to be a source of ‘normal accidents' (Perrow 1984; 1999), exacerbated through failures of organisational culture (Vaughan 1997), with positive feedback processes that give rise to the social amplification of risk (Kasperson et al. 1988; Pidgeon et al. 2003). Whether or not such accounts are right to stress the newness of the risks encountered in modernity, they nevertheless shed light upon social, technological, economic and organisational production of risk.

2 Systemic risk alone is not new. It is possible to identify numerous counter-examples suggest that interdependence, scale and globalisation have been at work for centuries in exposing mankind to natural and manmade risk. Events such as the Bubonic Plague of the 1340s, Great Fire of London of 1666, Titanic disaster of 1912, Spanish Flu outbreak of 1918 and the Great Mississippi Flood of 1927 mirror many characteristics of their modern counterparts. Each of those historical events exhibit characteristics of extreme risks and failures of regulation and of risk management. Certainly, extreme risk events today are more accelerated than their historical precursors (e.g. the spread of bubonic plague from Asia to Europe transpired over a period of years or decades, carried along trade routes, whereas the recent swine flu pandemic crossed the globe in a matter of weeks) and social and technological scale make the effects more pronounced, visible and measurable.
In this age of uncertainty, societies, economies and governments are increasingly organized in response to risk (Giddens 1991; 1999; Beck 1992), reflecting modernist aspirations of quantification, measurement and control (e.g. Porter 1995; Scott 1998). The idea of risk, Giddens argues (1999: p. 3), is interlinked with attempts to control the future. It acquired increasing influence in public and private institutions (see Hacking 1990; Bernstein 1996) after emergence of probabilistic thinking during the nineteenth century (Hacking 1975). While risk is now ubiquitous, formal controls have also become pervasive in both government and business, in attempts to account for and manage risk (e.g. Hood et al. 1992; 1999; 2001; Hood and Jones 1996; Power 1997; 2004; 2007). This has coincided with wider shifts towards regulation as a mode of governing (e.g. Majone 1994; 1996; Moran 2003), and transformation of organisation of the modern state and its relations with its citizens and private interests. All these approaches to organisation share a concern with securing of order and control through instruments of surveillance, formal reporting, policing and enforcement. Risk is increasingly an organizing concept (O’Malley 2004; Power 2007), in fields such as counter-terrorism, nuclear energy, public health, financial markets and transport. The replication of organisational responses to risk across domains has been reinforced through professionalization of risk analysis as a generic practice since the late 1960s (Hacking 2003).

This chapter argues that changes in organisational responses to risk associated with the Olympic Games must be understood in the context of broader social, governmental, technological and economic trends, of which the rise of regulation and risk management in both the public and private spheres is just one recent phase. The analysis that follows offers a theoretical dissection of different forms of Olympic risk, describes a number of decision-making biases and errors that are common in organisation of the Games, and reviews the changing nature of organisational responses to risk throughout Olympic history, with particular reference to security. It notes the origin of Olympic governance in entrepreneurial, philanthropic and municipal forms, moving towards state-dominated
arrangements from the 1930s onwards, and since the 1970s increased transfer of risk to markets, increased dependence upon technological solutions, spread of regulation and risk management as organising logics and methods, and the ever more interconnected character of information and organisational responses to risk. While the main bodies engaged in staging and securing the Olympics – the host government, the International Olympic Committee (IOC) and the host OCOG – are much the same as was the case in 1896, these shifts in the ownership and management of risk have contributed to a more complex and diverse organisational environment that, in turn, has had profound effects upon administration of the Games and its response to security and other risks.

The Olympics and Risk

Since revival of the modern Games by Baron Pierre de Coubertin at Athens in 1896, the Olympic Games and Olympic movement have encountered hazards and threats in a range of forms. Such risks have taken the form of boycotts, budget over-spends, terrorist incidents, operational failures, public relations disasters, corruption scandals, refereeing protests, doping controversies, timekeeping problems, and ambush marketing. Some of these risks threatened the long-term viability of the Games (Payne 2006: pp. 5-12). Even Olympics on a smaller scale such as the inaugural Games in Athens in 1896 and Paris in 1900 and St. Louis in 1904 were afflicted by logistical difficulties (e.g. Guttmann 1992; Young 1996). The Games of 1908 were relocated from Rome to London (British Olympic Council 1908: p. 19) after the eruption of Mount Vesuvius (Guttmann 1992: pp. 28-29), illustrating the risk of extreme geographical events to organisation and staging of the Olympic Games. One of the longstanding concerns in organisation of the Games is the maintenance of effective financial controls; with budget over-spends experienced, for example, in Athens 1896 and 2004, London 1908 and 2012, Montreal 1976, and Sydney 2000. Many risks associated with governing the Games have been ever-present since its inception.
Since the Munich Massacre at the 1972 Games, during which eleven Israeli athletes and coaches were murdered by a group of Palestinian terrorists, the Olympics have been a recognized target for terrorist threats. The events at Munich were broadcast live to a worldwide audience on television as the crisis unfolded, highlighting the global platform the Games offers for protests and attacks. Planning for Sydney 2000 proved prophetic of the Al-Qaeda attack on September 11th, 2001 as organizers prepared strategies for the scenario feared by IOC President, Juan Antonio Samaranch: that of a commercial plane being hijacked and flown into the opening ceremony (The Melbourne Age, July 8, 2005).

The bombing of a public concert at Centennial Park during Atlanta 1996, which killed two and injured 111 people, did not entail the same international dimension as Munich but illustrates the potential threat of lone domestic attackers at the Games. Security in a broader geopolitical sense has been a risk for the Olympics ever since cancellation of the 1916, 1940 and 1944 due to outbreak of the First and Second World Wars. Military and territorial conflicts have, at times, affected national participation in the Games as well as levels of security provisions required. Although perceived as a tit-for-tat response to the US-led boycott of the Moscow 1980 Games, the Soviet Union used the pretext of security concerns in withdrawal of its team from Los Angeles 1984.

The Olympics are both a magnet and an amplifier of organisational and operational risks. The event itself increases the probability and consequence of hazards and threats, at the same time as generating its own unique set of risks. Furthermore, its organisation encounters difficulties of calculating and managing risk that are a general feature of such mega-projects (Flyvbjerg et al. 2002; Flyvbjerg et al. 2003; Altshuler and Luberoff 2003).

Organisation of the Games is a vast and complex exercise undertaken under the global spotlight. It has been described as “the world’s largest peacetime event” (Higgins 2007), equivalent to the synchronous staging of thirty-three world championships in the same city. For example, the Beijing 2008 Olympic Games hosted 28 sports, with 302 events at 37 competition venues over 16 days of competition, bringing together 204 participating
NOCs, 11,000 athletes, 5,500 officials and coaches, 2,500 referees and judges, 20,500 media, 70,000 volunteers, and 4 million spectators, with an estimated global television audience of 4.7 billion people. The event has been transformed in size and complexity from the 241 amateur athletes who competed in nine sports in the Games at Athens in 1896. An extensive programme of sporting competition now runs in parallel, dependent upon a large infrastructure network, water and power supplies, policing and security, emergency services, accommodation, ticketing and merchandise, broadcast and media communications, catering, financial transaction networks, procurement and IT systems. Risks and contingencies associated with organisation of the Games therefore encompass a wide range of natural hazards, manmade hazards and manmade threats. Such risks can take the form of environmental phenomena such as heatwaves or storms, organisational failures, network disruptions or terrorist attacks.

The megalithic proportions of Olympic infrastructure and operations are combined with a rigid schedule of ceremonial and sporting events. While the host government and OCOG, bound by the Host City Contract with the IOC, have no legal rights of cancellation, in practice implications of an event capable of prompting outright cancellation would in all likelihood be quite catastrophic and have global repercussions. Even at the height of the Munich crisis in 1972, following a one day suspension of events, IOC President Avery Brundage declared that “...the Games must go on” (Guttmann 1984: p. 140). The Games are subject to extreme costs associated with critical failures or incidents.

**Two Dimensions of Olympic Risk**

It is possible to differentiate between the sorts of risks encountered in organisation and staging of the Olympic Games. Some highlight geopolitical, organisational, economic and reputational categories of risk (e.g. Jennings 2008; Pound 2009). Others explore the different organisational ‘recipes’ used to manage risk and crisis situations at the Games (e.g. Jennings and Lodge 2010; n.d.). The risks associated with organising the Olympics

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3 AGB Nielsen Media Research ([www.nielsen.com](http://www.nielsen.com)).
take numerous forms and are located at different locations (e.g. the main Olympic site, urban centres, commercial districts, and transport networks and hubs). To understand risk as an organizing concept, however, it is first important to understand both its probabilistic relationship to staging of the Games and the location of either its origin (i.e. cause) or its jurisdiction (i.e. effect). An alternative analytical approach to existing studies, offered in this chapter, seeks to determine whether the likelihood of particular hazards or threats is exogenous or endogenous to the event itself and whether these risks are located at the national or sub-national level with the host government and organizing committee or at the transnational level with bodies such as the IOC or international sports federations. This provides insight both into the hazards and threats associated with the Olympics, as well as the changing organisational task of hosting the Games and of managing risk.

With this purpose, the following analysis makes the theoretical distinction between an internal-external dimension and a national-transnational dimension of Olympic risk. This is illustrated in Figure 1. The internal-external dimension refers to whether risks are directly produced in organisation and staging of the Games (i.e. hazards or threats that are probabilistically dependent upon occurrence of the event) or whether instead occur external to the event but nevertheless have effects upon it (i.e. hazards or threats that are probabilistically independent of the event, but that can disrupt its staging). This dimension captures, in essence, whether the Olympic Games either produces or is the venue for hazards and threats. The national-transnational dimension refers both to the location of the risk in terms of its underlying cause and the territory or jurisdiction in which responsibility for its management resides. Some risks are localized to a particular city or country whereas others can spread across international boundaries and multiple territorial units. Likewise, responsibility for managing certain risks can reside with the host government and the host OCOG and for others lie with the IOC and transnational bodies such as the IOC, NATO or the World Anti-Doping Agency. This dimension refers
both to the national and sub-national level because cross-national differences in political systems mean that organisation of the Games can be delegated to national, regional or municipal government (or a mixture thereof). These two cross-cutting dimensions are not exhaustive, but nevertheless provide a systematic framework for analysis of risks associated with organisation of the Games that also allows for integration of insights on the broader state of the risk environment. The four possible combinations of these two dimensions are now discussed.

- insert Figure 1 about here -

**Internal-National**

The scale and the scope of the modern Olympics is a direct source of internal risks encountered at the national or sub-national level by the host city and host government. Growth over time in the total number of events, sports, athletes, officials, media and television viewers (for example) has increased the level of resourcing required to stage the Games. While risks of scale tend to be assumed at the national level, they are – at least in part – a function of the schedule of sporting events set by the IOC and its long-term expansion of the Olympic programme. The historical upward trend in most of the measures of event size is illustrated in Figure 2. This increase in scale of the Olympics over time and increases in the revenues and costs of both the Games and the Olympic movement (Preuss 2000; 2004) means that there are greater economic risks attached for the host city and the IOC (i.e. potential losses increase proportional to the potential gains). While operational costs have tended to be offset against commercial revenue at recent Olympics, the costs of infrastructure, policing and other public services typically are underwritten by the host government. The bid, design, organisation and operation of the Games are increasingly complex due to proliferation in the number of variables and decision points that are subject to uncertainty and, therefore, risk. This direct scale-to-risk relationship is present in most organisational and operational risks for the host
OCOG and Olympic-related agencies (e.g. construction, personnel, procurement, and event coordination). As the Games grows in size, so too do the number of opportunities for failure and the potential consequences of failure. Other local characteristics of the Games can generate project risks. The legacy promises of the London 2012 Olympic programme – as pledged in bid documents to the IOC – present a long-term delivery risk, while environmental aspects of the Nagano 1998 and Sydney 2000 Olympics created similar risks for organisers in fulfilling bid commitments. A sizeable proportion of risks associated with the Games are therefore ‘self-inflicted’ inasmuch as they are inherent to the growth of the event and programme. This growth in scale and global audience also makes the Games an attractive target for (external) terror attacks, the eruption of geopolitical tensions and other high impact incidents (more of which in due course).

- insert Figure 2 about here -

External-National

At the national and sub-national level, local geographical, economic and political factors external to planning for the Games are a potential source of Olympic hazards and threats. The geography and urban layout of the host city, along with the critical Olympic infrastructure (e.g. transport networks, venues and stadiums, water and power supplies, accommodation, media facilities), provides the underlying architecture for delivering and staging the Games. The local structure of public transport links and road networks have consequences for the operation of ticket barriers, crowd control, policing, first aid, traffic management, catering, and officiating of events. All of these geographical aspects structure both the effect and response to incidents such as a stadium fire or a terror attack. The efficient functioning of the local transport network is essential for spectator and competitor travel. So too is the resilience of electricity supplies, given the disruptive effect of power outages (see US-Canada Power System Outage Task Force 2004). Other unpredictable local events, such as extreme weather conditions (e.g. Klinenberg 2002;
Lagadec 2004) also represent risks for staging the Games. Such events can occur either
during or outside competition-time. Weather is a function of local context, generating
different sorts of meteorological risk. In the run-up to the Sydney 2000 and Athens 2004
Games, for example, there was concern over the health of athletes competing in high
temperatures. In contrast, planners for Beijing 2008 were concerned with rainstorms
and health impacts of smog and pollution. Organizers’ concerns during the run-up to the
Vancouver 2010 Winter Olympics focused upon whether there would be enough rather
than too much snow! The effects of such external events are not specific to the Games,
but are significant because their impact would be amplified during Games-time due to
the potential effect upon competition and spectators. It is possible that there might too
be risks for local populations during competition time as a side-effect of the diversion of
emergency, disaster relief and public health agencies from their normal operations.

The probability of other risks at the national-level might also be amplified due to the
Games. For example, effects of a pandemic outbreak (e.g. Barry 2004) could be amplified
by increased population movements during competition time. The unpredictability of
power demand during mega-events such as the Olympics likewise increases the risk of
outages, which can have knock-on effects on transport and venues (for example). In the
run-up to the Sydney 2000 Olympics, Kingsford Smith Airport suffered a power failure
that created a backlog of flights – prompting concerns over its readiness for the traffic
associated with the Games. In July 2004, a power outage across Athens and southern
Greece left the Transport Minister, Mihalis Liapis, stranded in the middle of showcasing
a new Olympic rail link to the airport. Other sub-national or national threats might be on
high alert during the hosting of the Olympics. The prominence of the Games can provide
a platform for dissidents, civic protests and terror groups (such as Basque separatist
incidents prior to the Barcelona 1992 Olympics and bombing of Centennial Park during
Atlanta 1996). It can also stimulate protest (such as human rights protests about Beijing
2008) and public disorder (such as riots prior to the Mexico City 1968 Olympics). These
risks use the Olympics as a target, encouraged by its profile, but are not in themselves created by the event.

**Internal-Transnational**

The transnational character of organisation of the modern Olympics means that it is exposed to risks that cross both international boundaries and Games. The demand for raw materials for use in construction of Olympic venues and infrastructure introduces risk of fluctuations in commodity prices and in supply volumes. This is a longstanding risk of stadium construction, with post-war shortages of steel a problem for organisers of the 1948 London Olympics (Cabinet minutes 1947: p. 226). Likewise, the dependence of the IOC and host OCOG upon commercial revenues from broadcast rights adds the risk of exchange rate movements, with the largest share of revenues paid in US$. Fluctuation in value of the Canadian dollar against the US dollar led to a $150 million shortfall in the financing model of the Vancouver 2010 Winter Olympics, with a loss of revenue from broadcast rights and international sponsorship revenues (see Auditor-General of British Columbia 2006). Transnational governance of the Olympic movement and international sport also entails risk, such as the effective transfer of knowledge between events and problems such as doping and corruption. Allegations over corruption of IOC delegates and organizers in the Sydney 2000 and Salt Lake City 2002 bids led to controversy and resignation of numerous officials. Some operational risks, such as the broadcasting of information in real-time to the world through internet and television networks, exist at a transnational level. Such risks are not specific to Games hosted in a particular location or at a particular time but, instead, are part of the wider Olympic risk environment.

The threat of international terrorism is perhaps the most prominent and recurring internal-transnational risk affecting Olympic organisation, brought first to prominence with events in Munich in 1972 and again highlighted with the Al-Qaeda attacks on the US on September 11, 2001. There are strong transnational elements to security aspects of the Games. Historically, the Games has also often be vulnerable to diplomatic incidents
and geo-politics (see Espy 1979; Hill 1997), such as the Berlin 1936 ‘Nazi Olympics’, the Cold War boycotts of the Moscow 1980 and Los Angeles 1984 Olympics, and protests in the run-up to Beijing 2008 over China’s human rights record. These risks are external to organisation of the Games itself but are, nevertheless, an intrinsic part of the Olympic package. The Games therefore encounters some risks that are present in all contexts and across international borders.

_External-Transnational_

Last, there are some events or circumstances with potential consequences for the Olympics that are probabilistically independent of it. The September 11 attacks had significant impact on planning for subsequent Games, inflating the security costs and encouraging the involvement of transnational defence and intelligence organisations such as NATO. Likewise, changes in global economic conditions can impact upon local planning for the Games. The Great Depression reduced participation in the Los Angeles 1932 Olympics while post-war austerity measures affected the design of the London 1948 Olympics. The recent Credit Crunch made real the identified risk of securing of private finance for capital projects for the London 2012 Olympics (NAO 2007: p. 16) as well as increasing the likelihood of insolvency of Olympic suppliers and contractors. Another source of risk external to the Games and the Olympic movement is technology, which nevertheless has been associated with dramatic change in the organisation and staging of the Games as well as its broadcasting. Increased technological innovation also increases the number of things that can go wrong. Extreme events such as international crises, war or infectious disease also can interrupt the Games. The World Wars resulted in suspension of the four year cycle of the Olympics, with no Games held in 1916, 1940 or 1944. A global outbreak of infectious disease, such as that recently feared of avian flu, would likewise have serious repercussions for organisation of the Games in its effects on public health as well as on border controls.
It is evident, then, that threats and hazards at the Games come in numerous forms. Both the probabilities and the prospective losses which together constitute Olympic risk can be endogenous (internal) or exogenous (external) to the event and can reside at the national or sub-national level with the host government and organizing committee or at the transnational level with international bodies such as the IOC. The internal dimension of risk indicates that both probabilities and losses can be amplified by the act of staging the Games itself – with increases in scale also resulting in increases in complexity and potential losses (as well as potential gains). While external risks are independent – in probabilistic terms – these again are amplified through scale. At the same time, certain risks are a product of features particular to the host city or host government, whereas others reflect broader social, technological political and economic processes occurring at the transnational level. Binary presentations of categories of risk (e.g. Jennings 2008) do not reveal everything about the complex and interdependent risk environment in which Olympic organisation and operations occur. The following analysis next introduces some of the decision-making biases and errors that are common to organising the Games and that can distort handling some of these risks.

**Optimism Bias, Discounting, Risk Aversion and Normal Accidents**

Organisation of the Games is susceptible to a number of decision-making biases and organisational effects that can accentuate existing hazards and threats or structure the responses of organizers to them (see Jennings and Lodge n.d.). There is, on the one hand, a taste for risk in the act of bidding for the right to host the Games and in perceptions of the controllability of such a vast enterprise. At the same time, there is considerable risk aversion from host governments and organizing committees, as well as the IOC, which is reflected in hyper-active efforts to mitigate and manage risk. This reflects more general tension inherent in the grand ambitions of ‘high modernist’ projects and the risk-averse and controlling aspirations of regulation as a mode of governing (e.g. Scott 1998; Moran 2003). The following discussion notes, in brief, effects on risk management of optimism
bias, risk discounting, risk aversion and the ‘normal accidents’ (Perrow 1984; 1999) that arise from complex organisational systems.

**Optimism Bias**

Organisation of the Olympics is often associated with organisational and operational processes that encourage 'optimism bias' concerning both risks and benefits. Optimism bias (e.g. Flyvbjerg et al. 2002; 2003) refers to systematic over-estimation of likelihood of positive outcomes and, therefore, under-estimations of risk. Because the right to stage the Games is awarded through a competitive candidature procedure, Olympic bids are often designed to win votes of IOC members and tend to underemphasise inadequacies (Luckes 1997). This creates divergence between the formal bid documents – described by former IOC Vice-President Dick Pound as the “most beautiful fiction” (Pound 2004) – and subsequent programmes of infrastructure construction and event operations. This gap is further amplified through the relatively small proportion of resources assigned to bid formulation and reliance upon templates rather than planning from first principles, which tends to produce generic bids rather than encourage the systematic challenging of planning assumptions. Emphasis on previous 'bid documents' (see Luckes 1998) and a 'specimen bid' (Arup 2002a) during preparation of the London bid for the 2012 Olympic Games are typical of the discounting of risk during the candidature phase and relative powerlessness of the IOC to prevent budget inflation given the extended lag time of the process. The final cost of the Games often exceeds initial expectations. The most famous case was the $1 billion deficit incurred at Montreal 1976, but Games have often incurred substantial deficits. Most recently, organisation of the Vancouver 2010 Winter Olympics and the London 2012 Summer Olympics have incurred cost over-runs despite concerted attempts at technical forecasting and control of expenditure (Auditor General of British Columbia 2003; National Audit Office 2007).

**Risk Discounting**
Optimism bias during the candidature process can be amplified by uncertainties in discounting of risk. This arises from inherent difficulties of predicting future outcomes. The extended time duration of the bid, planning and organization of the Games, quite often between fifteen and twenty years in gestation, causes a high level of uncertainty in the forecasting of variables such as infrastructure costs, revenue streams and security threats. As a result, the width of confidence intervals around predictions becomes larger over time. Such errors can arise through gradual divergence from the initial expectation (e.g. creeping cost inflation) or sudden and exceptional changes in planning assumptions due to extreme events or complete revisions of risk perceptions (e.g. terrorist incidents, global or domestic economic shocks). Consider the example of the London 2012 Olympic Games. The genesis of the London bid originated in unsuccessful bids of Manchester for the 2000 and 2004 Games that were formulated during the early 1990s. However, even since formulation of the initial feasibility studies for a London bid (Luckes 1997; 1998; British Olympic Association 2000), the national and transnational risk environment has undergone fundamental changes such as the increased terrorist threat from Al-Qaeda and extremist Islamic groups and the decreased threat in the British mainland from Irish republicanism after the Good Friday Agreement of 1998 and the process of devolution to Stormont. Likewise, warnings about the threat of an avian flu pandemic (alongside the swine flu pandemic of 2009), are contingencies that were unanticipated in formulation of the bid. Most of all, organizers have been required to respond to increased financial risk due to the global financial crisis, in terms of pressure on public sector expenditure and decreased investment and sponsorship from the private sector.

Risk Aversion

Alongside features of Olympic organisation that tend to encourage under-estimation of risk, the global profile and political status of the Games – making it a perpetual media event – can encourage a zero-tolerance attitude towards potential threats and risks. This heightens organizers’ attention to reputational and political factors, such as geo-political
risks, which can in turn generate organisational or operational difficulties. After the Cold War boycotts of the 1980s, the IOC under the leadership of Juan Antonio Samaranch adopted a proactive approach to management of political risk associated with the Games (Payne 2006: p. 14). Host governments and organizing committees are also sensitive to perception of the Games. After a series of minor operational mistakes and failures at the Atlanta 1996 Olympics led to it being nicknamed the ‘glitch Games’ (The New York Times, 25 July 1996: p. 19), a feasibility study for the London 2012 bid noted that “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: p. 66), promoting the importance of state of the art facilities for the Olympic broadcast and media centres. Organisation of the Games can also be shaped by more general aversion to risk within government. For example, intervention of federal government in security planning for the Salt Lake City 2002 Winter Olympics – designated as a National Special Security Event by the Office of Homeland Security – was characteristic of the heightened state of concern within the Bush Administration and increased influence of ideas such as Vice President Cheney’s ‘one per cent doctrine’ (Suskind 2006), which treated a one per cent chance of a terrorist threat as a certainty in terms of formulation of security responses.

Normal Accidents

The exceptional scale and complex interdependence of Olympic infrastructure (e.g. transport networks, stadiums, water and electricity supplies, accommodation and media facilities) and operations (e.g. ticket barriers, policing, traffic management, catering, first aid, officiating of events), and time dependence of planning and organisation, increases the risk of unexpected interactions between multiple failures, errors and incidents. More often than not the Games requires construction of new infrastructure and facilities and escalation of routine levels of public and private sector activities such as air and rail transport services, policing and emergency services. This complex and interconnected web of organisation, operations and technology makes the Olympic Games vulnerable to
the 'normal accidents' identified by Perrow (1984; 1999), for example in potential for an isolated security incident to have unforeseen cascading effects on functioning of energy and transport networks already operating above normal capacity. With events as well as the athletes’ accommodation and press facilities concentrated at the main site for most recent Games, a single incident has the potential to have far-reaching effects across both the site and the programme of events. The effects of such incidents can be also amplified by the time dependence of organisation, with the immovable schedule of ceremonial and sporting events. Furthermore, bespoke design of Olympic infrastructure and facilities, all delivered just-in-time, limits opportunities for stress-testing and event rehearsals. While cost over-runs and delays are a defining characteristic of mega-projects (Altshuler and Luberoff 2003; Flyvbjerg et al. 2002; 2003), there is little room for miscalculation in the construction programme for the Games.

The risks encountered in organisation of the Games, outlined earlier, are therefore subject to distortion, in both the under- and over-estimation of risk, as well as potential for the unexpected interaction of incidents across jurisdictions. Some of these biases and effects are reflected in organisational responses to risk. It is to this Olympic governance of risk that discussion next turns.

**Organisational Responses to Risk at the Games**

To understand the contemporary state of Olympic management of risk, it is essential to understand the historic forms that administration of the Games has taken over more than a century. These organisational responses often draw upon the prevailing doctrines and methods in politics, business and public administration at the time. It is possible to distinguish distinct organisational eras from landmark Games, innovations or incidents, each of which resulted in lasting change. In the earliest period from the 1890s, during modern revival of the Games and the Olympic movement, entrepreneurial, philanthropic and state-sponsored forms of organisation were most dominant. This era was followed by increasing state-based coordination and control from the 1930s, as the Nazi Olympics
of 1936 marked a watershed in direct state involvement in the Games that has to a large extent persisted to the present day. The active involvement of the state in responses to risk matched the more general growth in size of government through episodes of crisis (e.g. Higgs 1987). While national and sub-national governments remain influential – to greater or lesser degree according to national context – a number of distinct trends have occurred in Olympic governance of risk since the 1970s.

First of all, with increasing dependence of the IOC upon revenues from broadcasting and sponsorship contracts, and after a large financial deficit incurred at Montreal 1976, the economic impact – and risk – of the Olympics has become central to its organisation. Around this same period, the 1980s – and the Los Angeles 1984 Olympics in particular – marked the rise of commercial practices and increasing transfer of risk (and benefits) to the market. The use of joint public-private initiatives has been common since Barcelona 1992, and these changes reflect the wider trend of state retraction (Majone 1994; 1997) as well as increased influence of market-like values in public management (Hood 1991; Pollitt 1995). Since the late 1980s, the Olympic movement and the Olympic Games have been governed increasingly through logics and technologies of regulation, audit and risk management – such as in the international harmonisation of standards and rules and in use of formal internal controls within organisations. This again is symptomatic of wider trends towards regulation (e.g. Majone 1994; Hood et al. 1999; Moran 2003) and audit and risk management (e.g. Power 1997; 2007) as modes of governing within public and private organisations. Since the late 1990s – and following the Sydney 2000 Olympics in particular – organisational responses to risk have become ever more interconnected and standardised, with replication of strategies and emergence of a professional community of experts in Olympic bidding and management. This exhibits processes of institutional isomorphism (DiMaggio and Powell 1991), as risk is increasingly active as a ‘boundary object’ (Power 2005: p. 34) that enables conversation across interests, professions and organisational functions.
Last, and somewhat at odds with prevailing trends in organisation since the 1970s, the Games have in recent times become subject to processes of securitization (Buzan et al. 1998), after the events of September 11th, as escalated Olympic security programmes have deployed intelligence services and military forces and technologies to monitor and manage the threat from terrorism. This shift was first in evidence at the Salt Lake City 2002 Winter Olympics and has been evident ever since in mushrooming security costs of the Games. The resurgence of state intervention in response to security risks is therefore just one of the more recent chapters in contemporary Olympic management of hazards and threats, in contrast to market-oriented mechanisms that have become more popular in Olympic organisation since the 1970s.

These different eras or landmarks of organisational responses to risk are outlined in Figure 3. While these organising authorities – the IOC, host government and organizing committee – have performed a similar function for most Olympics since 1896, there has been a fundamental shift in how the Games are governed, with increasing reliance upon market-based mechanisms, growth of internal controls and formal management of risk, and ever more interconnected and standardised organisational forms. These broad trends are, of course, subject to variations due to national context. Nevertheless they indicate long-term shifts in organisation of the Games and its response to threats and hazards. In the remainder of this chapter, these broad changes in organising logics are analysed in greater detail, including discussion of management of security risks associated with the Olympics.

- insert Figure 3 about here -

*From Entrepreneurialism, Philanthropy and State Sponsors to State-Led Organisation*

The limited size and profile of the earliest modern Olympics from the 1890s to the 1930s did not stimulate a great degree of formal attention to risk. During this period, organizers tended to be most concerned with securing financial, sporting and political
support to stage the Games (e.g. MacAlloon 1981; Young 1996). The Olympics were often
dependent upon private contributions from influential individuals drawn from business,
politics and nobility. For example, with the Greek Treasury in a state of bankruptcy, and
its government 'staunch' in its denial of public funds, construction of the main stadium
for the Athens 1896 Olympics was financed through a donation from the philanthropist,
M. George Averoff (de Coubertin 1897: p. 22). Plans for the Games to be held in Chicago
in 1904 were abandoned so that it could be integrated into staging of the more business-
focused St. Louis Exposition (Sullivan 1905: p. 159). Construction of the facilities for the
London 1908 Olympics was, similarly, financed by the authorities organising the Franco-
British Exhibition (British Olympic Council 1908: p. 26), although co-location of both the
Exhibition and the Games at a single site also resulted in problems of crowd control and
in securing of the stadium (ibid: p. 391). The final report of the British Olympic Council
(1908: p. 20) noted the "well-known and generally accepted maxim of English life that
undertakings such as these shall be carried out by private enterprise, and without help
of any sort from the government".

In some contrast to this era, the period from the 1930s onwards marked an increase
in the active role of government in organising the Games. This reflected the growing size
of the Olympics, in terms of the infrastructure requirements, financial commitment and
potential national security implications. State-based responses to risk are characteristic
of most Games since the 1930s, as national or sub-national governments have assumed
the role of 'backer of last resort'. In preparations for the Los Angeles 1932 Olympics, the
Californian state legislature passed the California Olympiad Bond Act 1927, establishing
the California Olympiad Commission as the organising authority and issuing one million
dollars worth of state bonds to finance the event. While the Berlin (Nazi) 1936 Olympics
marked a dark chapter in Olympic history the German regime's high level of control over
organisation also signalled increasing involvement of government in staging the Games.
The Nazi regime was active in the administration and policing of the Games, in particular
through the *Deutscher Reichsbund für Leibesübungen* (the Reich Commission for Physical Training), providing both facilities and manpower to support the Organizing Committee as well as managing and financing construction of the Olympic stadium. It also deployed military resources, with German armed forces undertaking ‘police and patrol’ service for the Olympic Village, in addition to the government’s provision of fire and other policing services (Berlin 1936: p. 210). Despite the quite exceptional circumstances surrounding the Nazi Olympics, the influence of government in organisation of the Games remains an integral feature of Olympic governance.

Olympic Organizing Committees (OCOGs) continue – more than seventy years later – to depend upon government, at either the national or sub-national level, to underwrite most of the financial risks associated with the Games. Government has often been left to resolve the problem of cities being left with post-Games deficits. The famous example is the $1 billion debt incurred by organisers of the Montréal 1976 Olympics, paid off thirty years later through a tax surcharge on local residents, after its Mayor Jean Drapeau had declared that “...[t]he Olympics can no more have a deficit than a man can have a baby.” The public sector contribution to the Sydney 2000 Olympics turned out to be six times greater than the original bid (NSW Audit Office 1999; UK Select Committee on Culture, Media and Sport 2003), while the total cost of the Athens 2004 Olympics escalated from £3.2 billion to £6.3 billion (House of Commons Library Research Paper 2005: p. 37). One notable exception to the requirement of government to provide guarantees of financial support was the Los Angeles 1984 Olympics. In 1978 the City of Los Angeles passed a voter-approved measure – Charter Amendment “N” – that prohibited the expenditure of municipal funds on staging the Olympics without a guarantee of reimbursement. Special dispensation from the IOC enabled the Los Angeles Organizing Committee to operate the Olympics as a commercial venture, generating a budget surplus of $215 million through commercial revenue and fund-raising (see LA84 Foundation 2004).  

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Security costs outside the main Olympic site also tend to be absorbed by government with changes in the global security context leading to heightened risk management. For example the Organizing Committee for the Salt Lake City 2002 Winter Olympics received an additional $300 million from US federal government to cover its extra costs after the terror attacks of September 11. The security costs of Athens 2004 also increased, from €515 to €970 million, in response to this change in threat from international terrorism. There is, despite this, a general bias towards underestimation of security costs at recent Games, with the budget for the Vancouver 2010 Winter Olympics increasing from $175 million to $900 million, and from £190 million in the London bid for the 2012 Olympics to £600 million in later estimates. Host governments tend to finance the management of security risks which emerge external to the Games (as noted in Table 1). Similar to the Berlin 1936 Olympics, government’s provision of manpower from the armed forces and the police remains integral to securing most recent Games. At the Athens 2004 Olympics, around 70,000 police and armed forces were on patrol in central Athens and at Olympic venues, in addition to support from NATO and European Union forces. The number of police (15,000) to be deployed at the London 2012 Olympics is smaller, but nevertheless represents about 10% of total UK police manpower.

Weakness of the state can itself contribute to organisational failures to manage risk. The West German authorities’ post-war lack of a specialist anti-terrorism unit has been attributed as one of the causes of the botched rescue of the Israeli hostages and escape of a number of the Palestinian terrorists at the Munich 1972 Olympics (Reeve 2000), as the constitution prohibited federal armed forces from operating inside Germany during peacetime. The Munich police and the Bavarian authorities responsible for security had no previous training in hostage crisis operations and lacked the appropriate equipment (see Schreiber 1972; Groussard 1975). As will be noted later, limits of state capacity can lead to networked and transnational approaches to management of security risk.

*Economic Evaluation and Transfers of Risk to the Market*
Since the 1970s, organisation of the Games has combined an interest in its economic impact with increasing transfer of risk – and risk management – to the market. The first economic impact study (Iton 1978) was undertaken for the Montreal 1976 Olympics and was evaluation of economic impacts has been repeated on a regular basis such as for the Los Angeles 1984 Olympics (Economic Research Associates 1984) and the Sydney 2000 Olympics (PriceWaterhouseCoopers 2002). The rise of economic impact analysis reflects growth in the potential financial risk and benefit – to both the host city and government and to the IOC – of staging the Games, as Olympic costs and revenues have increased in real terms (see Preuss 2004).

Alongside this concern with economic impact, a growing trend in organisation of the Games and in governance of the Olympic movement is the transfer of risk and benefits to the market, combined with use of complex financial instruments. The contracting out of delivery and service functions to public/private or private organisations can range from catering to security. State-owned enterprises have been responsible for construction of infrastructure and facilities in organisation of recent Olympics. The government-owned Barcelona Olympic Holding SA (HOLSA) constructed the main competition venues, new road infrastructure and the Olympic Village for the Barcelona 1992 Olympics, on behalf of the national and city government, financed with a mix of public and private funds. The Birds Nest stadium for Beijing 2008 was developed by the China International Trust and Investment Corporation (CITIC) consortium and Beijing Municipal Government’s Beijing State-owned Assets Management company (BSAM). Other public bodies such as London 2012’s Olympic Delivery Authority contract commercial partners (the CLM Consortium) to assume some responsibilities for project delivery. Such arrangements are designed to decentralise project risks, such as in procurement and cost management.

This transfer of responsibilities to the private sector is also observed in widespread use of security contractors alongside regular policing operations in securing the Games. Security contractors were used in large numbers at both Sydney 2000 (5,000 police and
4,500 contractors)\(^5\) and Athens 2004 (25,000 police and 3,500 contractors), with similar levels in provisional estimates for London 2012 (15,000 police and 6,500 contractors) (see London bid, 2004: Volume 3, p. 39; Mayor of London 2004: Q. 357/2004).

Transfer of risk to the market can itself bring further risk, however. At the height of the global financial crisis Lend Lease, developer of the Olympic Village for London 2012, experienced difficulty in securing private equity and debt funding for the project. It was unable to raise its financial commitment of £650 million, prompting a government-led rescue package that consisted of additional funding from its contingency fund, further public funding from the Homes and Communities Agency and over £150 million in loans from a banking consortium. The Sydney 2000 Olympics encountered similar problems in a shortfall of more than A$100 million against projected ticket and sponsorship revenue (NSW Parliament 2000), requiring contingency funding and prompting the New South Wales state government to assume responsibility for operational programs and budgets (with a few exceptions) through the Olympic Coordination Authority.

Another approach to management of financial risk that transfers risk to the market is insurance. It has become prominent during the past decade as the IOC and Organizing Committees have taken out insurance policies to cover organisational risks associated with security threats – in particular that from international terrorism. Protection of commercial interests in staging of the Games has been a concern for broadcasters since the 1970s and 1980s. Although the US-led boycott of the Moscow 1980 Olympics forced US broadcaster NBC to cancel its coverage of the Games at a loss of $30 million, it was able to recoup some expenses from its insurance cover with Lloyds of London. This has become standard practice for Olympic broadcasters exposed to increased financial risk due to the growth of their advertising revenue. NBC again purchased insurance cover for the Beijing 2008 Olympics. Because the host government is required, under the host city contract, to provide the IOC a guarantee of financing for the Games, Olympic Organizing

\(^5\) See *Time Pacific*, August 14, 2000 (Number 32).
Committees have not tended to take out insurance, although organizers of the Salt Lake City 2002 Winter Olympics purchased cancellation cover from Lloyd's of London even prior to the events of September 11, 2001.

Commercial revenues associated with the Games are the main source of income for the IOC, however, leading it to purchase insurance for cancellation due to terrorism or natural disaster for recent Games. It first purchased insurance cover for the Athens 2004 Olympics, with $170 million cover at a premium of $6.8 million (Buck 2004), later taking out $415 million cover at a premium of $9.38 million for the Beijing 2008 Olympics as part of a long-term policy that spans numerous Games (see Lenckus 2008). The IOC is vulnerable to interruption of its cyclical revenue stream and transfers risk to the market in response. Such arrangements are, however, designed to mitigate the after-effects of security incidents rather than protect against occurrence of the incidents themselves.

The Rise of Regulation, Audit and Risk Management

Since the late 1980s and early 1990s, risk has been ubiquitous in governance of the Olympic movement and organisation of the Games – with increased oversight of Olympic bids and host preparations and in the spread of accounting, audit and risk management practices in staging the Games (see Jennings 2008). The candidatures procedure is now highly standardised, with the IOC providing a template and questionnaire for bids in its IOC Candidature Procedure and Questionnaire (IOC 2004a). This documentation provides detailed specification of organizing strategies, and is supported through assessments of the IOC Evaluation Commission which report on the risks associated with each bid. For the 2012 Games, the selection process was a self-confessed exercise in risk assessment, with the Evaluation Commission describing its task 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 2004b: p. 5). After the award of the Games, regular monitoring and evaluation of organisational progress is conducted through the visits and reports of the IOC Coordination Commission.
Since the 1990s, the risk management mechanisms imported from the private sector have become increasingly complex, sometimes requiring management of second order risks. The risk-transfer agreements negotiated with venue developers for the Vancouver 2010 Winter Olympics enabled the Organizing Committee (VANOC) to minimize its level of capital expenditure, but required regular project and contract monitoring since non-completion was a risk created by transfer of delivery functions (see Auditor-General of British Columbia 2006). The management of risk therefore can create opportunity costs – at least on paper. To manage risk or not manage risk, that is the question. Inaction over implementation of a proposed hedging strategy resulted in a loss of around $150 million in broadcast and international sponsorship revenues for Vancouver 2010 due to decline in strength of the Canadian dollar (Auditor-General of British Columbia 2006: p. 7). To similar effect, the London 2012 Organising Committee (LOCOG) wrote off £27 million on paper in its 2008 Annual Report (LOCOG 2008: p. 15) due to the difference between the hedged rate and the spot rate in its hedging contracts protecting against revenues paid in foreign currency (although further fluctuation in exchange rates could either improve or worsen this situation before 2012).

With the ongoing spread of risk management practices in organisation of the Games, London 2012 perhaps might have a claim to be the first ‘risk-based’ Olympics in terms of its organizing principles and in the wide range of strategies put in place to manage and mitigate risks associated with delivery and staging of the Games across the whole of the Olympic programme – encompassing policy, infrastructure, security, finance and legacy functions (see National Audit Office 2007). Audit and the management of programme risks is conducted by the Olympic Board and Government Olympic Executive, informed by general information on threats and hazards (such as from Cabinet Office National Risk Register) or reports from the risk registers or risk logs of organisations responsible for delivery or operations such as the Olympic Delivery Authority or the Metropolitan Police's Olympic Security Directorate.


Transnational Networks of Regulation and Risk Management

Over the past couple of decades, management of risk encountered in organisation of the Games has acquired an ever more transnational and networked character – through the influence and interaction of international sports federations, anti-doping agencies, national security agencies from other countries and commercial interests. At the same time, emergence of new global hazards and threats has further encouraged networked approaches to the management of risk. Organisational responses to terror threats since September 11 have depended in equal measure upon policing manpower on the ground and intelligence-gathering, exchange and processing often across international borders and jurisdictions. Security responses to risk tend to either access existing transnational networks or lead to the creation of new structures, further increasing the geo-political aspect of the Olympics. The exceptional security situation associated with staging the Games can cause even superpowers such as the US or China to encounter information and resource shortages, prompting transnational cooperation and risk-sharing.

The IOC and the host (national) government are often reliant upon assistance from foreign governments and transnational organisations to redress limits of resources or expertise. Exchange agreements in intelligence have been a feature of Olympics since the 1990s, such as Olympic Intelligence Centres established at Atlanta 1996, Sydney 2000 and Athens 2004. This delegation of security functions has become particularly common since the events of September 11. For the Athens 2004 Olympics, the Greek government received guidance and support from the US Government and the NATO Alliance (and the US providing the International Atomic Energy Agency $500,000 for radiation detectors). Ahead of the Beijing 2008 Olympics, the US sent its Nuclear Emergency Support Team to provide assistance in response to concern over radiological threats, despite the absence of previous defence collaboration between the US and Chinese governments. This is not just a recent phenomenon. Ten days before the Mexico City 1968 Olympics, the Mexican government launched a crackdown of urban protesters leaving a considerable death toll.
The US Central Intelligence Agency, which had been monitoring the unrest, recognised the weakness of the host government and sent it military radios, weapons, ammunition and riot control training before and during the Games (Doyle 2003).

This increasing influence of transnational organisational networks is also observed outside the defence and security domain, in relation to matters such as doping and the regulation of sport. The World Anti-Doping Agency (WADA) was established to regulate the abuse of drugs in international sport in November 1999 as an initiative of the IOC and, although an independent foundation, receives funding from the IOC and national governments. Its World Anti-Doping Code, implemented by sports authorities prior to the Athens 2004 Olympics, harmonizes rules and regulations concerning doping across all sports and countries. This regulatory regime covers more than 500 sports authorities including International Sports Federations, the IOC and National Olympic Committees that have adopted the code. The code is subject to ongoing transnational consultation and revision, with the most recent version taking effect on 1 January 2009. It has been implemented through national governments’ ratification of the UNESCO International Treaty Against Doping in Sport, adopted by 191 governments in 2005 (effective February 2007). This depends upon sports authorities to enforce anti-doping regulations within their own jurisdiction outside Games time. An earlier transnational agreement in the regulation of sports doping was the Anti-Doping Convention of the Council of Europe in Strasbourg, established in 1989 which, like the WADA code, sought the harmonisation of standards and regulations related to doping and testing. While transnational regimes standardise management of doping risks, inequities in monitoring resources available to national federations or in sports with lower revenue streams create potential for the uneven enforcement of doping regulations – so that controls are, in fact, not risk-based all.

Another mechanism for the transnational spread of practices of risk management in organisation of the Olympics occurs through the contracting out of essential services in
project management and delivery to major transnational corporations. In recent times, a small world of Olympic partner firms, contractors and consultants has become integral to organisation of the Games, enabling a degree of continuity between host cities. These transnational firms provide services for functions such as IT, communications, finance, engineering and planning, project management and security. This gives rise to a closed network of Olympic organisation in some areas, where an elite community of firms and experts are frequently contracted to multiple Games. It also reflects the small global pool of firms possessing both the capacity and expertise to support an event as large and as complex as the Olympics. For example, considerable technological functions are entailed in staging the Games, in particular provision of support to results, information feeds and media facilities. Both the IOC and organizing committees have insufficient expertise and organisational capacity to deliver these ‘in house’. At the Beijing 2008 Olympics, ATOS Origin, the IOC's Worldwide IT Partner for the Olympic Games, managed an IT Team of 4,500 personnel, supporting 10,000 computers, 1,000 servers, 200,000 accreditations, 4,800 result system terminals and 4,000 printers. Its services were operational 24/7, including implementation of a large scale testing program. ATOS also led technological project management for Salt Lake 2002 (then as SchlumbergerSema), Athens 2004, Turin 2006, Beijing 2008 and Vancouver 2010, and is contracted to London 2012.

Since the 1990s, a similar pattern of the transfer of organisational responsibilities to corporate firms and consultants is evident for delivery of venues and infrastructure at the Olympic Games. Arup – a global firm of consulting engineers, designers, planners and technical specialists – held the contract to provide transport planning for the Sydney Olympic Park, compiled analysis of parameters of a 'specimen bid' for the London 2012 bid (Arup 2002a) and was a member of consortiums responsible for delivering the Birds Nest stadium and National Aquatics Center for the Beijing 2008 Olympics. Likewise, the CLM consortium (consisting of Laing O'Rourke, Mace and CH2M Hill) is contracted as the delivery partner for London's Olympic Delivery Authority. Of those firms, CH2M Hill
provided programme management in preparations for the Atlanta 1996, Sydney 2000 and Beijing 2008 Olympics. The management of risk in organisation of the Olympics has therefore become more transnational and networked, and this in turn has contributed to isomorphism in the systems and technologies of risk management implemented at the Games as responses to security or project management risks have to some degree been replicated over time and across different settings.

Securitization and Responses to Risk

The last of the distinct processes observable in organisation of the Olympics since the 1970s – and since 2001 in particular – is the increasing securitization of the Games, as security responses have escalated in response to the threat of international terrorism. This has been evident in significant growth in security budgets for the Games since 2000 – as preoccupations with security have led to the under-estimation of security costs. The initial Arup study on the feasibility of a London bid included a "...provisional sum for the cost of all security for the Olympics following consultation with the Metropolitan Police and based on the experience of Sydney 2000 and Salt Lake City 2002" (Arup 2002a: pp. 3-4), estimated at a cost of £160.2 million (Arup 2002b: p. 98). Even after the events of 9/11, consultants Arup reported that “with more time to plan security for a 2012 Games, the costs are not likely to reach those incurred at Salt Lake City [£245 million]” (Arup 2002b, p. 95). In the London bid, site security was costed at £190 million, increasing to £268 million in the revised March 2007 budget which estimated the total security and policing cost at £600 million (House of Commons, Public Accounts Committee 2008a). Since the last official estimate, the reported security costs for London 2012 have reached £1.5 billion (e.g. Beard 2008). While direct comparison between Games is problematic, due to variations in the national governing context and security environment, it is clear that costs of securing the Olympics have been subject to considerable inflation over the past thirty years, and dramatically since the Sydney 2000 Olympics (see Roberts 2008).
Securitization of the Games has also led security responses to override pre-existing institutional jurisdictions and measures. During the initial planning for the Salt Lake City 2002 Winter Olympics, a consortium of state, local and federal agencies (known as the ‘Utah Olympic Public Safety Command’) was delegated responsibility for management of all public safety activities. In 1999, the federal government’s Office of Homeland Security intervened and designated the Games a National Special Security Event, which required the US Secret Service to take charge of security and made the FBI responsible for law enforcement. The Salt Lake City security operations involved around 11,000 security personnel from more than 60 federal, state and local agencies such as the National Park Service (Rigg 2002). Securitization of the Games has therefore observed a resurgence of state-dominated responses to risk, not only in the realm of security and defence but also in interest of government in organisation and operation of the Games.

Conclusion

This chapter has sought to demonstrate the importance of risk in organisation and staging of the Olympics, both in terms of the different forms in which risk is encountered and in change over time in organising strategies used for management and mitigation of risk. The analysis has shown how some risks are endogenous to the Olympics (i.e. these are subject to ‘production’ in the course of its organisation) while others are exogenous to it (i.e. these are independent of it in probabilistic terms, but its occurrence alters the potential losses of a particular event). Such risks can, furthermore, be distorted through biases and errors that are common to decision-making in organisation of the Olympics. In contrast to other studies the chapter has demonstrated how changes in organisational responses to risk are not exceptional to the Olympics, but instead reflect fundamental shifts in the doctrines and practices of government and business. Since the 1970s, this is observed in organizers’ increased concern with economic impact and transfer of risk to the market alongside widespread use of regulation, audit and risk management as forms of external or internal control of organisations. Over time, similarities in organisational
responses to risk exhibit some of the characteristics of isomorphism (see DiMaggio and Powell 1991) as practices of risk management are imported from one setting to another within the interconnected Olympic world of specialist firms and consultants. While the jurisdictions and responsibilities of the main authorities involved in organisation of the Games have changed little since those present at the earliest modern Olympics in 1896, these shifts in the management of risk have had deep-rooted effects in changing how the Games is organised – both on paper and in practice.
### Figure 1. Two Dimensions of Olympic Risk

<table>
<thead>
<tr>
<th>Sub-National/National (Host)</th>
<th>Internal (Endogenous)</th>
<th>External (Exogenous)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>▪ Project management</td>
<td>▪ Urbanisation</td>
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<td></td>
<td>▪ Construction</td>
<td>▪ Domestic terrorism and public disorder</td>
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<tr>
<td></td>
<td>▪ Spectator flows</td>
<td>▪ Random events (e.g. weather, breakdowns)</td>
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<td></td>
<td>▪ Completion deadlines</td>
<td>▪ Water and power supplies</td>
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<td></td>
<td>▪ Revenue</td>
<td>▪ Transport networks</td>
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<tr>
<td></td>
<td>▪ Public support</td>
<td></td>
</tr>
<tr>
<td>Transnational</td>
<td>▪ Inter-Games Learning</td>
<td>▪ International terrorism and cyber-terrorism</td>
</tr>
<tr>
<td></td>
<td>▪ Geo-Politics</td>
<td>▪ Technological change</td>
</tr>
<tr>
<td></td>
<td>▪ Doping</td>
<td>▪ Global economic conditions (e.g. Credit Crunch)</td>
</tr>
<tr>
<td></td>
<td>▪ Exchange Rates</td>
<td>▪ Infectious diseases (e.g. avian flu)</td>
</tr>
<tr>
<td></td>
<td>▪ Commodity prices</td>
<td>▪ War</td>
</tr>
<tr>
<td></td>
<td>▪ Governance of the Olympic movement and international sport</td>
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</tbody>
</table>
Figure 2. Selected Indicators of Organisational Growth of the Olympic Games 1896-2008
**Figure 3.** Landmarks in Organisational Responses to Risk at the Olympic Games

<table>
<thead>
<tr>
<th>Year</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1896 (Athens)</td>
<td>Entrepreneurism, Philanthropy, Patronage and State Sponsorship</td>
</tr>
<tr>
<td>1936 (Berlin)</td>
<td>State-based Coordination and Control</td>
</tr>
<tr>
<td>1976 (Montreal)</td>
<td>Economic Evaluation and Impact Analysis</td>
</tr>
<tr>
<td>1984 (Los Angeles)</td>
<td>Contracting out, Commercialisation and New Public Management</td>
</tr>
<tr>
<td>1988 (Calgary)</td>
<td>Regulation, Audit and Risk Management</td>
</tr>
<tr>
<td>2000 (Sydney)</td>
<td>Transnational Networks in Regulation and Risk management</td>
</tr>
<tr>
<td>2002 (Salt Lake City)</td>
<td>Securitization and the resurgence of state intervention</td>
</tr>
</tbody>
</table>
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