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WHAT GOVERNMENT AND BUSINESS MIGHT LEARN FROM
TEAM GB**

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Abstract

This paper investigates the degree to which the British elite sport policy model might inform a strategy for building international competitiveness in UK industry. The methodology is qualitative, based on in-depth interviews with key figures in the British elite sport system, including UK Sport's CEO, Performance Directors of National Sport Governing Bodies whose athletes competed in London 2012 and Rio 2016 and Olympic athletes. The analysis also draws upon detailed case studies of sectors that are currently competing successfully in international markets – despite decades of ill-informed industrial policy, if not neglect. Areas standing out as key to the UK elite sport policy model's success include: an institutional structure to provide strategic leadership, identify talent and support the development of internationally competitive athletes and teams, whilst at the same time insulating them from interference by short-term political (and sporting) interests; an enabling competitive environment with access to a reliable source of finance; and an institutional system that encourages learning, innovation and responsiveness to opportunities and constraints. Taken together, these – if available to British businesses, clusters and sectors – would likely facilitate improvement in the UK's industrial performance. The significance of the elite sport case is that not only was it developed and successfully implemented in the British cultural, institutional and political context, in many respects elite sport can be considered a high performance industrial sector. It therefore offers a starting point for evolving strategy for building international competitiveness in comparable sectors of British industry.

Key words: UK Sport, Sport policy, Elite sport development, Industrial strategy, Competitiveness

JEL Codes: L00, L50, L83

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‘Government should not involve itself in professional sport just for the sake of it, but where we have a clear remit and can make a positive difference.’ (Coe, 2015, p. 35)

1. Introduction

In September 2012, after Team GB’s record-breaking performance – and with the London Olympic Games still alive in the public imagination – Vince Cable, then Secretary for Business, Innovation and Skills, set out his vision for a long-term industrial strategy, making direct reference to that which had contributed so much to Britain’s Olympic success:

‘The Olympics provided a unique opportunity to celebrate the things the UK does well. Our athletes achieved what they did because of their years of commitment and planning. I was initially a sceptic; I could see the costs but not the benefits. But the games proved to be a success. Years of planning and investment in pursuit of a clear and ambitious vision were realized. ... I think there is a read-across to the way we approach our economic future’.

He went on:

‘We need to take the same approach: a clear, ambitious vision; the courage to take decisions that bear fruit over a long period; openness to new opportunities as they develop; focus on the things we do best; and an enduring commitment far beyond a five year parliament or spending review period’ (Cable, 2012).

Thus, although sport-related issues dominated discussions concerning London 2012’s ‘Olympic Legacy’, policy-makers and politicians were also looking for lessons that might be learned from the approach that had proven so successful in strengthening the international competitiveness of British elite sport to inform the development of an *industrial* strategy aimed at addressing the challenges facing the UK economy.

However, by the time the Rio Games arrived in 2016, very little, if anything, had been accomplished. The idea of boosting economic growth in the North of England had been proposed by the 2010-15 Conservative/Liberal-Democrat Coalition Government and branded ‘the Northern Power House’ by the 2015 Conservative Government. But with neither a clear vision nor the strategy and resources required to achieve it, when Theresa May’s Government came to power in July 2016, it was subsumed into a nationwide agenda for improving productivity in cities and regions outside of the Southeast of the country. This sequence of events is much more reminiscent of the state’s approach to elite sport prior to its low point at Atlanta 1996, than the measured and well-

resourced ambition that followed it; and the successful elite sport policy model has, it seems, been forgotten – despite Team GB’s continuing record-breaking performance.

This paper explores the extent to which the UK elite sport strategy might inform the development of a system for building international competitiveness in British industry. Section 2 examines the British elite sport policy model and Team GB’s resulting competitive improvement since Atlanta 1996. Section 3 traces the evolving role of the state in British industrial policy. Section 4 identifies aspects of the elite sport case that might be applied to British industry; and Section 5 concludes.

2. Building international competitiveness in British elite sport

Prior to the strategic changes following the 1996 Atlanta Summer Games – when Team GB placed 36th in the world rankings with only one gold medal – the British Olympic Team was in a similar position to that faced by many UK small- and medium-sized businesses (SMEs) today. There was no clear vision, no political support and a shortage of appropriate funding. Whilst the institutional structures underpinning sport – the National Sport Governing Bodies (NGBs) – were functional to a degree, they, too, were under-resourced and operating independently of each other, with little or no strategic leadership.

The fragmented nature of sport policy in the UK was recognized by the Great Britain Sports Council. In 1993, it acknowledged that ‘the UK’s sporting achievements have too often been secured in spite of the disparate goals having been set by our sporting community’ (quoted in Houlihan & Lindsey, 2013, p. 39). In any given year, only a limited number of athletes managed to achieve Olympic or Paralympic success; and they competed largely as individuals, without access to the resources of a team within which to develop their competitive capabilities, learn from each other’s experience and build upon it for future events.

Peter Keen, himself a former world champion cyclist and coach – and UK Sport’s Performance Director from 2004 to 2012 – summed the problem up:

‘My career in sport ... was that of a classic Alpinist. We were trying to climb this thing, but we weren’t leaving any maps or ropes for anyone else. If anything, quite the reverse. That switch from one-off success to an approach that is a quite different set of values is probably the single biggest difference ... The challenge was to convert those highly motivated, highly talented individuals into a *system*’ (quoted in Slater, 2008, emphasis added).

But British elite sport suffered not only from the absence of a coherent system for competitiveness development; it also lacked a stable source of funding and was vulnerable to poorly informed government intervention. Many of Team GB's rivals had none of these disadvantages.

The concept of elite sport *strategy* is not new; the various nations of the former Soviet bloc laid the foundations by developing talent identification, coaching, and medical support systems. The results were obvious as – prior to the bloc's breakup in 1991 – the USSR consistently accounted for the majority of Olympic medals.

This strategy profoundly influenced those developed by others, notably Australia, following its own Olympic nadir at the 1976 Montreal Summer Games, when it placed 32nd, with only 5 medals, none gold. In response, the then Prime Minister Malcolm Fraser set up the Australian Institute of Sport; and the new elite sport system took much of its inspiration from East Germany (then, still part of the USSR) but was no mere copy. Building on local conditions and existing institutional structures, the Australian interpretation took account of its large distances between population centers and the challenges of accessing resources. Sports academies were created as centers of excellence for a restricted number of disciplines, offering state of the art resources and facilities and unwavering focus. The result was a characteristically Australian system – and rapid improvement in results. Four years later in Moscow, Australia rose to a world ranking of 15th, with 9 medals, 2 gold.

It is against this backdrop of intensifying international competition that the performance of UK elite sport at Atlanta 1996 must be viewed. Although the breakup of the USSR might have been expected to improve the prospects for those outside the former bloc, the adoption of similar approaches by other countries merely shifted the locus of competition: an effective development system was now a requirement for competitive success.

Recognizing the political relevance of sport

Prior to the 1990s, a significant problem facing UK elite sport – along with British business – was a lack of political will to get involved. Conservative governments of the 1980s maintained that, as far as possible, the state should *not* intervene in private sector activities. This included sport, with the Sports Councils (for England, Scotland, Wales and Northern Ireland) assuming a generalist role in sport promotion, under the 'Sport for All' credo.

However, when John Major – a life-long cricket supporter who understood the political significance of sport – succeeded Margaret Thatcher as prime minister, a decade of political indifference to sport abruptly ended. In 1995, he argued: ‘we invented the majority of the world’s sports ... 19th century Britain was the cradle of a leisure revolution as significant as the agricultural and industrial revolutions we launched in the century before’ (quoted in Whannel, 2005, p. 72). Major’s strong personal backing proved instrumental in the strategic changes which underpinned the British Olympic Team’s competitive turnaround (Houlihan & Lindsey, 2013, p. 40). Political support was crucial in a number of areas, since both the institutional and legal framework supporting elite sport development needed reform.

Another problem – also, currently the case for British SMEs – was the absence of a predictable, competitive source of funding. However, addressing this, both in absolute terms and by comparison to other countries, would be a challenge. The UK was in recession; and the government’s reputation for fiscal prudence had been damaged by Sterling’s humiliating exit from the European Exchange Rate Mechanism in 1992.

The new National Lottery, which was set up in 1993, however, provided a viable alternative to exchequer funding, with around 30 percent of the proceeds earmarked for good causes, including sport. It is worth noting that the UK lottery was not a straight-forward copy of the European model that inspired it; whilst most European lotteries are state-operated, the UK version is run privately, on a state-franchised basis.

However, additional funding was not in itself sufficient to change the game. The absence of leadership, a clearly articulated vision, and a strategy for achieving it – along with processes for identifying and developing talent – all needed to be addressed. Since the difficulties afflicting elite sport were no secret, it was possible for an interested government to engage with existing sporting institutions to facilitate the most pressing changes quickly. This involvement would not only make it easier to create the system, but also to develop it further as required.

Funding was thus the second of only four – albeit highly significant – changes in the government’s relationship with elite sport. The third was the primary institutional change, also initiated by the Major government: In July 1994, then Sports Minister, Iain Sproat, outlined proposals (1) to replace the Sports Council of Great Britain with the England Home Country Sports Council (Sport England) and a new arms-length body, the United Kingdom Sports Council (UK Sport) that would focus on elite sport only, with much closer links to the British Olympic Association; and (2) to shift the focus of the Home Country

Sports Councils to mass participation sports. Sproat explained the vision for UK Sport and its relationship with the Home Countries Sports Councils:

‘On the international scene, it [UK Sport] will represent the UK; it will seek to increase greatly the influence of the UK in international sport; and it will co-ordinate policy for bringing major international events to the UK. In national affairs, it will not have a supervisory remit, but it will oversee those areas where there is a need for UK-wide policy – for example, on doping control, sports science, sports medicine and coaching. Home country councils will, however, be responsible for the delivery of those policies’ (Sproat, 1994)

UK Sport was established by Royal Charter on 19 September 1996, became operational on 1 January 1997 and was later granted a license to distribute Lottery funding to elite sport.

Crucially, political support for elite sport – with another key message for industrial strategy development – survived subsequent changes of government. Tony Blair’s New Labour came to power in 1997, bringing a fundamental change in the uses to which lottery funding could legally be put. Instead of being limited to facilities, it could now be allocated to teams, athletes and support staff, meaning that athletes no longer had to juggle employment with training and competition, and coaches and other specialists could be funded.

This fundamentally changed the way the system worked: Instead of government dictating what teams spent money on, they were now free to spend it on what was *actually* needed and *when*. Discipline came with the hard-nosed rule that funding was contingent upon competitive success – or the demonstrable likelihood of it – within set timescales as well as implementation of strict, new governance procedures by funding recipients to account for their use of public investment.

Extra funding, however, did not automatically produce results. According to Peter Keen, in some athletes, it bred complacency: ‘It was not about suddenly getting paid for what you were doing already. Actually, it was all about trying to win. We had to professionalize the sports as well. Writing the rules was perhaps the most important thing’ (quoted in Kelso, 2012). Government involvement via UK Sport soon proved highly successful, both in driving change and improving results.

The structure and governance of UK elite sport

The separation of elite from mass participation sport produced much more than a change of name and focus. In 2001, UK Sport developed a ‘priority sport’

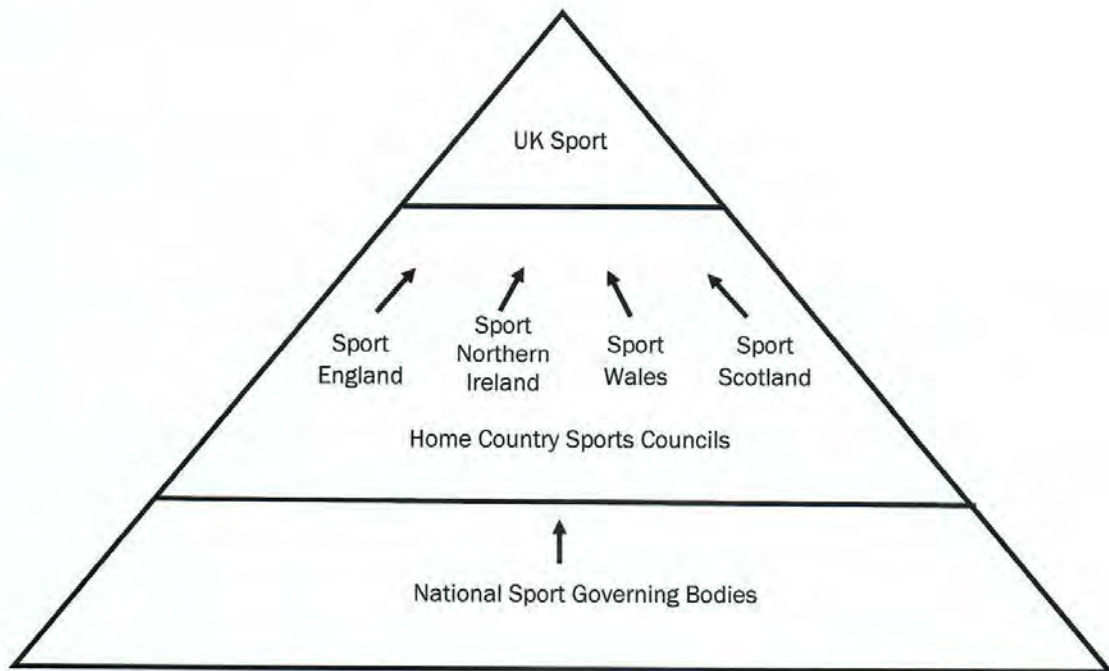
approach, categorizing sports and investing resources only in those identified as having the potential to win medals – particularly at World Championships and Olympic and Paralympic Games.

UK Sport's world class performance pathway covers all funded sports and operates at the top two of three distinct levels: the 'Podium Potential' and 'Podium' levels (UK Sport, 2016a). The third, 'Performance Foundations' level, is overseen by the Home Countries Sports Councils, where athletes with the potential to progress through the World Class pathway with the help of targeted investment are identified, confirmed and supported. If their performances suggest realistic medal prospects within a maximum of 8 years away, they progress to the Podium Potential level, with Podium level athletes being those with a realistic chance of winning medals within 4 years' time.

UK Sport currently supports around 1300 athletes at the Podium Potential and Podium levels, investing approximately £100 million annually, of which two thirds is National Lottery funding; the Home Countries Sports Councils invest roughly twice this, in supporting mass participation sports and Performance Foundation level athletes (Liz Nicholl, personal communication, May 22, 2015). Central funding is distributed to the NGBs, which support elite athletes with a range of services, including coaching, training and competition support; medical, technology and scientific services; and access to world class facilities. UK Sport also makes a contribution towards living and sporting costs via Athlete Performance Awards, which are solely funded by National Lottery income.

Figure 1 illustrates the relationship between UK Sport, the Home Countries Sports Councils and the NGBs which oversee both individual clubs and their elite teams. As discussed above, the Home Country Sports Councils, which invest in mass participation sport, also have responsibility for athletes identified as having the potential to progress to world class elite status. The NGBs are responsible for the pathway and the system for developing the sporting disciplines and elite athletes that underpins it. They receive funding from both UK Sport and the Home Countries Sports Councils to which they are accountable.

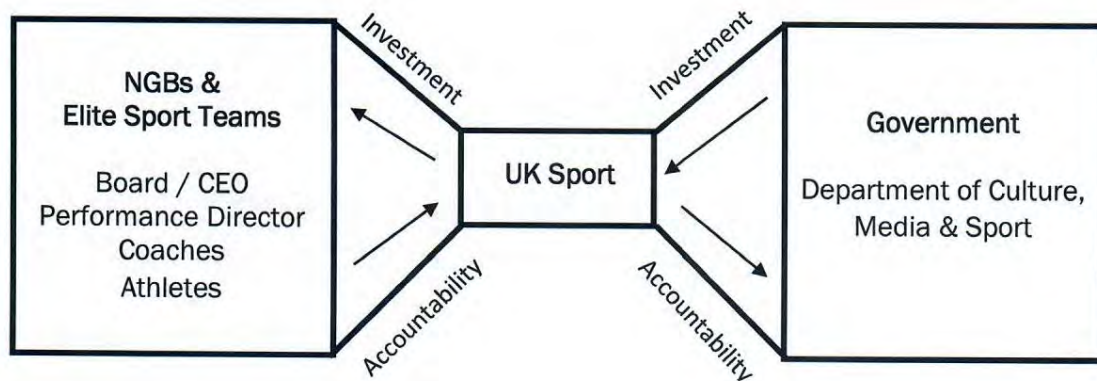
Figure 1. UK Sport System Structure



In recent years, UK Sport and the Home Countries Sports Councils have been working more closely together to make the pathway from talent identification to podium more seamless and cost effective, with UK Sport and Sport England moving into a shared building to reduce costs and facilitate cooperation. But responsibility for talent identification and development is broader than just the Home Countries Sports Councils and UK Sport; the NGBs, clubs, and primary, secondary and higher education sectors also play an important role.

Figure 2 illustrates the governance relationship between UK Sport, the Government, NGBs and Elite Sport Teams. As discussed above, UK Sport invests both exchequer and National Lottery funding in elite teams, which invest in athletes; and it is accountable to government for this investment. The NGBs and elite teams, in turn, are accountable to UK Sport for its investment in them, the success of which is determined by a ‘no compromise’ medal-based approach.

Figure 2. Elite Sport Governance Structure



UK Sport works with all funded organizations to ensure that they are professionally and efficiently run, with a commitment to the highest level of governance and financial management; and in 2016, it published a Governance Code for all funded sport, taking effect from 2017 onward. UK Sport has the following governance principles:

‘We will only invest in sports which demonstrate the required standards of leadership, governance, financial management and administration. We will scrutinise the governance and leadership of all sports in which we invest to ensure that organizations are run professionally and efficiently, with a commitment to achieving the highest standard of corporate governance and financial management which systemic excellence at all levels requires. Sports must be able to evidence that equality, safeguarding and ethical standards are visibly integrated into their structures and operations’ (UK Sport, 2016b).

Team GB’s competitive turnaround

Table 1 shows funding for the four years leading up to each Summer Olympic Games since Atlanta 1996, the number of funded sports, medals won and the team’s world ranking, illustrating the speed of the Team’s sustained competitive turnaround.

Table 1. British Olympic Team’s Performance in the Summer Olympic Games

Olympic Games	Total Funding from UK Sport* (£millions)	Number of Funded Sports*	Number of Medals				World Ranking
			Gold	Silver	Bronze	Total	
Atlanta 1996	NA	NA	1	8	6	15	36 th
Sydney 2000	£58.9**	13	11	10	7	28	10 th
Athens 2004	£ 71.0**	16	9	9	12	30	10 th
Beijing 2008	£ 235.1	27	19	13	15	47	4 th
London 2012	£ 265.1	27	29	17	19	65	3 rd
Rio 2016	£ 274.5	20	27	23	17	67	2 nd

* **Source:** UK Sport 2016c.

** Figures for the Sydney and Athens Olympiads relate only to Podium level funding as during that time the Home Countries Sports Councils were responsible for supporting athletes at the Foundation and Podium Potential levels.

The successful bid for London 2012 in 2005 proved pivotal to Team GB’s performance lift between Athens and Beijing, when it rose from a world ranking of 10th to 4th. At the time, it was understood that a successful London 2012 would be crucial, with any under-performance – by organizers or the team – being both highly public and politically unhelpful. The bid had demonstrated closer cooperation between government, the British Olympic Committee (BOC) and elite sporting institutions than before. Winning it not only reinforced a high profile medium-term commitment to elite sport; it also extended the system’s planning horizon from one Olympiad, to two.

Planning and strategy currently extends across two Olympiads. However, in response to the request by emerging sports for a twelve year period to provide additional time to develop, UK Sport is considering incorporating a third

Olympiad from 2017 onward. According to Liz Nicholl, ‘We always listen to what sports are saying and give careful consideration to whether that means we should be doing something differently’ (quoted in Roan, 2014).

Winning the London bid also put a premium on the *collective* performance of Team GB – rather than *individual* athletes and disciplines. According to Liz Nicholl,

‘When we won the Games bid, we realized that this wasn’t about each sport becoming successful at an Olympic and Paralympic Games; this was about the collective performance in London ... So we developed our “Mission 2012” approach to get them to think beyond competing with each other for our resources and to think about how to help each other on the collective goal of being tremendously successful in London ... Now, the power of the collective is really well understood, which is one of the reasons why we embarked on the ambitious goal for Rio – to do what no host nation has ever done before – and to win more medals at the games following a home games. It’s a big ambition that keeps everybody together’ (personal communication, May 22, 2015).

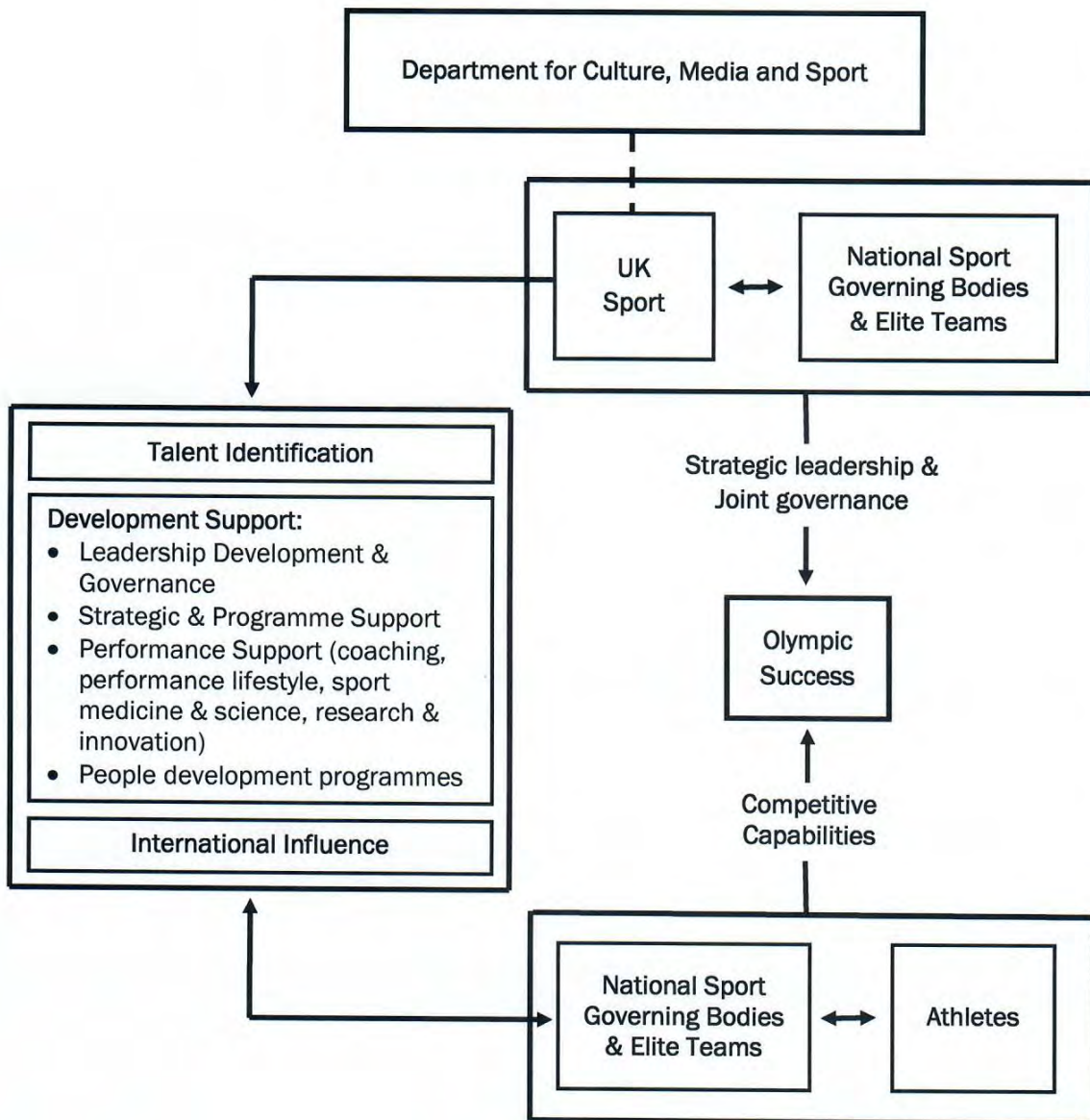
The successful London 2012 bid thus strengthened the sense of the Team as a whole being in competition with the rest of the world – and needing to work together to succeed. This process started ahead of Sydney 2000, at the BOC’s preparation camp on Australia’s Gold Coast. According to Simon Clegg, then BOC Chief Executive, ‘We invested a huge amount of money on the basis that the biggest contribution we could make was in the two weeks before the Games, particularly when on the other side of the world’ (quoted in Kelso, 2012). Jonathan Edwards, who won silver in Atlanta and gold in Sydney, explained the difference: ‘We just felt like more of a team in Sydney. Before we were groups of athletes, spending time with training partners, but it did feel more of a Team GB’ (quoted in Kelso, 2012). This legacy of working together has grown steadily ever since.

At the Summer Games in Rio, Team GB made history by improving its performance following a home games – whilst also winning medals across more sports than at the previous Games (Rio 19, London 17) by more athletes (Rio 130, London 114) and winning gold in more sports (15) than any other nation. The ambition is to improve even further at Tokyo 2020. It is worth noting that the progression in competitiveness in many ways reflects the cumulative effect of successive – and appropriate – changes in the institutional structure and in its systems and processes; and there are mechanisms in place to ensure that the system itself continually develops, as do the teams and athletes within it.

The institutional structure of the British elite sport development system

Figure 3 illustrates the structure of the UK elite sport competitiveness development system, showing the limited, but still essential role that the state plays in the integrated system.

Figure 3. The UK Elite Sport Competitiveness Development System



UK Sport is an executive non-departmental public body of – and accountable to – the Department for Culture, Media and Sport (DCMS). It sits between DCMS and the rest of the system and is unusual in many respects. Although a public institution, it is run at ‘arm’s length’ from government, working in *partnership* with the Home Countries Sports Councils, NGBs and elite teams to *lead* elite sport to world class success. This makes UK Sport an integral part of the

system, rather than a top-down instrument of government policy. UK Sport is also staffed – and led – largely by former sporting world champions, who know what it takes to win medals in international sporting events, rather than politicians and civil servants. This underpins the quality of its relationships with the rest of the system and its ability to put a clear case to government for the needs of elite sport. According to Liz Nicholl,

‘Our relationship with government is good and it’s regular. We meet monthly with the Minister for Sport to update the Minister on what we’re doing so there are no surprises in terms of any of the decisions we take, whether it’s about cutting sports or funding sports. And we have quarterly meetings with officials from the DCMS which are formal meetings to review our key performance indicators (KPIs). There are also formal meetings about funding agreements, just like those the sports have with us’ (personal communication, May 22, 2015).

UK Sport is also pragmatic and adaptive; and it has so far avoided capture by both political and sporting interests.

There is strategic collaboration between UK Sport, the NGBs and elite teams, with UK Sport serving as the strategic lead body and facilitator of the processes required, and the NGBs and elite teams having input into what those processes are and how they are operationalized. Because recognizing and developing talent within particular disciplines takes place at the level of the individual sports, effective information sharing between the NGBs, elite teams and UK Sport is essential. The state’s involvement is thus indirect, horizontal and integrated, relying on open and regular communication to function effectively.

Most of the system is composed of institutions which develop athletes. The result is an ‘expert driven’ system, with access to state resources, rather than the other way round. In 2001 UK Sport activated its research and innovation function by facilitating the emergence of a coordinated sport institute structure across the UK. This coupled world class facilities with leading sport science, technology and medical practitioners, leading to the establishment in 2002 of the English Institute of Sport, a grant-funded organization that works alongside the Home Countries Sports Institutes to deliver sport science and medical support to elite athletes and teams. UK Sport part funds the institute so that it has a center; but the majority of funding is distributed to the NSGs, who contract with the Institutes to employ scientists and medics. Sports thus learn from the Institutes, which in turn promotes continuous professional development within the elite sport system. According to Liz Nicholl,

‘Whilst it would have been easy for us to give all of the money to the Institutes, that wouldn’t have made the sports responsible for

embedding the science and medical support into the way they operate ... The sports have to learn from the Institute about the support that is available and decide what they want; and they have to contract with the Institutes and manage the contract ... So what we've got is an Institute that is educating the sports ... Learning is a central part of the model' (personal communication, May 22, 2015).

By distributing resources to the most successful athletes and teams, UK Sport enhances the 'market' within which British elite sport operates, ensuring that it is highly competitive with a focus is winning. There is competition for team places as well as funding, both within sports and between them. But competition is constructive and takes place within a transparent framework designed to maximize performance of athletes, sports and the team as a whole. In this, UK Sport plays a central role. According to Liz Nicholl,

'What we do in terms of performance management and support is fundamental to any relationship where you've got a vested interest in something succeeding ... The balance that we have to manage is between being an investor and holding the sports to account for that investment ... In this, the cultural changes in the way people work together have been fundamental ... It's about building partnership, building trust, working with sports that have to tell us when they haven't got something right so that we can find help for them ... That's the relation we want to build ... We're an investor and we need to make sure we're not seen to be making judgements' (personal communication, May 22, 2015).

This also makes it possible to learn from failures, and, where possible, turn them into successes. By facilitating the sharing of information *among* the NGBs, different sports can learn from each other. Although development programs within particular disciplines vary, by facilitating information flows between UK Sport and the NGBs and between the individual sport disciplines – and continually mapping the international sporting landscape – the competitiveness development system is able to evolve to meet changing requirements, exploit opportunities, and address obstacles as they appear. According to Andy Maddock, Performance Director of British Canoeing, 'UK Sport have various initiatives that they drive centrally because a lot of it is actually about taking us out of the silos ... Canoeing can learn a lot from other sports; and UK Sport is the broker that brings us all together and allows us to talk and learn from each other' (personal communication, April 21, 2015).

The focus on winning is thus realized via a system producing a steady stream of talent, (rather than a few individuals), which is what produces sustainable success in the short- and longer-term. According to Andy Maddock,

‘The consistency of funding has helped us with some longer-term planning, to develop our staff, to develop our facilities, to create a more sustainable structure. If you create the right structure then success almost becomes inevitable ... But you’ve got to get the balance right to invest in a system that actually supports a large number of athletes going through a cycle rather than investing in a few individuals’ (personal communication, April 21, 2015).

To ensure that sports focus not only on their performance but also on the systems and processes that sit behind them, in 2008 UK Sport developed its ‘Mission’ review process. This tracks, assesses and challenges each funded sport, to ensure continuous improvement, identifying – and finding solutions for – issues before they can impinge on performance. According to UK Sport:

‘We work with each sport’s performance team to assess and reflect on areas of strength and weakness. Sports analyze elements of their athlete development and support programs in three key areas: Athletes ... System ... and Climate ... Once a year each sport undertakes an extensive review during which progress is measured ... and action plans are developed ... This is supplemented by a six month check-in. We work with each sport to improve, share knowledge and identify areas where external expert support from another sport, the Home Nation sports institutes, or even from another “performance” industry – such as the arts or the business sector – is needed’ (UK Sport, 2016d).

The effectiveness of this approach can be seen in the response to Team GB’s disappointing performance in the pool at the London Games. Along with the inevitable reduction in funding came significant support – including input from other teams as well as performance experts from outside sport – to identify and address areas of weakness. The result, at the next Games in Rio, was the best performance in the pool since 1908.

In short, whilst increased funding and intelligent, arms-length state involvement have certainly helped, they are not the whole story. Equally important are the overall leadership and vision, the institutions making up the system, the way they work together, and their relationship with the state. The constructive nature of competition – termed ‘co-opetition’ in the management literature (See, for example, Brandenberger & Nalebuff, 1997; Dorn, Schweiger & Alters, 2016; Bengtsson, & Raza-Ullah, 2016) – is also centrally important in creating an

enabling competitive environment for elite athletes and teams. All of these principles – along with longer-term planning and investment horizons – have clear implications for the development of an industrial strategy.

Avoiding ‘capture’ – political and sporting

As discussed above, UK Sport is an arm’s length public sector body; not only has it delivered competitive success, it has protected itself from political decisions that might compromise delivery of that objective; it has also avoided ‘capture’ by sporting interests. In many respects, UK Sport represents a significant public sector success story.

Nevertheless, vulnerability to political decisions should not be under-estimated – as evident in Britain’s 2005 World Athletics Championships debacle. London’s successful bid to host the Championships had followed three unsuccessful bids to host the Olympics. Reasons cited by the International Olympic Committee for rejecting Birmingham’s bid had included lack of support from the Thatcher government, but Manchester’s bid for the 2000 Games fared no better, despite strong support from the Major government. This suggested that only London had the strength to bring the Olympics to the UK; and by hosting the Athletics World Championships, London had the opportunity to demonstrate its sporting and organizational capabilities.

However, poorly-informed political intervention would soon threaten Britain’s ability to attract major sporting events in the future. In 2001, then Sports Minister Richard Caborn and Culture Secretary Tessa Jowell decided that a new stadium in London would be too expensive, suggesting instead that Sheffield host the Championships, using existing facilities there. Predictably, this offer was rejected, as London being the host city had been key to the bid’s success. With London forced to withdraw, the Championships went to Helsinki—the first time that any developed nation had withdrawn from hosting a major international sporting event (BBC, 2001). Surprisingly, this did not undermine London’s bid to host the 2012 Olympic Games.

Political interference reared its head again during the London Games, when UK Sport’s exchequer funding, covered by the previous Comprehensive Spending Review, extended only halfway through the run-up to Rio 2016. Under heavy pressure from the British media and public, the government agreed to provide the financial certainty to allow full preparation for the following games; and in a move that would reduce Team GB’s vulnerability to political vicissitudes following Rio 2016, the 2015 Comprehensive Spending Review increased UK Sport’s funding by 29 percent to ‘go for gold in Rio and Tokyo’ (Osborne 2015). UK Sport can thus rely on a sustainable legacy from success in Rio and

continue to plan for both the 2018 Pyeongchang Winter and 2020 Tokyo Summer Games.

Sporting interests can also be a challenge. One such area concerns the perceived priority assigned to elite over mass participation sports. As discussed above, UK Sport's funding criteria are currently based solely on performance, measured by medals won in international sporting events, with teams and athletes judged across four and eight year cycles. This has been criticized by some who attribute declining participation rates following the London 2012 peak to this 'no compromise' approach. Particularly vocal are sports – including basketball, water polo, weight lifting, blind football, goal ball and wheelchair fencing – which lost funding due to lack of medal-winning potential. In response, UK Sport is reviewing its funding model. According to Liz Nicholl, 'The questions that we need to ask now, of the nation, of the government, of our partners, are: 'What is it that they want UK Sport to be focused on? What is it they want UK Sport to deliver?' (quoted in Roan, 2014). Given UK Sport's accountability to government – and its current mandate to invest in elite sport medal-winning potential – clear, objective and measurable criteria against which to assess success (and failure) are crucial. Thus, rather than criticizing the UK elite sport policy model, mass participation sport could benefit from using it to inform development of appropriate clear objectives and a strategy for achieving them in this sporting context.

3. The evolving role of the State in British industrial strategy

Since the 1990s, after decades of neglect – if not ill-informed government intervention that in no small part contributed to the UK's deindustrialization (See, for example, Best, 1990; Konzelmann, Fovargue-Davies, Wilkinson & Sankey, 2010; Piore & Sabel, 1984) – the industrial policy debate evolved a role for the state in promoting 'competitiveness'. Emulating similar initiatives by the Organization for Economic Co-operation and Development (OECD, 1992) and the European Union (CEC, 1994), successive UK governments published *Competitiveness White Papers* (DTI, 1994; 1995; 1996; 1998). These set out the government's vision for 'active' industrial policy aimed at correcting market failures and building competitiveness through state support for advanced high tech manufacturing and knowledge intensive businesses and policies supporting education and training, research and development and new technologies (Wren, 2001; Andreoni, 2011).

The focus, though, was primarily on the competitiveness of individual firms (predominantly SMEs), rather than the clusters or sectors of which they formed a part; and the UK did not develop or implement a coherent strategy for addressing the challenges facing British industry as a whole (Zeitlin, 1995). This is despite calls from prominent business leaders for leadership and support.

In 2007, Sir John Rose, chief executive of Rolls-Royce delivered the Gabor Lecture, entitled *Why Manufacturing Matters*, expressing the view that the UK's growing reliance on services – particularly financial – created increasing risks for the economy as a whole. He advocated support for 'high value' manufacturing as a counter-balance to high value services and argued for a more diversified economy. Urging the government to provide clear direction, Rose highlighted the need to articulate both the kind of manufacturing industry the government would like to see develop and a strategy for achieving it. 'We need', Rose said, 'a framework, or a business route map, to create context, drive focus and help prioritize public and private sector investment' (Rose 2007).

In February 2008, at a meeting of the House of Commons Business, Enterprise and Regulatory Reform Committee, addressing questions about what a manufacturing strategy should look like, Rose responded:

'In general, the government should do more to set priorities. It should have a better view about the technologies that the UK needs in the future ... If you ask me about a lack of technology vision and sufficient amounts of funding, then both need to be improved' (quoted in *Financial Times*, 2008).

Shortly afterward, as the recession deepened, New Labour hesitantly accepted a possible role for industrial policy. Concerned that the UK had become overly reliant on the financial services sector, Peter Mandelson, then Business Secretary, sought advice from Rose and other British industrialists. The result was a 2009 white paper, *New Industry, New Jobs: Building Britain's Future*, calling for a 'new activism' on the part of government to assist businesses in exploiting new, advanced technologies by means of 'targeted intervention' (BERR, 2009); and a Strategic Investment Fund (SIF) was established to help strengthen innovation, job creation and growth by supporting investments across the UK economy.

However, progress stalled in 2010, when the new Conservative/Liberal Democrat Coalition government came to office; and the SIF was discontinued. The new Secretary for Business, Innovation and Skills, Vince Cable, in a speech at Cass Business School, told the audience that '[w]hat we *shouldn't* be doing is trying to micromanage the economy at the level of individual companies or so-called national champions: trying to supersede the judgement of markets' (Cable, 2010, emphasis added).

The government's position soon shifted, with *The Plan for Growth* setting out its vision for recovery, identifying impediments to growth and advocating horizontal industrial policy measures to address them (BIS & HM Treasury 2011). George Osborne, then Chancellor of the Exchequer, talked about the

need for a ‘march of the makers’ in his 2011 Budget Statement (Osborne, 2011); and in a speech at the Policy Exchange, Cable called for a ‘New Industrial Policy’ aimed at supply-side reforms to build and maintain business confidence, re-build supply chains, develop skills and support innovation and technological leadership (Cable, 2011). In September 2012, following a spectacularly successful Olympic and Paralympic Home Games, politicians across the political spectrum explicitly identified the strategy that had proved so effective in strengthening the international competitiveness of British elite sport as a possible model for addressing the challenges facing the UK economy.

4. What might be learned from the elite sport policy model?

So we return to the question we started with: ‘What might government and business learn from Team GB?’

Sport, generally, has its own structure, culture, and criteria for success – as do the various disciplines within it. The same is true of business and industry. For this reason, the approach adopted by UK elite sport should be seen for what it is: a strategy designed to build, maintain and develop international competitiveness. The detailed approaches required to win medals in any particular discipline are usually the focus only of those most directly involved. Again, this would also be the case in a strategy for business and industry.

Seen from this perspective, the transformation of elite sport reveals transferable insights for industry in terms of vision, leadership and state involvement as well as funding, allocation of – and accountability for – resources. There are also insights in terms of strategy and planning horizons; and structures, systems and processes for identifying opportunities, building and developing competitiveness, providing support services to promising sectors and managing sectors facing decline. We consider the implications for industrial strategy of a systems-based, expert driven approach, in which the government assumes a ‘market enhancing’ role (Aoki, Kim & Okuno-Fujiwara, 1997).

Public-private strategic leadership and governance

In UK elite sport, an important prerequisite for the development and implementation of an effective strategy for competitiveness development was sustained high-level political commitment – and the will to make the necessary legal and institutional changes upon which such a strategy could be founded. This includes the removal of obstacles, such as lack of access to competitive and stable funding.

The importance of removing obstacles should not be underestimated. The UK is one of the few countries without a system for providing access to a competitive

source of finance and other collective resources to start-ups and growing businesses. Germany, for example, has a business bank; and the government underwrites loans to spread the risks involved in lending to start-ups. Other collective resources, such as legal services, are also provided, allowing smaller firms to focus on their core business. In the UK, companies have historically been reliant on the stock market for expansion. But this means that growth typically depends upon selling-off a significant stake, creating the need to prioritize the short-term interests of shareholders, often to the detriment of long-term development (Konzelmann et al. 2010) .

The British Business Bank, which became operational in November 2014, offers many options including funding via the rapidly expanding Peer-to-Peer (P2P) sector. However, it lacks the clarity, transparency – and above all, strategic leadership – of an institution such as UK Sport. This is in part the result of government not being integrated into the industrial system, failing to identify challenges correctly and thus being unable to react appropriately. The problem is exacerbated by the traditionally dominant position that the financial sector holds in the economy. The state’s approach to industry thus owes more to the politically driven ‘ad hoc’ interventions prior to Atlanta 1996, than to the forward-looking, problem-centered approach of today – with similar outcomes.

In elite sport, having made the legal and institutional changes upon which an effective strategy could be based, a strategic collaboration between UK Sport and the NSGs was formed. A clear vision for the future of elite sport was articulated and a strategy was developed for achieving it. A joint system of governance was evolved to ensure both balance in the relationship between public and private sector actors and accountability for the investment of funding and other collective resources. By mobilizing and re-focusing existing institutions, the system was relatively easy to construct. All of this has clear implications for British SMEs in competitive markets, in terms of strategic leadership, vision and governance; and the fewer the changes required to build an institutional framework, the easier and quicker it will be to implement – although it must, like the elite sport system be allowed to continuously evolve thereafter.

Just as the sport strategy was developed with input from the NSGs – whose Performance Directors were all former world class elite athletes who know what it takes to deliver medals in world sporting events – a strategy for UK industrial competitiveness should be informed by the knowledge of the owners and managers of successful British businesses, and the industry bodies that work with them.

In the elite sport system, there is a premium on the quality of information flows between UK Sport and the NGBs, between the NGBs themselves and between

the NGBs and athletes. UK Sport provides leadership, vision and culture as well as transparent conditions for access to resources and systems for their effective management and governance. The coordination and effort that goes into actually delivering medals takes place at the level of the NGBs and elite teams, where talent is identified and the processes supporting the development of athletes and teams takes place. The quality of the relationship and communication between all of these institutions, is thus of paramount importance. An industrial equivalent would need intelligent, arms-length state involvement working in partnership with recognized leaders from industry, perhaps using existing institutions such as chambers of commerce, trade and industry bodies at the highest level within the system, with these institutions also providing strategic leadership and support at the level of the industrial sector, region and cluster, with input from universities and technical institutes. As in elite sport, the greater the degree to which industrial strategy is built around existing institutions, the more effective it is likely to be in delivering improved results quickly.

Enabling competitive environment

In elite sport, the creation, maintenance and development of an enabling competitive environment has been central to success. Peter Keen's reference to his early 'Alpinist' experience highlights the value of such an environment. He identifies the elite sport *system* as being at least as influential as finance, underlining the importance of both the rules governing investment in sports and athletes and the accountability for this investment. It is thus important to recognize that access to a stable source of industrial finance is not, in itself, sufficient: it allows the system to exist and to function, but neither part can work effectively without the other. In Andy Maddock's words, the funding is an 'enabler': 'The money doesn't necessarily guarantee you success. It's actually what you do with the money and how you use that investment as an enabler to be competitive on the world stage' (personal communication, April 21, 2015).

This is also true of the environment within which many British businesses operate – except, of course, that step changes in finance and support have yet to come. With the absence of a coherent industrial strategy, unlike elite sport, UK businesses are still competing against those with the clear advantage of systems of support and an institutional structure for building competitive capability. Although success is realized in markets, these rely on non-market institutions and policies to function effectively. So an institutional framework with systems for identifying and developing the sectors with greatest potential to contribute to current and future employment and rising living standards as well as macro-economic prosperity would enable firms and sectors to realize their competitive potential. Additional resources might include support for learning and

innovation; universities and technical institutes are essential for technological progress, knowledge generation, and in some cases, commercialization. Due to the dynamic nature of economic progress, institutions supporting the recognition of – and responses to – changes in the economic environment (i.e., exploiting opportunities, removing obstacles, avoiding lock-in to outmoded activities and facilitating innovation) are – as UK Sport has demonstrated – essential to success.

In the elite sport model, the objective is not to protect athletes and teams from competitive pressures but instead to support them in developing and improving competitive capabilities, which are tested and honed in the process of competing for funding, places on elite teams and medals. An enabling competitive environment for British businesses would have much the same purpose, with international competitive capabilities being refined and strengthened in competitive markets for their goods and services.

However, whilst sport has a regular schedule, with easily identified criteria for success, this is less clear in industry. Because of the unpredictable nature of markets and technologies, an industrial strategy depends upon developing the capacity to predict, recognize and respond effectively to changes in the competitive environment. In part, this will depend upon the ability to facilitate the processes required for identifying new, promising industries and technologies – and the generation of supporting resources including requisite knowledge and capital requirements (physical, human and social). Equally important is the ability to identify out-moded industrial sectors and technologies and to effectively manage their decline. The details of such a strategy will depend upon the particular circumstances of sectors and firms – again putting a premium on the quality of relationships, communication and information sharing throughout the system and the existence of appropriate planning and strategy horizons.

Sustainable systems for learning and development

Not all of the ideas supporting the development of UK elite sport were learned from scratch; many were inspired by other teams or best practice and adapted to fit the British cultural and institutional context. Similarly, an industrial strategy might well draw upon ideas from elsewhere, such as Germany's 'Mittelstand', Italy's industrial districts and other successful industrial clusters. But to be sustainable and effective, it should take local culture, institutional context and conditions into account. During the elite sport system's early development, ideas were taken from elsewhere, notably Australia, but as it has evolved the model has become characteristically and quintessentially 'British'. According to Liz Nicholl,

‘the model here is about developing the system, the competence, the capacity and the leadership of sports so that they can take full responsibility for their athletes ... Because we’re a smaller nation [than Australia], we can surround the sports with world-class support; and we can deploy individuals to work with the sport as opposed to taking athletes out and putting them into a centralized location at an institute’.

The process of surrounding athletes with world class support, was not instantaneous; Since it would involve public funding and the setting and monitoring of targets, the governance and communications systems of the NGBs would require a fundamental overhaul. Some NGBs, such as the Royal Yachting Association, were already relatively well developed organizations – so the process of change there was relatively rapid. However, as a sign of what was to come, these NGBs helped others to improve in critical areas, unlocking access to funding and other support. As they have developed, so, too, has their relationship with both UK Sport and each other, which, in turn, has strengthened the pathways for talent identification and development in more sports – with the result that Team GB has achieved medal success in ever more sporting disciplines, by an increasing number of athletes.

Another source of learning is under-performance. Although the expectation is of winning, response to under-achievement is constructive: Preparation and performance are carefully reviewed to identify causes and develop strategies for addressing them. Athletes and teams that have medal potential are helped to compete more effectively, sometimes with input from more successful teams or outside sport, such as performance experts from the arts or high-tech manufacturing businesses. A review of British Swimming was immediately under way, following the failure to meet its medal target in London, for example. According to Michael Scott, British Swimming’s Performance Director:

‘Everything is on the table. We cannot close our mind to any ideas or suggestion ... We have made approaches and not necessarily to people within the sport of swimming. You have to look at Team GB as a whole and say there is expertise in this country that could be used to sharpen our focus’ (quoted in White, 2012).

The Team’s record-breaking performance in Rio 2016 is evidence of the effectiveness of this approach. Other examples are UK Sport’s partnership with McLaren Technology Group to produce training equipment for teams, such as rowing and canoeing; and the learning and professional development that takes place through the relationship between NGBs and the Sports Institutes for medical and scientific support. Team GB also still learns from best practice and

other countries' teams. So there is potential for the bar to be continuously raised, through a virtuous cycle of improvement.

The same would ideally be true of cumulative learning in industrial ecosystems and the small- and medium-sized businesses that populate them. With an effective strategy and appropriate institutional structures, systems and processes to provide improved collective resources, they would be better able to develop and improve competitiveness.

5. Conclusions

The current debate about industrial strategy in the UK has largely revolved around the question of *whether* the state should be involved as an economic actor rather than *how*. However, despite the popular conceptualization of Britain as a 'free market' economy, governments from across the political spectrum have routinely intervened, usually for short-term political purposes – with predictable results.

In making positive change possible, elite sport perhaps had the advantage of a relatively low political profile. Although it was dubbed the 'Team of Shame' in Atlanta 1996 (quoted in Kelso, 2012) – it wasn't attracting media headlines for industrial and social unrest. Margaret Thatcher largely ignored it, and British sports fans were accustomed to failure, with the odd success to keep hope alive. This may have made elite sport's under-performance easier to address, since it was less subject to political idealism.

John Major's personal interest – and the political capital to be garnered from much of the British population's love affair with sport – provided the motivation to address the problem. This is in sharp contrast with the politicized view – by the electorate, media, special interest groups and politicians – of British manufacturing and industry. Even decades later, the psychological scars of the turbulent 1970s persist; and the popular view of manufacturing is one of dirt, strikes, low quality goods, truculent unions and uninspiring pay on one side, and poorly informed, short-term political intervention on the other – instead of hi tech design, state of the art manufactures, world leading products and solid rewards.

This is in spite of the fact that the nature of manufacturing has changed – as has its political context. The Cold War context of industrial policy during the 1970s contributed to fear of far left revolution and neglect of initiatives aimed at producing innovative, competitive products and services. There is now the space for this to change, as well as a model – that of elite sport – that has worked very effectively in a UK context, to provide inspiration and a starting point.

What is missing is political will. The approach that characterized elite sport prior to Atlanta 1996 was clearly holding back competitiveness, whilst the current one focuses on competition and team work – with teams and individual athletes doing the competing and the state providing arm’s length strategic leadership and support. What makes it work is the quality of relationships and communication among those involved as well as the clarity of the overall vision. Instead of interventions based on political force majeure, the state makes limited, informed, appropriate and problem-centered interventions on the basis of accurate and timely information. This is partly why so few interventions have been required and their overall effect has been positive – in spite of three changes of government. It is also important to note that with one exception – the creation of UK Sport – all of the changes were in the legal environment, which only the state could have made. This clearly demonstrates that the state *must* be involved.

Elite sport has also succeeded in radically changing attitudes and expectations – of athletes, the general public and even more impressively, at least three governments. It is no longer sufficient to put up a creditable performance, there is now a ‘win at all costs’ mentality and vastly heightened expectations. This has even contributed to success in new disciplines – cycling and gymnastics being just two of the latest. Whereas initially, UK Sport targeted investment at the very *few* sports with both a realistic chance of winning medals and the governance capabilities to account for this investment, as the system has developed, it has become progressively more capable of expanding the number of sports in which the UK is competitive. There are clear implications for industry in both of these areas.

Three broad areas then, stand out as key contributors to the success of UK elite sport. (1) an institutional structure to provide strategic leadership, identify talent and support the development of internationally competitive athletes and teams – insulated from interference by short-term political (or elite sport) interests; (2) an enabling competitive environment in which access to a reliable source of finance forms a part; and (3) an institutional system that encourages learning, innovation and responsiveness to opportunities and constraints. Taken together, these – if made available to British businesses, clusters and sectors – would be likely to facilitate significant improvement in the UK’s international industrial performance.

References

- Andreoni, A. (2011). *Productive capabilities indicators for industrial policy design*. (Development Policy, Statistics and Research Branch Working Paper No. 17/2011). Vienna: UN Industrial Development Organization. Retrieved from http://www.unido.org/fileadmin/user_media/Publications/Research_and_statistics/Branch_publications/Research_and_Policy/Files/Working_Papers/2011/WP172011%20Productive%20Capabilities%20Indicators%20for%20Industrial%20Policy%20Design.pdf
- Aoki, M., Kim, H.-K. & Okuno-Fujiwara, M. (1997). *The role of government in East Asian economic development: Comparative institutional analysis*. Alderley: Clarendon Press.
- BBC. (2001, October 4). Picketts Lock bid scrapped. Retrieved from <http://news.bbc.co.uk/sport1/hi/athletics/1577797.stm>
- BERR. (2009). *New industry, new jobs*. London: Department of Business, Enterprise and Regulatory Reform. Retrieved from <http://www.berr.gov.uk/files/file51023.pdf>
- Bengtsson, M. & Raza-Ullah, T. (2016). A systematic review of research on co-opetition: Towards a multi-level understanding. *Industrial Marketing Management*, 57, 23-39. Retrieved from Science Direct database <http://dx.doi.org.ezproxy.lib.bbk.ac.uk/10.1016/j.indmarman.2016.05.003>
- Best, M. (1990). *The new competition: Institutions of industrial restructuring*, Cambridge, Mass: Harvard University Press.
- BIS & HM Treasury. (2011). *The plan for growth*. London: Department for Business, Innovation and Skills and HM Treasury. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/31584/2011budget_growth.pdf
- Brandenberger, A. & Nalebuff, B. (1997). *Co-opetition*. New York, NY: Doubleday.

Cable, V. (2010, June 3). *Speech at Cass Business School*. London: Department for Business, Innovation and Skills. Retrieved from <https://www.gov.uk/government/news/vince-cable-speech-cass-business-school-june-3-2010>

Cable, V. (2011, October 26). *Business Secretary speech on industrial policy at Policy Exchange*. London: Department for Business, Innovation and Skills and UK Export Finance. Retrieved from <https://www.gov.uk/government/speeches/business-secretary-speech-on-industrial-strategy-at-policy-exchange>

Cable, V. (2012, September 11). *Strategy: Cable outlines vision for future of British industry*. London: Department for Business, Innovation and Skills and UK Export Finance. Retrieved from <https://www.gov.uk/government/speeches/industrial-strategy-cable-outlines-vision-for-future-of-british-industry>

CEC (Commission of the European Communities). (1994). *Growth, competitiveness, employment: The challenges and ways forward into the 21st century*. Brussels: CEC.

Coe, S. (2015). Theme six: Elite and professional sport. *A new strategy for sport: Consultation paper*. London: Department for Culture, Media and Sport. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/450712/1619-F_Sports_Strategy_ACCESSIBLE.pdf

Dorn, S., Schweiger, B. & Albers, S. (2016). Levels, phases and themes in co-opetition: A systematic literature review and research agenda. *European Management Journal*, 34(5), 484-500. Retrieved from Science Direct Database <http://dx.doi.org.ezproxy.lib.bbk.ac.uk/10.1016/j.emj.2016.02.009>

DTI (Department of Trade and Industry). (1994). *Competitiveness: Helping business to win*. Cm 2563. London: The Stationery Office.

- DTI. (1995). *Competitiveness: Forging ahead*. Cm 2867. London: The Stationery Office.
- DTI. (1996). *Competitiveness: Creating the enterprise centre of Europe*. Cm 330. London: The Stationery Office.
- DTI. (1998). *Our competitive future: Building the knowledge driven economy*. Cm 4176. London: The Stationery Office.
- Financial Times*. (2008, February 21). Transcript: Sir John Rose, CEO of Rolls-Royce. Retrieved from <http://www.ft.com/cms/s/0/987f1a72-e097-11dc-b0d7-0000779fd2ac.html#axzz2Q4BvwaPk>
- Gibson, O. (2012, July 24). London 2012: How Team GB's fortunes turned around after disaster in Atlanta. *The Guardian*. Retrieved from <http://www.guardian.co.uk/sport/2012/jul/24/london-2012-team-gb-atlanta>
- Houlihan, B. & Lindsey, I. (2013). *Sport policy in Britain*. Oxford: Routledge.
- Kelso, P. (2012, July 27). London 2012 Olympics: How Team GB went from zeroes to heroes after Atlanta '96 low point. *The Telegraph*. Retrieved from <http://www.telegraph.co.uk/sport/olympics/Team-GB/9432637/London-2012-Olympics-How-Team-GB-went-from-zeroes-to-heroes-after-Atlanta-96-low-point.html>
- Konzelmann, S., Wilkinson, F. Fovargue-Davies, M. & Sankey, D. (2010). Governance, regulation and financial market instability: The implications for policy. *Cambridge Journal of Economics*, 34(5), 929-54. doi:10.1093/cje/bep086
- OECD (Organization for Economic Co-operation and Development). (1992). *Technology and the economy: The key relationships*. Paris: OECD.

- Osborne, G. (2011, March 23). *Budget statement by the Chancellor of the Exchequer, the Rt Hon George Osborne MP*. London: HM Treasury. Retrieved from http://webarchive.nationalarchives.gov.uk/20130129110402/http://www.hm-treasury.gov.uk/2011budget_speech.htm
- Osborne, G. (2015, November 25). *Chancellor George Osborne's spending review and statement 2015 speech*. London: House of Commons. Retrieved from <https://www.gov.uk/government/speeches/chancellor-george-osbornes-spending-review-and-autumn-statement-2015-speech>
- Piore, M. & Sabel, C. (1984). *The second industrial divide: Possibilities for prosperity*. New York, NY: Basic Books.
- Roan, D. (2014, October 28). UK Sport: Funding policy could be reconsidered. *BBC News*. Retrieved from <http://www.bbc.co.uk/sport/olympics/29791277>
- Rose, J. (2007). Why manufacturing matters. *Gabor Lecture*. Retrieved from <http://www3.imperial.ac.uk/events/dennisgaborlecture>
- Slater, M. (2008, August 14). How GB cycling went from tragic to magic. *BBC News*. Retrieved from <http://news.bbc.co.uk/sport1/hi/olympics/cycling/7534073.stm>
- Sproat, I. (1994, July 8). Sports council, Commons Sitting HC Deb vol 246 cc584-92. Retrieved from <http://hansard.millbanksystems.com/commons/1994/jul/08/sports-council>
- UK Sport. (2016a). What is a performance pathway? Retrieved from <http://www.uk sport.gov.uk/our-work/talent-id/what-is-a-performance-pathway>
- UK Sport. (2016b). Leadership development and governance: Strategic aims and principles. Retrieved from <http://www.uk sport.gov.uk/our-work/leadership-development-and-governance/strategic-aims-and-principles>

UK Sport. (2016c). Historical funding figures (for Sydney, Athens, Beijing & London) Retrieved from <http://www.uk sport.gov.uk/our-work/investing-in-sport/historical-funding-figures> and Current funding figures (for Rio) Retrieved from <http://www.uk sport.gov.uk/our-work/investing-in-sport/current-funding-figures>

UK Sport. (2016d). Mission 2016-18. Retrieved from <http://www.uk sport.gov.uk/our-work/mission-2016-18>

Whannel, G. (2005). *Media sport stars: Masculinities and moralities*. Oxford: Routledge.

White, D. (2012, August 11). London 2012 Olympics: Team GB's failures in the swimming pool mean there are stormy waters ahead. *The Telegraph*. Retrieved from <http://www.telegraph.co.uk/sport/olympics/swimming/9469790/London-2012-Olympics-Team-GBs-failures-in-the-swimming-pool-mean-there-are-stormy-waters-ahead.html>

Wren, C. (2001). The industrial policy of competitiveness: A review of recent developments in the UK. *Regional Studies*, 35(9), 847–60. doi:10.1080/00343400120090266

Zeitlin, J. (1995). Why are there no industrial districts in the United Kingdom? In A. Bagnasco & C. Sabel (Eds.), *Small and medium sized enterprises* (pp. 98-114). London: Pinter.