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Risk, Governance and Mega-Events

‘The idea of risk is bound up with the aspiration to control and particularly with the idea of controlling the future.’

(Giddens 1999a, p. 3)

‘... the growth and size of the Olympic Games have reached the point where they present significant operational and organisational risks.’

(Olympic Games Study Commission 2002, p. 7)

Ours is an age that is unprecedented in its preoccupation with risk and its governance (Beck 1992). The equilibria of complex ecological, technological, social, political and economic systems are more vulnerable than ever before to extreme events and catastrophes. Worldwide trends across a number of indicators point towards significant growth in the impact of both natural and technological disasters, often attributed to the unpredictable and interactive effects of emerging and systemic risks (OECD 2003). At the start of the twenty-first century, such risks take the form of ecological perils, cyber attacks, turbulence and contagion in financial markets, pandemic diseases, cascading power blackouts, global terror networks, large-scale industrial accidents and introduction of next-generation biotechnologies and nanotechnologies. The existential threat of these mega-risks to modern states, societies and economies is further elevated by each new and fear-inducing incident. The terror attacks of 11 September, the Deepwater Horizon oil spill, the global financial crisis, the severe acute respiratory syndrome (SARS) virus, avian influenza and climate change are recent crises or dangers that have concentrated global attention on risk and its management. The growing clamour of societal debates about risk during the 1980s itself

coincided with an earlier series of high profile environmental crises and technological disasters – including the Three Mile Island accident, the Bhopal chemical leak, the Chernobyl nuclear disaster, the Challenger Space Shuttle disaster, the Piper Alpha oil platform explosion and the Exxon Valdez oil spill.

Organised societies have been confronted with hazards and threats in the natural world for thousands of years, through the devastating consequences of bad harvests, fires, plagues, famine, drought and floods. Indeed, the historical collapse of human societies has been linked to the rapid implosion of complex systems of social and economic organisation (see Tainter 1988). However, our present condition differs from our historical predecessors' experience of hazards and threats for a number of important reasons, relating to changes in the modernised world, in the measured world and in the bureaucratised world.

Firstly, an influential school of thought suggests that modern societies are unique in their manufacture of risk through processes of economic growth, globalisation, urbanisation, interdependence and scientific and technological progress (Lagadec 1981; Giddens 1991; Beck 1992). Giddens (1991) uses the metaphor of a runaway juggernaut to characterise the immense power of the modern world, which at the same time brings risks and uncertainties and has the potential to spiral out of control at any moment. Globalisation in its numerous forms has contributed to the interconnectedness of risk – via global telecommunication and supply networks, international tourism and business travel, migration and the global trade in goods, services and capital. As a result it has become harder to insulate social, political and economic systems from shocks or contamination outside their own territory or jurisdiction. This accelerates and amplifies the spread of potential harms such as pandemic disease and the contagion of crises in financial markets. Global networks – such as the financial system and the internet – provide the infrastructure through which insurgent movements such as Al-Qaeda can both mobilise and destabilise. Mass media further deepens our experience of events occurring in far off parts of the world. Further, this globalised world does not provide a straightforward answer to the question of who is supposed to be in overall charge, as the executive governance and politics of risk cut across nation states and territorial boundaries and across public and private institutions. This set of conditions therefore gives rise to the systemic nature of risk as well as the diffusion of its governance.

Alongside these system-wide factors, mankind's experimentation with technologies such as nuclear power, genetic modification and nanotechnology is linked to unanticipated creation of risks through science.

While this view has been criticised as dystopian and anti-scientific it highlights that the benefits of progress and modernisation can be double-edged, creating new risks as well as mitigating old ones. Both Giddens (1999a, p. 3) and Beck (1992, p. 55) are careful not to suggest there has been an intrinsic intensification or increase in risk over time. Indeed, it seems obvious that the existence of our historical predecessors was far more precarious, with far higher rates of infant mortality and lower levels of life expectancy. The balance of risk has shifted, then, from the natural world towards manmade dangers. In combination, however, the growing magnitude of possible social and economic impact and the increasing potential for unexpected interaction of components within complex systems, point towards a greater exposure of modern societies to risk, and in particular to the risk of catastrophic – ‘mega’ – events. As the world’s population and level of economic output has undergone increasing growth over time, then, so too have the potential scale of human and financial losses arising from hazards and threats – regardless of whether these are natural or manmade in origin.

In the modernised world, then, risk is increasingly manmade and amplified through complex systems, combined with the increasing exposure, overall, of both public and private interests to human and financial losses. For example, insured catastrophe losses have risen since the 1970s, as is illustrated in [Figure 1.1](#).

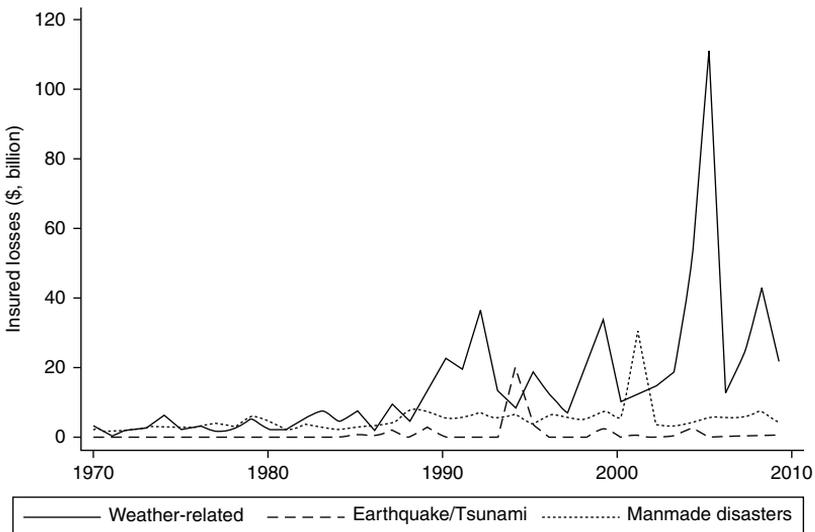


Figure 1.1 Insured catastrophe losses, 1970–2009

Data source: Swiss Re 2010.

Secondly, while processes of modernisation condition both the scale and complexity of the hazards and threats that we face, the origins of the idea and the language of risk lie in its emergence as a formal object of mathematics, science and empirical measurement during the seventeenth, eighteenth and nineteenth centuries. Risk must be distinguished both from uncertainty and the capriciousness of events. Pre-modern cultures understood the power of chance and providence, with the hazards and threats of the natural world being put down to fate, luck or the Gods. Without a sense that future possibilities could be predicted, earlier societies tended to attribute events to good or bad fortune (Luhmann 1996; Giddens 1999b). Risk becomes possible in cultures in which the future is considered foreseeable and brings with it aspirations for control of the future. As Knight (1921) pointed out much later, in his seminal intervention on the topic, risk is measurable while uncertainty is not. Risk entails an estimation of the likelihood of future possibilities. The word 'risk' – derived from the Arabic 'risq' and the Latin 'risicum' – itself entered the European lexicon at some point during the 1600s, suggesting that risk is a construct unique to the modern era. For modern cultures the language of risk is now ubiquitous. This can be seen in the exponential growth in the use of the term 'risk' – and of its French equivalent 'risque' – in written language, plotted in [Figure 1.2](#); calculated from its proportional usage in a corpus of millions of digitised texts which make up around 4% of all books ever printed (Michel et al. 2010). The absence of a similar trend in usage of the term 'uncertain' suggests that this constitutes a real shift in our cultural landscape.

Over several centuries, the development of probabilistic methods (see Hacking 1975; Stigler 1986) have provided a means for estimating the likelihood of future events and, therefore, risk. In the absence of probability there could be no construct of risk since there would also be no expectation of future outcomes. Probabilities were integral to wider advances in scientific methods of measurement and quantification (see Porter 1995), enabling statistical inference from empirical data – such as in Graunt's (1662) famous analysis of mortality rates in London as the basis for prediction of survival rates. Such methods inform us of the increased risk of heart disease due to smoking or drinking, the risk of surgical procedures, the health benefits of a glass of wine a day and so on. It is not a coincidence that increasing usage of the term in the French and English lexicon occurred around the turn of the nineteenth century, just as the pace of progress accelerated in the fields of science and statistics.

The growing power of statistical modelling in the natural and social sciences means that few areas of life today are free from evaluations

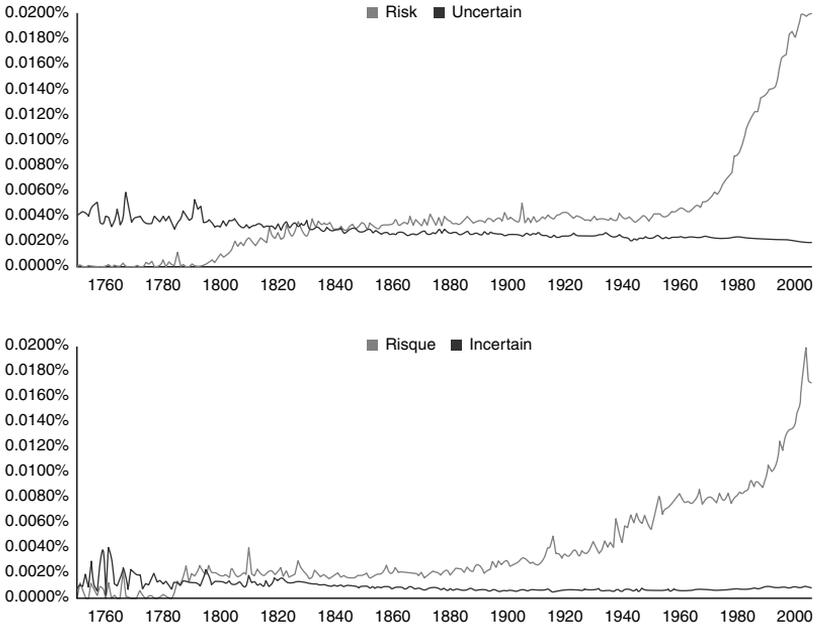


Figure 1.2 Risk talk in the lexicon: English and French, 1750–2006

Source: Google Ngram Viewer, <http://ngrams.googlelabs.com>.

of risk. While risk was once upon a time the domain of gamblers and insurers it has since ceased to be just a matter of financial gain or loss. Risk analysis now stretches from the fields of epidemiology to actuarial science to food safety to engineering to counter-terrorism. Measurement and statistical inference enable the identification of societal risks, via the assessment of the likelihood of the diverse range of harms, dangers and threats encountered in modern life. The observation of risk in the measured world is therefore an important factor in its pervasive-ness. The language and the measurement of risk allow it to take centre stage in societal and political debates about issues such as pollution or the regulation of financial markets. Further, an increasing volume of recorded data about risk is now available to us, which is a possible factor in upward long-term trends of reported societal harms and disasters (see OECD 2003, p. 35). While modern societies are increasingly exposed to manmade and systemic risks, they are also more prone to document, record and talk about the various maladies and catastrophes that befall them. We should beware, then, of overstating the dangers that face modern societies compared to those of the past.

Thirdly, and last of this tripartite of long-term changes, risk has become an integral feature of the architecture of modern institutions in both the public and private spheres. On one hand, the modern state often performs the function of insurer and risk manager (e.g. O'Malley 2004; Power 2004, [chapter 2](#)), pooling and redistributing economic and societal risks through institutions such as welfare states and regulatory regimes controlling potential harms such as road accidents, pollution and food safety. Since the 1970s there has been a broad shift in Western democracies as states have retracted from direct activities, such as taxation and spending, towards regulation as a hands-off mode of governing (Majone 1994), often concerned with risk and safety. According to this account of the changing nature of executive governance, the creation of rule-based systems and autonomous institutions is a functional response to market failure and objective risks (as discussed above) that confront modern societies (Moran 2001b, p. 30; Power 2004, pp. 37–38; Rothstein et al. 2006, pp. 93–94). This 'hollowing out' of the state has also transferred economic risk to the market through the privatisation of public utilities, state-owned industries and public corporations as well as through private financing and delivery of public goods and services.

The interconnected and overlapping nature of the risks described above has at the same time fuelled the transformation of political institutions, in a shift from territorial and economic-based units to transnational regimes and global networks of quasi-governmental institutions. There has been a transformation of the power of nation states, either eroded or reconstituted according to different accounts, in global and regional systems of governance. This change in the global governance of risk is manifested in the growing influence and power of transnational organisations such as the United Nations, the World Bank, the World Trade Organization, the World Health Organization and the International Monetary Fund, as well as international sports authorities such as the IOC and the World Anti-Doping Agency.

It can be argued that, alongside this, risk represents a growth point for some of the broader colonising, controlling and centralising tendencies of modern states, societies and economies (e.g. Hacking 1990; Porter 1995; Scott 1998; Moran 2003). In particular, historical development of quantification and statistical methods enabled states to better administer and control their populations, through bureaucracies such as census bureaus and statistical offices. As such, the knowledge and power of governments is interlinked with the evolution of statistics (Desrosières 1998). The explosion in statistical information that occurred during the nineteenth century provided a foundation for

governing through standard-setting and inspection and, as such, risk itself provided the basis for the creation of bureaucratic institutions and subsequent administrative attempts at the engineering and regulation of economic and societal behaviours.

On the other hand, combined with trends towards increasing regulation of societal risks, modern organisations – government bureaucracies and businesses alike – have become more introspective about the risks that affect them. Risk is increasingly a target of internal organisation and controls (Power 2004; 2007) as decision-makers seek to ensure that their strategic plans, business models and routine operations are capable of withstanding shocks or failures such as the interruption of supply chains, revenue shortfalls, operator error and public relations disasters. One of the formative approaches to the direct management of risk is identifiable in the historic insurance of trade (see Trenerry 1926), which has ancient roots but was pioneered in merchant shipping in particular (e.g. Bernstein 1996, pp. 88–95; Ericson and Doyle 2004). Through the purchase of insurance cover the risk of financial losses due to shipwrecks or other mishaps was transferred from the trader to an insurance house such as the famous Lloyds of London syndicate founded in 1774. As modern bureaucratic structures have evolved into routinised and rationalised processes, risk has also become an object of internal managerial practice in organisations.

It therefore is just in recent times that organisations have become quite so reflective about the risks created through their own activities, placing increasing emphasis upon the formal practice of ‘risk management’ and use of internal controls to manage their exposure to risk. Further, as Power (2007) observes in *Organized Uncertainty*, the visible and codified implementation of risk management systems has become a benchmark of good governance for organisations such as banks, schools, hospitals and charities. Far removed from the world of high finance and its bewildering array of complex mathematical models for calculating the risk and return of exotic financial products, there is growing managerial emphasis upon the systematic and routine identification and mitigation of risks to organisations, often through the use of procedural devices for the gathering of information such as risk logs and registers. Risk management emerged as an extension of insurance management during the 1950s and 1960s, with a notable milestone being the concept of the ‘cost-of-risk’ developed by Douglas Barlow, Insurance Risk Manager at Canadian agricultural manufacturers Massey Ferguson, which measures the total cost of management of risk to an organisation, not just the cost of the insurance premium paid out. This

marked the start of a wider shift among businesses, from reliance upon insurance to offset losses towards a holistic and managerial approach to identification and control of risk. In 1975, the American Society of Insurance Management changed its name to the Risk and Insurance Management Society (RIMS), further signalling the growing influence of risk management in the corporate world and the development of a 'risk industry' with its own vested interests and professional communities of practice (Dryzek 1996, p. 299; Hacking 2003; Power 2003). Such practices have, in turn, been imported from business into government (e.g. Hood et al. 1992; Hood and Jones 1996), further driving the replication of risk management practices across organisational fields and blurring boundaries between the state and the private sector.

As well as constituting a bureaucratic transformation of organisational structure, this shift is, of course, a response to the creation of manmade risks and to increasing prevalence of the idea of risk and technologies for its assessment. Concern with the management of risk has followed as organisations have become more aware of risks produced in the course of their own activities, such as legal liabilities for harmful products like cigarettes, asbestos, toxic waste or contaminated food. Further, catastrophic failures in corporate governance such as Enron and Barings Bank have contributed to the expansion of regulation and formal reporting requirements, for example the Sarbanes-Oxley Act (2002) in the US and the Turnbull Report in the UK (ICAEW 1999), both of which imposed requirements of top-down internal controls within businesses for the management of risk. At the same time, pressures for risk management are interlinked with concern about 'reputational risk' as organisations respond to external pressures for accountability, performance, trust and transparency from consumers, stakeholders and the general public (Power 2007, [chapter 5](#); Power et al. 2009). This brings us full circle, as the management of economic and societal risks itself become a subject of risk management – as decision-makers seek to manage the internal process and routines of their organisations as well as the outcomes.

Mega-events, mega-projects and the governance of risk

In an age that is preoccupied both with risk and its management, large scale multi-billion dollar enterprises such as the Olympic Games represent an extreme collision of these wider trends. The complex planning, construction and operational requirements of events on this scale bring with them a disproportionate volume of unknowns, uncertainty and

risk – at just the same point in time that there is increasing sensitivity to risk and pressure for its measurement and management. Further, the unique technical and logistical characteristics of these mega-events in turn create their own demand for the language of risk and for the technologies of modelling and project management, prompting internal deliberation about risk. This has given rise to the concern of event planners and managers with projection of a public image of good governance, in light of increased societal and political attention to cost-benefit calculations and to social, economic, security and environmental impact assessments of major events and projects. Both the risks and governance of mega-events are therefore tied up with these macroscopic historical shifts of manmade production and control of risk. As such, they are essential for understanding governance of a hyper-modern project such as the Olympics.

While much talked about, mega-events are quite rare happenings in practice, often being over-diagnosed both in academic studies and in industry reports and consulting. These are large-scale events that affect whole economies and which at the same time attract global public, media and political attention. Such events tend to be awarded through a competitive bidding process, or at least the right to stage the event is conditional upon approval from a higher national or transnational authority. This basic definition encompasses events such as the Olympic Games, the Commonwealth Games, the Pan-American Games, International Expositions, Football World Cups, World (IAAF) Athletic Championships and the Formula 1 Championship. One might also include lesser international, regional or national events such as European Athletic Championships, European Football Championships, Cricket World Cups, Super Bowls, Baseball World Series, and one-offs like the millennium exhibition at the Dome in Greenwich, London in 2000. While of smaller scale, these nevertheless have considerable social and economic consequences and attract a large international audience of viewers and spectators. Across all these events a sponsoring authority is identifiable, such as the IOC, the Commonwealth Games Federation, FIFA (Fédération Internationale de Football Association) and FIA (Fédération Internationale de l'Automobile). Increasingly, mega-events are linked to international sport, though this was not always the case. Their historical precursors were the Great Exhibitions, International Expositions and the World's Fairs of the nineteenth century, where the same essential processes as today were in place: new buildings and infrastructure were constructed, urban environments were transformed, large numbers of tickets were sold and the public and media watched

on with interest. The origins of numerous modern sporting fixtures and festivals can be traced to the eighteenth and, in particular, nineteenth centuries, with the explosion of sport and leisure activities that occurred during the period. The Wenlock Olympian Games at Much Wenlock in Shropshire, England in 1850 has been credited as inspiring Pierre de Coubertin's founding of the modern Olympic Games. It was around this time that the first Great Exhibition was staged in London in 1851, soon followed by the Exposition Universelle held in Paris in 1855. There is a long tradition, then, associated with the staging and the governance of mega-events.

Mega-events are to be distinguished from calendar events such as annual sporting fixtures, for example, major horserace meetings like the Aintree Grand National (UK), the Melbourne Cup (Australia), the Prix de l'Arc de Triomphe (France) and the Kentucky Derby (US). The latter draw large numbers of spectators and global television viewers but at the same time are far less reliant upon the construction of new facilities and infrastructure and are not subject to a bidding process. Of course, a few calendar events such as the English FA Cup Final and the Super Bowl in the US are closely associated with large-scale construction projects (such as the £900 million redevelopment of Wembley Stadium now used for hosting the FA Cup Final as well as other sporting and entertainment events). Nevertheless, calendar events do not tend to be as dependent upon the creation of new facilities and infrastructure, because of their recurring nature. Their basic infrastructure and facilities can also be multi-purpose, serving a series of major events throughout the course of the year. Calendar events also include large cultural events such as the Glastonbury music festival or the Burning Man festival, which is held in the Black Rock Desert in Nevada, attended by around 50,000 people, and notable for its conscious absence of infrastructure or a cash economy (which makes the event distinctly un-'mega' in nature).

For some, the characteristic of a mega-event accrues simply from their scale or their significance and their targeting of international tourism (e.g. Hall 1989; Getz 1997, p. 6). UK Sport (1999) distinguish between the categories of mega-events, calendar events, 'one-off' events and showcase events. These sorts of definition can be rather facile, however. While calendar fixtures do not tend to fall into the mega category of event, it is quite possible for them to do so if attached to large scale construction programmes or urban redevelopment. This has quite often been the case for Formula 1, where new circuits bidding to stage races have committed considerable expenditure on tracks and facilities (such as £800 million spent on construction of the Yas Marina circuit for the

Abu Dhabi grand prix, which first opened in 2009). Further, international tourism in and of itself is not sufficient to render a large scale happening a mega-event. Historical mega-events such as the great exhibitions involved mass participation (alongside substantial social and economic impacts and construction projects), even though the level of international tourism was far lower. This should not detract from their mega-status, however. Definitions that focus upon tourism as the principal indicator of economic impact and activity overlook the importance of infrastructure and the organisation of facilities and services. While mega-events often stimulate the inflow of tourism, through which short-term boosterism of cities and local economies is achieved, some of their largest economic reverberations occur through construction programmes and the large workforces required to deliver facilities and services.

Some large and significant global events can therefore have much smaller social and economic impacts than others, in particular when utilising a pre-existing infrastructure and operational capacity. Rather, as Roche (1994, p. 1) argues, what distinguishes mega-events are that these are '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.' Mega-events consist of large scale event operations that are dependent on coordination of multiple projects concerning infrastructure and facilities, such as the construction of stadia, telecommunication networks, power supplies, accommodation, public spaces, and transport links. There are also sizeable influxes of people: including spectators, staff, VIPs, security personnel, administrators (quite often including organisers of other mega-events) and the national and international media – all of which must be coordinated. This operation is all superimposed on top of both new and existing infrastructure and facilities. Mega-events therefore consist of wider programmes that incorporate, but are not confined to, the large scale infrastructure projects scrutinised in Flyvbjerg, Bruzelius and Rothengatter's (2003a) *Mega-Projects*. Here the construction and engineering aspect of the event is just part of an overall programme that is geared towards the operation and staging of an event, in the presence of a large media and public audience. It nevertheless is an essential pre-condition for something being a mega-event. Further, the construction of large scale facilities and infrastructure occurs in the run-up to the event and can have significant social and urban impact, but the event itself is focused on the operation of sporting events, commercial activities and public

services – emergency services, police, security, public health, transport and so on. To understand mega-events, it is not sufficient to just examine large scale construction projects or international tourism. Such events result in the transformation of governance, as undertakings that cannot be delivered and operated through ‘business as usual’ provisions of government and the private sector. The defining characteristics of mega-events and mega-projects are compared in [Table 1.1](#), alongside the typical features of the Olympics in its contemporary form.

Mega-event status can be evaluated against attributes such as the level of spectator attendance and size of global audience or commercial market, the scale of the requirements for venue and infrastructure construction or upgrading, the levels of public finance and/or investment of private equity, as well as the scale of commercial turnover, and the extent of social, economic and urban impacts. For reasons to do both with historical path dependence and institutional power, mega-events tend also to be associated with a competitive bidding process and transnational governance. This is because the events often require support from international coalitions and transnational sponsoring authorities are a solution to collective action problems inherent to delivering major events that rotate both venues and personnel at regular intervals. Further, the political and commercial growth of events itself contributes to the clustering of interests – whether sporting, economic or political – around successful events, which seek to extract benefits for individuals, groups and nations. Further, these are events that require escalation of normal levels of public and private sector operations. This means that significant extra capacity is required for things such as air, bus and rail transport services, electricity, water and gas supplies, and policing and emergency services. Mega-events therefore interrupt normal tourism, business activities, public transport timetables, television schedules, political attention, construction industries, hotel accommodation and so on. As such, these represent a significant disturbance of the status quo.

Out of these essential characteristics emerge large scale, complex organisational and operational enterprises. Because of the vast scale of the undertaking – financial investment, planning, project management, construction manpower and political capital, amongst other things – the potential for financial, social, political and other categories of losses, alongside the sizeable opportunities for benefits, is also mega in terms of both the number of possible permutations and their degree of magnitude. Alongside this, the complex interdependence of event planning, project management and operation, with an extended time

duration from the design and bid phase to the staging of the event, also makes mega-events vulnerable to system ('normal') accidents, arising from 'multiple and unexpected interactions of failures' (Perrow 1984, p. 5). In contrast to the breakdown of a factory processing line, these mega-processes do not always follow a linear or predictable sequence, so cannot simply be shut down in the case of errors or failures. With a large number of critical decision and delivery-points, there are multiple opportunities for things to go wrong and then interact with other components of the complex chain of project deliverables and operations. For example, hold-ups in construction can also impede security planning and the pre-event trialling of venue operations. Or power breakdowns during the event itself can cause severe disruption to the transport of competitors, staff and spectators to and from the event venue. (These dynamics are discussed in further detail in [Chapter 3](#).)

The distinguishing attributes of the Olympics make it perhaps *the* archetypal mega-event of modern times. These include its unequalled size and scope, the large volume of material, human and financial resources involved in its organisation, its association with the construction of large scale infrastructure and facilities, its geographical setting often close to the urban centre of host cities, the transnational and intra-national configuration of its governance through the IOC, National Olympic Committees (NOCs), international sports authorities, host governments and other authorities, its partnerships with entrepreneurs and businesses, its competitive candidature process, its creation of a visible platform for political and cultural agendas and conflict over economic resources, and the high level of public attention and media coverage it receives both at the domestic level and worldwide.

These essential characteristics suggest, then, that the world of mega-events is also a world of risk: of financial risks, technological risks, safety and security risks, economic risks, social and environmental risks, operational risks, political risks and reputational risks – risks to organisers and to national governments, to workforces, to international authorities, to domestic populations, to corporate partners and to firms with direct or indirect involvement in the event. As such, risk marks out the contours of the tricky challenge of governing mega-events. While offering rare opportunities for expansive programmes of urban regeneration, boosterism, economic growth, commercial profit, the engagement of public support and the promotion of national prestige on the world stage, mega-events bring extensive risk.

It is well established that risk, and the under-estimation and mismanagement of risk, is an integral feature of the large scale construction

Table 1.1 Characteristics of mega-events, mega-projects and the Olympic Games

Characteristic	Mega-events	Mega-projects	The Olympics
Scale	Large scale events/ programmes, both in terms of the size of venues, arenas and facilities and the number of participants, workforce and spectators.	Large scale physical structures, commitment of a high volume of financial, human and material resources.	Large scale logistical exercise in project management and event operations, comprising a multi-sport (25+) and multi-venue (30+) event at multiple sites, with a large workforce and in the region of 100,000 individuals receiving official accreditation.
Capital projects	Require large scale construction or enhancement of venues, facilities and related infrastructure.	Large scale construction of buildings, infrastructure or technologies.	Large scale construction and enhancement of facilities directly related to the event (e.g. the main stadium, competition venues, athletes' accommodation, media facilities) and other associated infrastructure (e.g. airport facilities, local bus and rail transport).
Procurement	Competitive procedure of selection of the venue/host of the event, procurement through competitive tendering (e.g. contracts for project management and service delivery).	Procurement through competitive tendering of contracts for design, engineering, project management and delivery.	Competitive selection of the host city through the IOC's candidature procedure, procurement for capital works projects often through competitive tendering out to private firms, with public agencies also providing services (such as policing and emergency services).
Duration & completion deadlines	Extended project duration (some variation depending on capital projects), but limited window of operations with a fixed completion deadline.	Extended project duration.	Extended project duration (often up to 20 years between initial feasibility studies for bids and the post-Games decommissioning of facilities), but operation of just a two-week programme of sporting events.

Governance arrangements	Events often undertaken for commercial profit but with positive externalities for the state, involving a wide range of public and private stakeholders.	Project finance, planning and delivery through a range of mechanisms, spanning public authorities and private firms.	Organised through a combination of public authorities (e.g. host governments) and private entities (e.g. privately incorporated bid teams, OCOGs and the IOC) and a range of funding mechanisms (e.g. public funding, private equity, commercial revenue, payment-in-kind through goods and services).
Operations	Large scale event operations for one-off events or programmes of events (often causing disruption to routine operations and services during the event).	Project operations undertaken post-completion of construction.	Large scale event operations for the programme of sporting events and for the opening and closing ceremonies. Operations including a wide range of tasks such event management, ticketing, hospitality, security and technical services.
Media	Global events due to large international media audiences through television, radio and internet.	Media interest often restricted to local press and tends to react to difficulties in planning and project management.	Billions of television viewers worldwide, with an estimated average audience of more than 500 million for the opening ceremony of Beijing 2008 Olympics (Initiative, futures sports + entertainment 2009, p. 7), with broadcasting rights sold to more than 200 countries.
Site location	Most are sited in or near urban settings with access to major domestic and international transport links.	Site tends to be in an urban setting (although some physical structures such as gas pipelines and offshore drilling platforms are located in wilderness areas or at sea).	The main site (including venues and accommodation and services for competitors) tends to be located close to the urban hub of host cities (sometimes based on the regeneration of brownfield sites).

continued

Table 1.1 continued

Characteristic	Mega-events	Mega-projects	The Olympics
Economic impact	Preparations and events are linked to a range of local, regional and macroeconomic impacts (in particular tourism, but also economic growth and job creation).	Projects that create their own economic environments, with substantial direct impacts on local, regional and national economies through investment (through the creation of jobs, stimulation of consumption and economic growth) and the creation of new physical capacities for economic activities (e.g. transport links).	Studies of past Olympic Games suggest evidence of local, regional and macroeconomic impacts across a range of measures (e.g. the stimulation of economic growth, job creation, tourism, consumption, house price rises, inflation).
Cost	No fixed definition due to variation in levels of required public and/or private investment in facilities and infrastructure, but tend to exceed US\$100 million (sometimes with costs spread over multiple years).	Defined as costing more than US\$1 billion (Flyvbjerg et al. 2003a).	Operational costs of OCOGs in the region of US\$2 billion, with costs of venues, facilities and infrastructure tending to exceed US\$5 billion for Olympics held in the past couple of decades.

Revenue	High levels of commercial revenue from ticket sales, sale of broadcasting rights, merchandise, licensing, corporate sponsorship, post-event sale of physical assets.	Expectation of high rates of return on investment (high commercial revenues).	Sizeable commercial revenues secured for OCOGs and the IOC via corporate sponsorship, licensing and the sale of broadcast fees (for example the IOC's quadrennial sponsorship programme raises more than US\$500 million while the sale of broadcasting rights has raised in excess of US\$1 billion for several recent (summer) Olympics).
Public support & stakeholders	Events attracting a wide range of stakeholders in the private sector and metropolitan and national government, often reliant on support from local communities, and needing wider public support as a source of societal legitimacy and commercial viability.	Dependence upon public opinion, local communities and stakeholder coalitions to sustain public trust.	High levels of political and public interest in the Olympics, large numbers of stakeholders and organised interests, reliance upon public support for bids to host the Games and for preparations and staging of the event itself.
Risk	High levels of risk, both in project management and financing (e.g. optimism bias in budgeting forecasts, hazards on construction sites) and event operations (e.g. security threats, service disruption).	Complex technological or technical projects, scope creep in planning and budgeting, complex demands on procurement due to scale and multiple contracts (at risk of losses in competitive tension) and limits to enforcement.	High levels of risk in budgeting due to scope creep and fixed completion deadlines, security threats accentuated due to the global visibility of the Olympics, reputational risks due to problems in event management and operations.

projects that are often associated with mega-events (e.g. Merrow 1988; Flyvbjerg et al. 2003a; 2003b; Altshuler and Luberoﬀ 2003; Priemus et al. 2008). Mega-projects present unique diﬃculties for policy-makers, planners and project managers. These are large scale capital investment projects, notable for the size of undertaking and dependence on input of a large volume of financial, human and material resources. Often, major projects such as in transportation or urban economic development combine complex technical, design and engineering requirements – whether these relate to roads, bridges, skyscrapers, stadiums, dams, airports or oil and gas pipelines – with complex governance arrangements, which span multiple jurisdictions and partnership between public and private sectors. The extended life-cycle of these sorts of projects increases the number of decision points at which there is scope for change and can amplify errors in forecasting over long time horizons. Through their vast scale, such mega-projects create their own economic environment, as well as substantial human and environmental impacts. Their urban setting – often located close to the heart of economic and residential centres – requires integration of planning and construction with existing infrastructures and populations. Further, because of the magnitude of the associated resources and impacts, and large number of stakeholders, mega-projects also bring political interest and conflict. The progress of these projects often are subject to scrutiny from local and [national media](#), and are dependent upon support from local coalitions and public opinion (see Altshuler and Luberoﬀ 2003, pp. 219–247) in order to sustain public trust. Together, these characteristics point towards the awkward relationship between the governance of mega-projects and risk, for example in the form of financial losses, environmental hazards, societal harms and technological dangers. This, in turn, has potential consequences for the governance of mega-events.

Today, the governance of the Olympic movement and Olympic Games takes place in an era in which risk and its management have become a pervasive influence across states, societies and organisations – traversing the traditional boundaries between nation states, between the public and the private sphere, between systems and individuals and between nature and mankind. [Chapter 2](#) outlines how staging the Olympics has become riskier over time and how the risks associated with its governance have become more complex and diverse.