

Olympic news and attitudes towards the Olympics:

A compositional time-series analysis of how sentiment is affected by events

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Abstract

The Olympic Games are considered to be the most prestigious multi-sport event in the world. However, with growing costs associated with hosting such events against a backdrop of questionable economic benefits, and yet elation that follows from sporting success, a number of studies have started to address its intangible or softer impacts as a justification for the investment. It is well known that sentiment plays a part in the evolving economic valuation of companies through the stock market. What is less well known is how 'news' affects the sentiment towards major public investments like the Olympics. In this paper we consider, from the context of the pre-event stage of the 30th Olympiad, the relationship between attitudes towards the Olympics and Olympic-related news; specifically the bad news associated with an increase in the cost of provision, and the good news associated with Team GB's medal success in 2008. Using a unique data set and an event-study approach that involves compositional time-series analysis, it is found that 'good' news affects sentiments much more than 'bad' but that the distribution of such sentiment varies widely. For example, a much more pronounced effect of good news is identified for females than males, but 'bad' news has less of an impact on the young and older age groups. The paper consequently argues that extreme caution should be exercised in policy pronouncements that are based on such sentiments.

Keywords: Attitudes, news, Olympic Games,

JEL codes: C25, D12, L83

Introduction

The Olympics, and the Summer Olympics in particular, are a truly global event and are considered to be the most prestigious multi-sport event in the world. Competition to host the Olympics is fierce and, perhaps as a direct consequence, many prospective candidate cities make substantial claims about the economic, social and sporting impact of the Games. In the build up to bidding for, and hosting, the London Olympics, UK sports policy adopted this approach. For example, the Blair Government set out the following strategic priorities for sport in 'Game Plan':

"We conclude that government should set itself two overarching objectives:

- a major increase in participation in sport and physical activity, primarily because of the significant health benefits and to reduce the growing costs of inactivity; and
 - a sustainable improvement in success in international competition, particularly in the sports which matter most to the public, primarily because of the "feelgood factor" associated with winning."
- (DCMS/Strategy Unit ,2002,12)

These objectives were considered to be mutually related because of the limited possibility of a direct 'trickle-down' effect from elite sports success to participation through the sports development pyramid (Hindson *et al.*, 1994; Hogan and Norton, 2000; Frawley and Cush, 2011). Consequently, the policy proposed creating a 'twin-track' approach to developing sports participation and elite sports success because of the evidence of the health benefits that can be derived from the former, and 'despite the difficulty in quantifying the impact, there appears to be a positive impact for the nation as a whole' in the latter case (DCMS/Strategy Unit, 2002, 75).

This paper addresses this latter claim by examining the changes in the stated monthly support, as measured as a scale variable, for hosting the 2012 games over

time. In particular the analysis focuses on the impacts of the 'bad' news of cost overruns for 2012 announced in March 2007, and the 'good' news of Team GB's unexpected Beijing Olympic success in August 2008. The impacts of these news events are revealed using compositional time-series techniques that, unlike traditional time-series methods, account for the restrictions placed on the data by the use of a scale in eliciting opinion: in other words, that increases in the proportion of one category of response must be matched by reductions elsewhere on the scale.

The results indicate that the collective subjective value of such events is contingent on the context, so that, as a consequence, the policy and its underpinning claims are potentially suspect. This matters because such 'subjective' measures of the impact of public investment in sports are now more readily cited as a justification for that investment, primarily because of the extremely weak evidence in favour of their economic benefits. To illustrate these arguments, the next section briefly reviews the literature on the subjective impacts of major sports events. The data and methodology employed in the research are then presented. This is then followed by the presentation of results and a discussion of their implications. It is found that 'good' news affects sentiment much more than 'bad' but that the distribution of such sentiment varies widely. For example, a much more pronounced effect of good news is identified for females than males, and 'bad' news has a lesser impact on the younger and older age groups. The paper consequently argues that extreme caution should be exercised in making policy pronouncements that are founded on identifying positive sentiments from hosting or being successful at major sporting events.

Literature Review

Despite the recent euphoria associated with Team GB's 2012 Olympic medal success, it remains that hosting events like the XXX Olympiad require significant investments from the public sector, and decisions to host them consequently should be based on a sound evidence base. Significantly, the academic literature has generally been sceptical over the economic case that is typically made for hosting such events. This case has traditionally rested on the claim that, through multiplier effects, positive economic impacts are derived, despite initial large-scale public subsidy. Typically such a case is made by consultancy organisations, in advance of the Games, based on *ex ante* forecasts. It has been shown that such evidence is extremely questionable because of methodological flaws that populate the analyses that are, in turn, typically provided by business consultants working for lobby groups (Crompton, 1995, 2006).

Ex post evaluation of the impacts has been undertaken by academics. These studies apply an event-study framework to time-series data, and examine whether there are adjustments in the trend of key economic indicators after the major sports investment has taken place. The results suggest negligible and even negative impacts through crowding out (Baade, 2007; Downward *et al.*, 2009; Dawson, 2012). For example, focusing on the 1984 Los Angeles and 1996 Atlanta Summer Olympics, Baade and Matheson (2002) found that the (ex-post) impact on unemployment in both regions was entirely transitory and concluded that long-run changes to steady-state equilibrium were only possible when new infrastructure and facilities were appropriate for the present and future economy. Madden (2006) and Giesecke and Madden (2007) concluded that initial *ex-ante* assessments of the impact of the 2000

Sydney Olympics over-estimated the financial gain because the assumptions relating to induced tourism and the responsiveness of the labour market were overly optimistic.

It is partly because of such difficulties that the claim that major sporting events such as the Olympics can provide important intangible benefits has emerged (Crompton, 2004). It is not surprising, therefore, that, as noted in the introduction, the London 2012 bid was based on the promise of using the Olympic Games to help deliver its twin-track strategy of promoting sports participation and generating national feel-good, or subjective well-being.

As this paper focuses on the latter issue, this begs the question of how hosting events can contribute towards success at them, and how that success affects the wider community. From the point of view of hosting events, it is well established that a home advantage exists (Balmer *et al.*, 2001; Bernard and Busse, 2004; Shibli *et al.*, 2012). It is likely that this follows from a combination of psychological factors that raise the productivity of home-based competitors, that home-based competitors have more familiarity with the facilities, and that the intensity of crowd noise can influence officials through the pressures exerted upon them when making decisions (for a review see Downward *et al.*, 2009). An increase in government spending and a policy priority on sport performance also precedes the hosting of games (Houlihan and Green, 2008; Green and Houlihan, 2005).

In the case of identifying how the impact of hosting the Games and being successful at them impacts upon wider community sentiment, this is likely to be through spectatorship and be communicated by both attendance at the events and, for the vast majority of spectators, through media exposure. The 29th Olympiad held in

Beijing, for example, witnessed an unprecedented amount of coverage, with a reported 61,700 hours aired globally across 220 territories, generating a global audience of 3.6 billion (IOC, 2009). From the perspective of the UK, 41.1 million (approximately 67 per cent of the population) watched at least fifteen minutes of the BBC's Olympic broadcast. In London 2012 this increased to 51.9m (90% of the UK population) watching at least fifteen minutes of coverage (BBC, 2012).

That sentiment has an effect on the public valuation of the Games is directly addressed in a relatively small literature which, in part, motivates the current research. A number of studies, for example, have examined the impact of the announcement of hosting the Games, or failing to be successful in bidding to host them, on stock market valuations. The implication is that the perception that the games provide profitable business opportunities, as well as an increase in general optimism, can improve stock values. Such results have been identified in studies of the Olympics by Veraros *et al.* (2004), Kavetsos and Szymanski (2008), Leeds *et al.* (2009) and Downward *et al.* (2010). That the impacts are not just mediated through a forecast of business opportunities is indicated by the fact that national team success can generate optimism and share price adjustment (Ashton *et al.*, 2003).

A further strand of literature has examined the impacts of hosting and success at major sporting events on subjectively stated well-being. Examining a number of major events as well as the Olympics, Kavetsos and Szymanski (2010) identify that hosting rather than success at sporting events increases the subjective well-being of citizens. Süssmuth *et al.* (2010) examine the willingness of German citizens to pay to host the football World Cup in 2006. Willingness to pay is identified with the monetary value placed on the civic pride associated with the event, despite non-

attendance at a venue. It is shown that experience of hosting the football World Cup raises the willingness to pay from prior values and closes the gap between the valuations of former Western and Eastern German citizens.

More common are studies that have investigated the views of residents in the host region before and after (Ritchie and Aitken, 1985; Ritchie and Lyon, 1990; Mihalik, 2003; Guala, 2009) or during (Hiller and Wanner, 2011) the event. The attitudes of respondents beyond the host region, for example around the time of the announcement (Atkinson *et al.*, 2008; Walton *et al.*, 2008) or during the post-event period (Frawley and Cush, 2011), have also been undertaken.

Ritchie *et al.* (2009) provide one example of a non-host perspective during the pre-event period. They consider resident attitudes in the communities of Weymouth and Portland, located in the county of Dorset and where the London 2012 sailing events took place. They find that, whilst resident attitudes towards the impending event were in general supportive, there were significant negative effects identified, these being associated with likely congestion as well as concerns about potential increases in the cost of living.

Though relatively undeveloped as a literature, the above studies suggest why UK sports policy might take a broadly positive view of hosting major events like the London Games in terms of the 'feelgood' benefits that might be derived. However, it should be noted that there is an asymmetric or positive bias endemic to the literature in that it tends to focus on success in either sporting terms at events or winning the bid to host an event. Significantly, once the research moves beyond that basic context then the results do not appear so clear cut. This is implied in studies of residents that suggest events might also impose costs.

It follows that the potential for news stories to affect public opinion cannot be underestimated. Significant (negative) public opinion to both the Toronto 2008 and Chicago 2016 bids contributed towards the Games being held elsewhere, whereas, in the build up to the Athens 2004 Olympics, significant delays in the construction of venues and infrastructure attracted a lot of criticism. It has been argued that public opinion towards the value of hosting the Games tends to dip from just before winning the bid to the weeks leading up to the Games (Cashman and Hughes, 1999). On the other hand, it has also been identified that negative feelings towards the event can be transformed once the event takes place (Hiller and Wanner, 2011).

In this study, therefore, it is hypothesised that the same sort of impact of news stories could take place during the preparation stage, and consequently the impact of the two most significant Olympic-related stories that occurred during the run-up to London 2012 are examined. These are news of the substantial increase in cost (March 2007) and the success of the British team during the Beijing 2008 Olympics (August 2008). In respect of these issues, initial estimates by the London Organising Committee placed the total cost of hosting the event at £2.4 billion. However, in March 2007 it was announced that the total cost had almost quadrupled to just under £9.3 billion (Government Olympic Executive Annual Report, 2011).

In the 2008 Beijing Olympics, the British team won 47 medals, including 19 gold, finishing fourth in the medal table, which was a position that was widely unexpected. Confirmation of better than expected performance is provided by the UK Sporting Preferences Survey 2008 (UK Sport, 2009), who carried out a pre-Beijing survey asking interviewees where in the Olympic medal table they expected the British team to finish. Only 16 per cent of respondents expected the team to finish in the top five.

Further verification is provided by a number of econometric models of the determination of medal counts that generally, and in some cases significantly, under-predicted Britain's medal total (Forrest *et al.*, 2010).

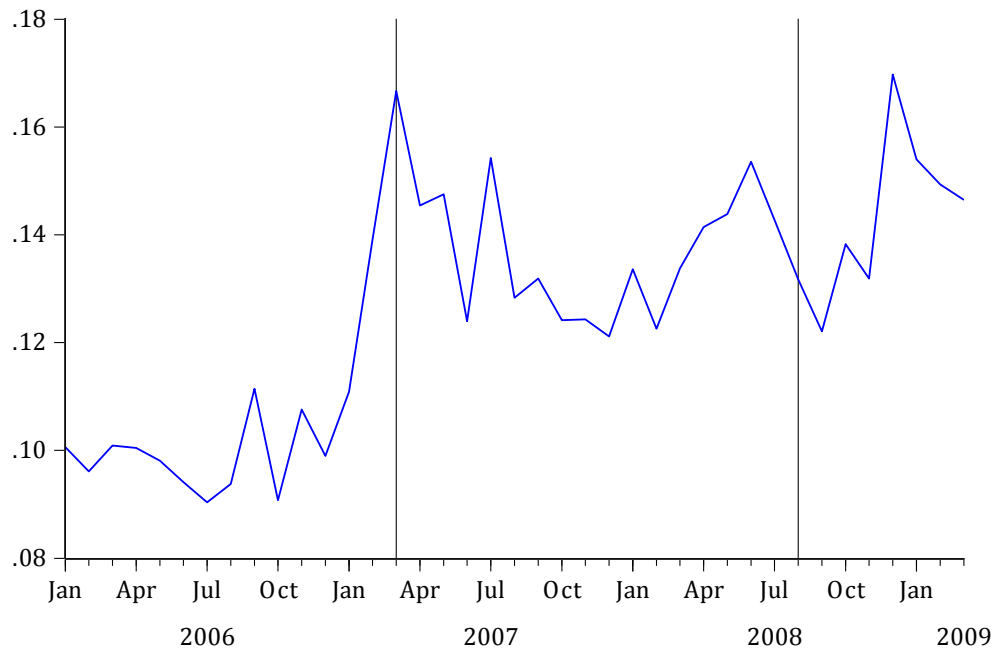
Data and Methodology

This study uses data from the Taking Part Survey (TPS), commissioned by the Department for Culture, Media and Sport (DCMS). The TPS is a continuous (repeated cross-section, but not a panel) national survey of England which was first undertaken in 2005. In this study, data from the first four waves (2005-6, 2006-7, 2007-08 and 2008-09) are employed, generating over 35,000 usable observations.

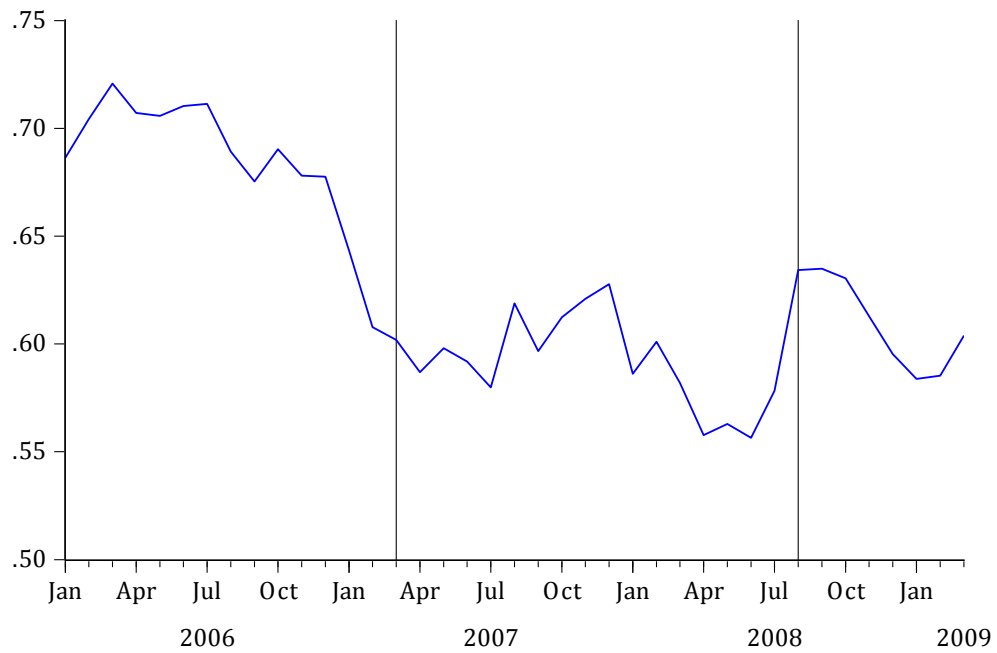
The TPS provides a unique opportunity to investigate attitudes and behaviour during the preparation stage of the Olympics, as these waves of the survey have a question specifically asking respondents about their feelings towards the UK hosting the 2012 Summer Olympic Games in London. Five options are presented in a measurement scale: strongly supportive (x_{5t}), slightly supportive (x_{4t}), neither supportive or against (x_{3t}), slightly against (x_{2t}), strongly against (x_{1t}).

Importantly, the survey is administered in such a way that there are enough observations to consider month-by-month variations in public attitudes, rather than simple wave-specific (yearly) effects. This provides a rich data set that allows a more precise investigation of the relationship between Olympic-related news and public opinion. A preliminary view of the attitudes and motivation of respondents on a month-by-month basis (from January 2006 to March 2009) is presented in Figure I.

Figure I: Feelings Towards the Olympics



Panel (a): Slightly or Strongly Against



Panel (b): Slightly or Strongly Supportive

Panel (a) shows the proportion of respondents against the UK hosting the 2012 Olympics and Panel (b) the proportion of respondents who are supportive. Visual inspection suggests the presence of longer term trends though there appears to be a spike in the data associated with cost overruns for those against hosting the games in Panel (a). Likewise in Panel (b) against a declining trend, a spike in support for hosting the Games might be seen to follow from August 2008. To unpick these effects more forensically, a time-series analysis is undertaken, taking account of the compositional nature of the data as implied by the measurement scale.

Compositional Data

A compositional data set is one in which the n observations on $d+1$ variables, denoted $\mathbf{x}_i = (x_{i1}, x_{i2}, \dots, x_{in})'$, $i = 1, 2, \dots, d+1$, are such that $\mathbf{x}_i > 0$ and $\mathbf{x}_1 + \mathbf{x}_2 + \dots + \mathbf{x}_{d+1} = \mathbf{1}$, where $\mathbf{1}$ is the unit vector, here of dimension $d+1$. The matrix $\mathbf{X}^{(d)} = [\mathbf{x}_1 \quad \mathbf{x}_2 \quad \dots \quad \mathbf{x}_d]$ then lies in the d -part simplex, S^d , with $\mathbf{x}_{d+1} = \mathbf{1} - \sum_{i=1}^d \mathbf{x}_i$ being the vector of 'fill-up' values: $\mathbf{X} = [\mathbf{X}^{(d)} \quad \mathbf{x}_{d+1}]$ is thus the complete data matrix.

Because of the difficulties of analysing \mathbf{X} within the simplex sample space, Aitchison (1982) proposed mapping $\mathbf{X}^{(d)}$ from S^d to the d -dimensional real space \mathbb{R}^d and then examining the statistical properties of the transformed data within \mathbb{R}^d . Several transformations have been proposed for doing this, the most popular being the additive-logratio transformation defined as

$$\mathbf{Y} = [\mathbf{y}_1 \quad \mathbf{y}_2 \quad \dots \quad \mathbf{y}_d] = a_d(\mathbf{X}^{(d)}) = \left[\log\left(\frac{\mathbf{x}_1}{\mathbf{x}_{d+1}}\right) \quad \log\left(\frac{\mathbf{x}_2}{\mathbf{x}_{d+1}}\right) \quad \dots \quad \log\left(\frac{\mathbf{x}_d}{\mathbf{x}_{d+1}}\right) \right] \quad (1)$$

The inverse transformation, known as the additive-logistic, is

$$\mathbf{X}^{(d)} = a_d^{-1}(\mathbf{Y}) = \left[\frac{\exp(\mathbf{y}_1)}{1 + \sum_{i=1}^d \exp(\mathbf{y}_i)} \quad \frac{\exp(\mathbf{y}_2)}{1 + \sum_{i=1}^d \exp(\mathbf{y}_i)} \quad \dots \quad \frac{\exp(\mathbf{y}_d)}{1 + \sum_{i=1}^d \exp(\mathbf{y}_i)} \right]$$

$$\mathbf{x}_{d+1} = \frac{1}{1 + \sum_{i=1}^d \exp(\mathbf{y}_i)} \quad (2)$$

Thus, an analysis which is difficult in the ‘awkward’ sample space \mathcal{S}^d may be transformed using a_d to \mathbb{R}^d , in which more tractable statistical analyses may be performed before using a_d^{-1} to return to the original variables.

Modelling Compositional Time Series

Consider the case where the \mathbf{x}_i are time series of proportions, and are now written $\mathbf{x}_i = (x_{i1}, x_{i2}, \dots, x_{iT})'$, so that there are T observations available. Accordingly, denote \mathbf{X}_t to be the t th row of \mathbf{X} and \mathbf{Y}_t to be the t th row of the additive-logratio transformed data matrix \mathbf{Y} . Brunson and Smith (1998) consider modelling \mathbf{Y}_t as a vector ARMA process but other frameworks are available in which covariates and trend functions may be introduced: see Mills (2007, 2009, 2010) for a variety of examples. It should be emphasised that the modelling is invariant to the choice of fill-up value, so that any of the x_i can be chosen.

The survey data available thus constitute a compositional time series of dimension $d+1=5$ of proportions from January 2006 to April 2009, a total of 40 observations, as defined earlier. They are plotted as Figure 2. Attention focuses on the two ‘events’ of the March 2007 announcement of the increase in the cost of staging the Olympics and the success of Team GB at the Beijing Olympics of August 2008. These events are modelled as dummies, taking zeros everywhere except that d_07_t takes the value 1 in March 2007 and d_08_t takes the value 1 in August 2008.

The proportions were additive-logratio transformed using x_{5t} as the fill-up value, thus defining $y_{it} = \log(x_{it}/x_{5t})$, $i=1,\dots,4$. These ratios are shown in Figure 3 and were then modelled as a dummy-augmented vector AR(1) process, with this order being selected by a variety of criteria, the fitted model being estimated as

$$\begin{aligned}
 \begin{bmatrix} y_{1t} \\ y_{2t} \\ y_{3t} \\ y_{4t} \end{bmatrix} &= \begin{bmatrix} 0.054 & 0.272 & 0.600 & -0.056 \\ (0.202) & (0.210) & (0.379) & (0.424) \\ 0.202 & -0.005 & 1.128^* & -0.398 \\ (0.207) & (0.215) & (0.388) & (0.435) \\ 0.019 & 0.138 & 0.818^* & -0.104 \\ (0.110) & (0.114) & (0.206) & (0.231) \\ -0.142 & 0.183^* & 0.462^* & 0.078 \\ (0.096) & (0.099) & (0.179) & (0.200) \end{bmatrix} \begin{bmatrix} y_{1,t-1} \\ y_{2,t-1} \\ y_{3,t-1} \\ y_{4,t-1} \end{bmatrix} \\
 &+ \begin{bmatrix} 0.303 & -0.285 & -1.022^* \\ (0.185) & (0.182) & (0.327) \\ 0.283 & -0.266 & -1.119^* \\ (0.189) & (0.186) & (0.335) \\ -0.063 & -0.381^* & 0.167 \\ (0.101) & (0.099) & (0.178) \\ 0.037 & -0.280^* & -0.164 \\ (0.087) & (0.081) & (0.154) \end{bmatrix} \begin{bmatrix} d_07_t \\ d_08_t \\ 1 \end{bmatrix} + \begin{bmatrix} u_{1t} \\ u_{2t} \\ u_{3t} \\ u_{4t} \end{bmatrix}
 \end{aligned} \tag{3}$$

Figure 2 Proportions having various levels of support for the London Olympics
(overall)

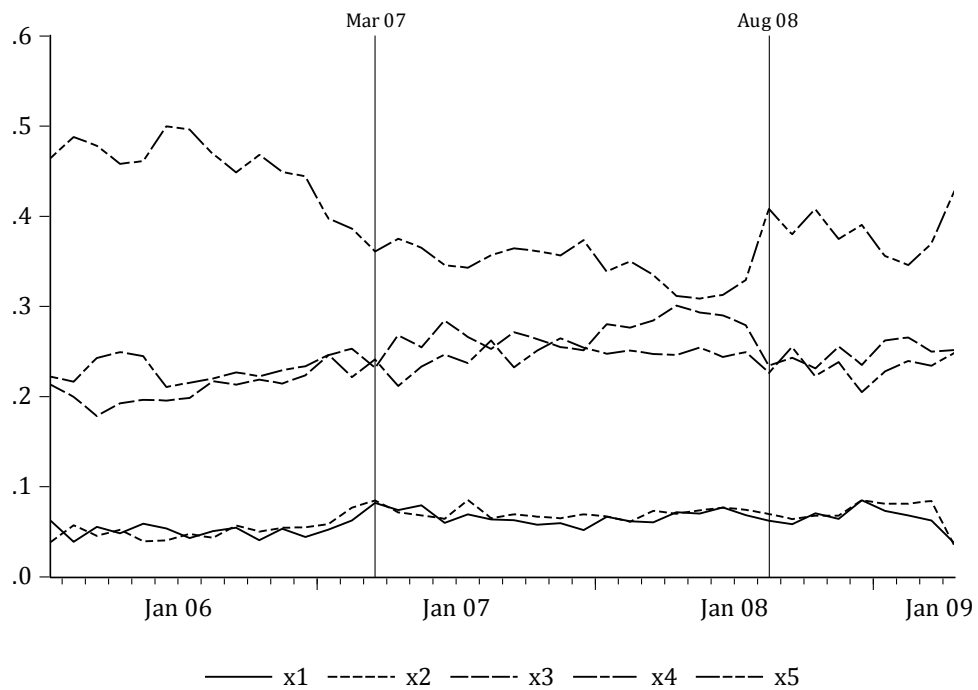
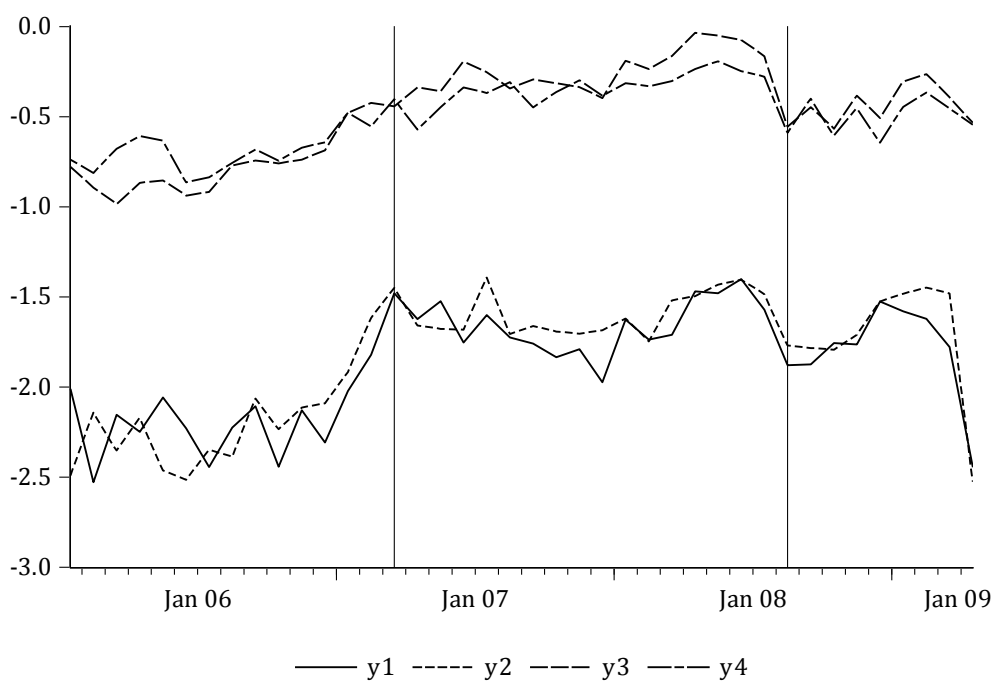


Figure 3 Additive log-ratios of proportions.



Standard errors are in parentheses and coefficients significant at the 10% level are indicated by an asterisk. Few coefficients are individually significant and the model is clearly over-parameterized, making interpretation problematic. The following restricted model was therefore developed.

$$\begin{aligned}
 \begin{bmatrix} y_{1t} \\ y_{2t} \\ y_{3t} \\ y_{4t} \end{bmatrix} &= \begin{bmatrix} - & - & 0.956 \\ - & - & 1.095 \\ - & - & 0.956 \\ - & - & 0.601 \end{bmatrix} \begin{bmatrix} y_{1,t-1} \\ y_{2,t-1} \\ y_{3,t-1} \\ y_{4,t-1} \end{bmatrix} \\
 &+ \begin{bmatrix} 0.377 & -0.290 & -1.418 \\ 0.377 & -0.290 & -1.300 \\ - & -0.397 & - \\ - & -0.290 & -0.201 \end{bmatrix} \begin{bmatrix} d_{07_t} \\ d_{08_t} \\ 1 \end{bmatrix} + \begin{bmatrix} u_{1t} \\ u_{2t} \\ u_{3t} \\ u_{4t} \end{bmatrix}
 \end{aligned} \tag{4}$$

The restrictions are either coefficient omissions or cross-equation coefficient equalities: in total a set of 19 restrictions are imposed, with an accompanying likelihood ratio statistic of 13.16, so the set is certainly acceptable. The nine coefficients that are freely estimated are all significant at less than the 1% level. The system is being driven by $y_3 = \log(x_3/x_5)$, while both events appear to have had significant effects on the system, with y_1 and y_2 being positively affected by the March 2007 event, and y_3 and y_4 being unaffected, while all ratios are negatively affected by the August 2008 event, movements that can clearly be seen in Figure 2. The system is more interpretable if log-proportions are considered. The model (4) can thus be written as

$$\log x_{1t} = 0.96\log x_{3,t-1} + \Delta\log x_{5t} + 0.04\log x_{5,t-1} + 0.38d_{07_t} - 0.29d_{08_t} - 1.42$$

$$\log x_{2t} = 1.09\log x_{3,t-1} + \Delta\log x_{5t} - 0.09\log x_{5,t-1} + 0.38d_{07_t} - 0.29d_{08_t} - 1.30$$

(5)

$$\log x_{3t} = 0.96\log x_{3,t-1} + \Delta\log x_{5t} + 0.04\log x_{5,t-1} - 0.40d_{08_t}$$

$$\log x_{4t} = 0.60\log x_{3,t-1} + \Delta\log x_{5t} - 0.40\log x_{5,t-1} - 0.29d_{08_t} - 0.20$$

Focusing on the impact of the two events, it can be seen that x_1 and x_2 were positively affected by the March 2007 event, x_3 and x_4 were unaffected and, by the nature of the composition, x_5 was negatively affected. In other words, those proportions already hostile to the Olympics increased in response to the announcement that the games would be more expensive, those proportions that were indifferent or mildly supportive remained the same, while the proportion strongly in favour declined somewhat. Again these shifts can be seen in Figure 2.

The response to the August 2008 event was that the first four proportions all declined in size, in particular those who were indifferent, while the proportion most supportive increased in size, shifts that can also be seen in Figure 2. The performance of the British team in the Beijing Olympics thus had a pronounced positive influence on support for the London Olympics. The first row of Table 1 provides estimates of the changes in these proportions (measured in percentage points) obtained via simulation of the model. Thus the March 2007 event increased x_1 and x_2 by 2.3 and 2.4 percentage points respectively, with x_5 being

correspondingly reduced by 4.7 points. The August 2008 event led to a decline of 0.5, 0.6, 4.8 and 1.5 percentage points for the first four categories, with x_5 correspondingly increasing by 7.4 points. Table 1 also presents analogous results at a disaggregated level by analysing the geographic groups 'excluding London (Ex Ldn)', 'north', 'south' and 'midlands and east (M&E)', the age groups 16–29, 30–44, 45–59 and 60+, and males and females. For brevity, details of the models are omitted.

Table 1 Change in support in response to the two events (percentage points).

	March 2007					August 2008				
	x_1	x_2	x_3	x_4	x_5	x_1	x_2	x_3	x_4	x_5
All	+2.3	+2.4	0	0	−4.7	−0.5	−0.6	−4.8	−1.5	+7.4
Ex Ldn	+2.2	+2.7	0	0	−4.9	−0.8	−0.9	−5.4	−2.3	+9.4
North	0	+2.7	−6.4	0	+3.7	−1.0	−2.2	−5.4	−5.1	+13.7
South	0	0	0	0	0	0	0	−4.0	0	+4.0
M&E	+1.7	+1.4	0	0	−3.1	−0.5	−0.2	−5.7	−2.5	+8.9
16-29	0	0	0	0	0	0	0	−10.0	−1.3	+11.3
30-44	+2.2	0	0	0	−2.2	−0.7	0	−3.2	−2.1	+6.0
45-59	+2.8	0	0	0	−2.8	0	0	−3.7	−2.7	+6.4
60+	0	0	−5.1	0	+5.1	−1.9	0	0	0	+1.9
Male	+5.0	+3.1	0	0	−8.1	0	−1.5	0	0	+1.5
Female	0	0	−3.8	0	+3.8	−0.6	0	−6.1	−3.1	+9.8

The results show some considerable variation in impact. Broadly speaking, the good news of Olympic success produces relatively large increases in strong support for the Olympics, as the above literature review might suggest. However, this is not uniform. It is most prevalent in the younger age-groups and females and more so away from London. This might be because the Olympics reaches an audience that is usual for sport, that of young males, but it also attracts female support because, unlike most professional sports, it is not male dominated. That London and the south seem to respond less to success could be indicative of the concerns of residents of the host areas noted earlier. Interestingly, the impact of the cost overruns being announced in March 2007 are accompanied by increases in support for the Games in the north and for females, which might suggest that, for the reasons noted above, the benefits of hosting the games exceed the costs for these groups. In general, however, for males and those of middle age there is a clear shift away from support for the Games in the context of bad news.

Conclusions

It is now increasingly common in public policy discussion to make a case for investment in major sporting events like the Olympic Games that draws upon the softer and more intangible effects that follow from sporting success at, as well as hosting, such events. In particular it is argued that they both contribute to the 'feelgood' factor for society, that is, subjective well-being. The literature that supports such claims, however, tends to have an implicit bias in it as it focuses on one dimension of the potential impact, that of success in either seeking to host an event, or through sporting success at the event.

Although it is well known that differences in sentiment play a part in the evolving economic valuation of companies through the stock market, it is less well known how 'news' affects sentiment towards major public investments like the Olympics. In this paper the relationship between attitudes towards the Olympics, the bad news associated with an increase in the cost of provision and the good news associated with Team GB's medal success in 2008 are analysed. Using a unique data set and an event-study approach that involves compositional time-series analysis enables us to identify that 'good' news affects sentiment much more than 'bad' news, but that the distribution of such sentiment varies widely. The paper consequently argues that extreme caution should be exercised when making policy pronouncements that are based on such sentiment.

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