Gambling with Public Money: The Public Choice of National Sports Team Funding*

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Abstract

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This paper presents an economic analysis of government funding of national sports teams. The success of sports teams often generates a public good in the form of civic pride. Political agents often attempt to access this sentiment for their own benefit. We use a simple version of Schelling's coordinated game to model two governments with a political interest in success at an international sporting event. In certain circumstances, the increased funding levels move both agents away from Pareto optimality. In such instances, the government is engaged in a gamble, as political payoff will only be obtained by winning. Thus, the government becomes much like an interested punter at a sporting event. However, there are other settings in which the game moves toward the coordinated outcome. The analysis highlights some interesting implications for governments, opposition, and the sensitive issue of match-fixing.

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1 Introduction

Australia and Great Britain have begun warring over the funding of their national sporting teams. Recent announcements by the British government of increased levels of funding for Olympic athletes led to a quick response from Australia. Indeed, both governments have been particularly vocal in announcing fiscal commitments, which amount to hundreds of millions of dollars.[1] The funding war between Australia and Great Britain is just one, albeit the most recent, example of ambitious levels of funding for national sport performance, as many other political figures have drawn on national sport performance for political benefit. Musolini managed the refereeing at the 1934 Soccer World Cup to ensure an Italian victory. In Spain, Franco poured resources into the the premier team Real Madrid, to ensure it continued to dominate any team from Barcelona, a stronghold of Catalan rebellion. The rising competition between the governments of Australia and the UK is seemingly consistent with this, and has even led to The Economist pronouncing this as the "new arms race".[2]

This paper is the first to offer a detailed economic analysis of precisely why governments across the globe continue to fund their national sporting representatives. The recognition that sporting success delivers some sort of public good is a key factor in the decision to fund national sports teams: Winning the event delivers the non-excludable national pride. The Public Choice approach offers insights into the political importance of winning, and how national governments might approach the decision to fund. We present a variant of Schelling Prisoners Dilemma that assumes the players are Downsian political agents. While our simple analysis is focussed on a two-country scenario (in sporting parlance a "two-horse race"), this provides some powerful insights into the decision to invest in sports for political purposes. By recognising the role of political opportunity cost this approach can explain movements away from Pareto optimality. The implication for opposition political agents is an additional insight, as is the issue of fixed matches. We find that the government, like the rest of the population, may choose to gamble on sports. However, the government's gamble is with public money, so while a real political cost exists, the budget constraint is represented by the public purse.

[1] In May 2006, a boost to UK sports funding of 65.3 million pounds in preparation for Beijing 2008, but in total up to 300 million pounds for London Olympics of 2012 (UK Sport, Press Release, 2006).
[2] The "Let the new arms race commence".

Our paper is organized as follows. We consider the existing literature on economics and sports funding in Section 2, and explain the differences between the previous discussions and our own emphasis. We turn to a public choice perspective in Section 3, further illuminating the decision rule by introducing political opportunity costs, and variables representing national talent and ability in sport. In Section 4 we consider some of the implications of our simple model, including the behaviour of opposition parties and the interest in match-fixing, before outlining our conclusions.

2 Economics and government funding for sports

A public finance rationale for government fiscal support of national sporting teams (and individuals) needs to stem from either the generation of externality that can be identified and feasibly measured, or a public good that renders it undersupplied (to extreme levels). A public choice perspective, on the other hand, would emphasise the political gain that can be harnessed by political agents, whether politicians pleasing voters, or a more specific interest group. The extant literature has discussed both perspectives. This small number of studies is concerned with domestic sports competition. Groothuis (2004) examines the funding of professional sports stadiums in the United States, and cites the existence of public good benefits from the facilities, in the form of civic pride. A public choice argument is made in regards to the higher taxes individuals are prepared to pay to support the government's decision. With similar motivation, Johnson, Groothuis, and Whitehead (2001) measure the value of public goods generated by professional sports team (a hockey team). Community spirit and civil pride is significant, although it is significantly less than the cost of building a new arena. Hudson (2002) acknowledges a Public Choice approach as instructive, but argues in favor of an institutional perspective that sheds more light capital mobility within the electorate. While these studies reach different conclusions, they share the emphasis on a mix of public good argument, in the form of civic price, and recognition of public choice issues concerning the government decision to intervene.

The present study is the first to consider similar such issues in the context of international sports competition. In this domain, the issue is a little more complex as the government intervention is aimed at improving the performance of national representatives, and thus both the public good and public choice arguments are somewhat more elusive. However, a version of the civic pride public good does exist, as we now explain. National sports teams exist independently of government intervention. While excludability can be achieved, and thus attendance becomes a quasi-public good or club good, the willing national representative is supplied through the market, and the international competitive event transpires.[3] The duration of the event can be acknowledged and observed through the private supply of television and radio broadcast

[3] On the nature of a quasi-public good, or in other terms, a club good, see Buchanan (1965).

(privately supplied public goods), and this allows the event to be observed by all. In fact, all these things would occur, at least to some extent, without government provision.

However, it is the success of the team that is the public good. It is, however, once the outcome is actually decided that any so-called public benefit or cost is determined. In 2006, a remarkable turn of events, the Ivory Coast, a country embattled in civil war since 2002, put down its weapons in honour of a truce. Why? Its Soccer team had qualified for the World Cup Finals. It seems that national sporting success feeds a national sentiment and unity that does not demonstrate rivalry in consumption. This argument also suggests that poor public performance might be a public bad? This again appears supported by factual events. A salient example known to the authors is the increase in sports funding occurred in Australia after the nation did not win a single gold medal in the 1976 Olympics in Montreal.[4] In response the government created the Australian Institute of Sport, in a concerted, and well-funded, attempt to improve national sporting performance. Similarly, the recent increase in funding by the United Kingdom is seemingly inspired by dissatisfaction with the performance of national sporting representatives.

It seems that the national sentiment created by successful sporting performance is the public good, and not the sport itself. In the next section we build on this insight, with the information we about the way politicians utilise sporting success for political gains. Specifically, we utilise a public choice perspective to demonstrate the government response to the issue of sports funding. Knowing the nationalistic sentiment which accompanies international sport success, we model the government attempt to access such sentiment during the period of their office.

3 Modelling funding of national sports teams

Recognising the political benefit that can be derived from successful national sports teams naturally leads to the most important issue in regards to any model of government policy: how can government impact upon sports performance? Recent work in the economics of sport suggests that wealth is a key indicator in the success of sports. At one level, the general level of wealth is the most important factor in determining the relative performance of nations in international sport. In a result consistent with much previous analysis, Mitchell and Steward (2007) find that gross domestic product is the most likely indicator of Olympic success. However, the most significant paper on the effect of targeted government funding of elite sport comes from Hogan, K. & Norton, K. (2002). Their scientific analysis demonstrates that funding targeted specifically at Olympic competition in Australia had a large

[4] Australia's poor performance at the 1976 Montreal Olympics (Australia did not win a single gold medal) caused a public outcry and eventually lead to the establishment of the Australian Institute of Sport (AIS) in 1981. The Australian Sports Commission (ASC) was established in 1983 initially to oversee the functions of the AIS. The ASC now has a much broader role, overseeing sports funding more generally. According to the Australian Sports Commission, it has two objectives: (1) Excellence in elite sports performances by Australians, and (2) Increased participation in sport and sports activities by Australians.

and significant impact on Australia's performance. The recent decision of the UK government to direct increased levels of funding at target sports is evidence they believe that such funding can have an impact. In fact, funding has been shown to have a greater impact than talent on the outcome of international sports events. A recent Australian Government announcement suggests they are keenly aware of the funding models adopted by other nations, and are not wanting to fall behind.[5] Funding increase May 2006. Another 2.9 million announced in preparation for Beijing Olympics, March 2007

While it is clear that increased level of funding can significantly improve sporting performance, it is equally important to note that investment in sports for political purposes is uncertain. Indeed, the outcome of the contest is interdependent, so there is no guarantee that a national team will win, and hence deliver the public good. Of course the cost of investment in sports is incurred whether the team wins or loses, so the political opportunity cost is fixed. Our formal representation acknowledges that political costs are certain, but political benefit in many circumstances will be uncertain. We assume two Downsian agents: player A and B representing two national governments. As discussed above, sporting success is a function of a series of factors, including GDP, climate, talent, and national funding for the specific sport. We will simplify the sporting success function to focus on only government funding on the one hand, and a talent-or ability level on the other. International sporting success is generated by some mix of the two, relative to the competitor.

A successful national sports team will deliver votes for either agent A or B, and thus winning is represented by w, while success at the international level is represented by W. This is enough to either win an election, or to raise an approval rating during the middle of an election cycle. Conversely, the cost of funding a sporting team and losing is represented by C. This political opportunity cost is the number of votes that could have been obtained with a financial investment of size F. The magnitude of the political opportunity cost is correlated with the size of government investment in national sporting performance, i.e., C Rises contemporaneously with F. A strict ranking of the political opportunity costs relative the political benefits of winning can be noted as $W > C_2 > C_1$. We assume that the talent-ability variable takes a probability of 50%, and thus for both players $\Pr w = 0.5$.

[5] The Australian Minister for the Arts and Sports, Senator Rod Kemp, recently announced increases in funding of Australian sport, with specific reference to the activities of other countries: "With other countries now adopting their own elite sports systems and allocating more resources to these systems, it is becoming increasingly difficult for Australia to compete. This package will help the Australian Institute of Sport maintain our competitiveness on the international sporting field and respond to the challenges ahead" (Australian National Government, Media Release, 2006).

(B) \ (A)	F_2	F_1
F_2	$E_v = \frac{W - C_2}{\rho}$	C_1 / $W - C_2$
F_1	C_1 / $W - C_2$	$E_v = \frac{W - C_1}{\rho}$

Figure 1: Funding and Expected Return

This game plays largely like Schelling's original formulation of war decision. It is an irrational game, which Schelling (1961: 213) describes as perverse, as the agents move further and further away from optimality. In this simple analysis it is clear that the two agents will be irrational to incur the political opportunity cost with certainty, when by increasing funding levels they can move to an expected return that is positive. More specifically, the government can move from a definitive cost to a gamble wherein the expected outcome is positive.[6] Both players will only be operating rationally if they fund their national sports team at a high level F_2. Therefore, the game will naturally move to the top left cell, as none of the other three outcomes are stable. The implication is clear: when funding is the sole determinant of the outcome, the outcomes are driven to the central corridor where both nations encounter a positive expected value, and then is driven away from the Pareto optimal. The Pareto optimal outcome is for both countries to spend minimum amounts, thereby generating a minimum political opportunity cost, and both realise an elevated expected value. As with most two player games of this structure, the Pareto optimal may only be realised through collusion.

Expanding the levels of funding demonstrates the explosive result with more clarity. It is irrational for any player to invest in sports but allow themselves to be beaten. In other words, neither government will incur the political opportunity cost with certainty, when they can match the level of funding of their opponent, and move to an outcome wherein the expected value is positive. Therefore, we can ignore the points where funding is asymmetrical and the outcome is certain, and instead focus on a central corridor of results where each government matches the funding of the other. The two payoffs can be represented as follows:

(1) $E_v^A = pw(W) - (1 - pw)C_n$ wherein C_n is correlated with F_n

(2) $E_v^B = (1 - pw)W - pw(C_n)$ wherein C_n is correlated with F_n

[6] We assume that the political benefit associated with W to be significantly larger than the political opportunity cost associated with C_1. However, even if the political benefit is only slightly larger than the cost (which implies the political opportunity cost is significant) the government will move from a definite cost to a positive expected value.

The implication of the game is clear. The expected values for both government A and B are a function of the probability of winning the game, and the size of the political opportunity cost. As the political opportunity cost rises, i.e., C gets larger, the expected values fall. Maintaining the assumption that funding always trumps talent, no government will be easily willing to fall a step behind and realise a political opportunity cost with certainty. Therefore,

> **Proposition 1**: *If sporting talent is perceived to be equal, government seeking political gain from national sporting success will continue to increase finding in an effort to defeat a comparable nation.*
>
> **Corollary 1**: *As sport funding increases, the two governments continue to move further away from Pareto optimality, and this will only be achieved via a coordinated outcome.*

The implication of the game is clear. The expected values for both government A and B are a function of the probability of winning the game, and the size of the political opportunity cost. As the political opportunity cost rises, i.e., C gets larger, the expected values fall. Maintaining the assumption that funding always trumps talent, no government will be easily willing to fall a step behind and realise a political opportunity cost with certainty. Therefore, the only stable result (assuming p $w = 0.5$) is the outcome where both players exercise maximum funding.

Modifying our assumptions by relaxing the assumption that talent is equal, but maintaining the assumption that funding trumps talent, we can observe different results in the likely decision to gamble for public kudos. Assuming a significant talent differential, such as $pw^A = 0.8$ (and therefore $pw^B = 1 - 0.8$)[7] we can observe the same result in terms of Pareto optimality: with the fixed prize of W, both government's obtain the highest expected value is obtained for each nation when funding is at its lowest. However, it is also clear that the nation with the lowest talent-ability and hence the lowest a priori probability of winning, must, at some point, encounter a negative expected return. More specifically, increases in funding in attempt to defeat the other nation lead to climbing political opportunity costs, and given the talent-ability is low, the expected return must approach zero and then become negative.

This second finding is important. If the government of the inferior nation recognises the possibility of continual losses, in spite of the higher funding, the cost their likely response will be to reduce their investment in sporting pursuits. In this case, they can move back to the lowest funding level and have a maximum return regardless of what the other nation does. Once the superior nation raises their funding to a critical

[7] This is consistent with Schelling's 1961 approach to war wherein he adjusts the probability of attack to investigate different outcomes.

level, the inferior nation is likely to pull out of the race, as the Nash equilibrium is the lowest funding level. As distinct from the first case, this will generate an automatic return to the Pareto optimal outcome.

> **Proposition 2:** *If sporting talent is skewed in one nation's favour, such a government will unlikely to seek political gain from national sporting.*
>
> **Corollary 2:** *A movement toward Pareto optimality will occur without collusions*

4 Implications and Conclusion

The simple application presented in this paper delivers some remarkable insights. It does explain the current competitive spiral of public money being thrown at international sports teams by Australia and the UK. Yet it also shows that the outcome of the game, and hence the political payoff, in uncertain. If the nation is victorious, the public good is spread among many individuals and the government's investment pays off. However, if the game is lost, the political payoff is negative. This is an important difference between funding for infrastructure: a new school exists without chance and will likely deliver some votes, while the funding of a sporting team is a gamble, and one pursued with public money. This is significant, because despite the use of public money, the chance of winning is precisely that: a chance.

The analysis also demonstrates why it is unlikely to observe small nations competing for sporting success against large ones. As the chance of winning the event decreases, the political investment required outweighs the potential for real political return. At some critical point, the level of funding from the superior nation will remove any chance of winning. This will move the outcome toward Pareto optimality. It is also valuable in demonstrating the effect of sports on opposition parties. It is clear that the opposite payoff structure is facing the opposition party: they will prefer the national sports team to lose. General dissatisfaction with the state might be overlooked by successful national sports representatives, or compounded by poor performance.

Finally, match fixing of international sporting events is something that the government themselves have considerable interest in. A match fixed in their favour represents a political payoff, while the match fixed against their own team is a huge loss. Spending vast amounts of money aimed at securing a political pay-off to be thwarted by dishonest game, very frustrating indeed. It seems that like private punters, the government has a lot to gain out of the right team winning.

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