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7 **A Lottery within a Lottery? An Examination of the Distribution of Lottery**
8 **Funds in England.**
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12 *Running Title: A Lottery Within A Lottery?*
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16 **Peter Gripaos, Paul Bishop and Steven Brand***
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25
26 **Abstract**
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30 The UK National Lottery has been in operation since 1994. An examination of
31 the regional distribution of awards per head of population suggests marked
32 spatial disparities with London doing particularly well and Scotland, Northern
33 Ireland, Wales and the North East faring much better than other regions. Such
34 disparities also exist at English Local Authority level with funding in London
35 and some major provincial centres doing much better than more rural
36 authorities. Such inequalities may give grounds for concern, given that they
37 appear to replicate those for other types of Government spending. The results
38 of an empirical model designed to explain the spatial distribution of awards
39 suggest that, in addition to a London effect, levels of deprivation have a
40 positive impact. Another important explanatory variable which has a positive
41 impact on lottery funding is the qualifications of residents which might
42 plausibly reflect the quality of lottery bids received from an area. However,
43 once these factors are taken account of, there is little evidence that rural
44 areas fare badly.
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Introduction

The UK National Lottery has been in existence since 1994. Since its inception, a proportion of the revenue from ticket sales has been channelled to “good causes” through some thirteen award bodies in the constituent parts of the UK. Each award body decides on how it allocates funds to projects but, though free from day to day Government control, it has to work within a regulatory framework of Policy and Financial Directions laid down by the Department of Culture Media and Sport (DCMS) in England and the relevant statutory authorities elsewhere (National Audit Office 2000). By June 2006 over £17bn had been raised for the “good causes” (DCMS, Lottery Grants Database).

The National lottery is effectively a tax as some of the proceeds go directly to the government. Moreover half of the value of ticket sales is hypothecated to good causes, at least some of which would otherwise have been financed by more formal taxation. Feehan and Forrest (2007) point out that it is an exceptionally high tax at around 80% of consumers’ net expenditure. They also note that there is little justification for such a high tax in terms of negative externalities (as in the case of petrol) or grounds of individual and public health (as in the case of tobacco). Indeed, it might be argued that the Lottery imposes a negative externality by inducing addiction to gambling. Farrell et al (1999), for example, report that the existence of roll-overs gives a boost to ticket sales, which lasts for some time. There are also welfare implications arising from the fact that the Lottery does not seem to be a very efficient

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3 means of raising funds (Farrell et al, 1999; Forrest et al, 2000; Walker, 1998)
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6 Indeed, Farrell et al (1999) argue that allocating a higher proportion of sales
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8 revenue to prizes would generate a sufficiently large increase in sales that
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10 awards to 'good causes' could be increased
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15 A further problem is that, though the tax is voluntary as no-one is forced to
16
17 play, survey data suggest that it falls most heavily on the poorer sections of
18
19 the community, with lower class groups more likely to play and spend more
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21 than other groups (Sproston, 2003). This conclusion is confirmed by an
22
23 analysis of earlier data by Farrell and Walker (1999) which concludes that the
24
25 income elasticity of demand is positive but inelastic. This may reflect
26
27 expenditure switching with reduced spending on necessities (Smith, 2007) by
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29 the relatively poor. On the other hand, richer income groups potentially gain
30
31 from lower progressive taxes associated with the use of lottery funds as an
32
33 alternative funding source for good causes. They may also gain from the fact
34
35 that those good causes (e.g. the Arts) feature more strongly in their utility
36
37 function than lower income consumers. It is also worth noting that such
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39 welfare issues are of wider concern than just for the UK as many countries
40
41 use lottery funding for areas such as arts and sport (Feehan and Forrest,
42
43 2007). Studies of these issues in other countries include Kearney (2005),
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45 Scott and Garen (1993), Stanahan and Borg (1998), Walker (1998) and
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47 Worthington (2001).
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58 One welfare issue which has received relatively little attention is the regional
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60 and sub-regional distribution of lottery expenditure. This is surprising as there

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3 has been considerable research and debate on the general spatial distribution
4 of state spending in the UK. Recent contributions include, for example,
5 Mackay (2001), Gripaios (2002), Heald and Short (2002), McClean and
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has been considerable research and debate on the general spatial distribution of state spending in the UK. Recent contributions include, for example, Mackay (2001), Gripaios (2002), Heald and Short (2002), McClean and McMillan (2003), HM Treasury (2003) and Gripaios and Bishop (2005). These studies have revealed wide variations across regions both in terms of “identifiable” public expenditure, for the benefit of a particular population, and “non-identifiable” spending such as that on defence, which is seen, in principle, as benefiting citizens of the UK in total.

As far as the distribution of Lottery grants is concerned, there may have been some in-house studies given the hints in the consultation process prior to the reform of the National Lotteries Act in 2006 that, in the early years: “There were concerns that too much lottery money was going on buildings, and not enough on people, that it was easier for bigger well-established organisations to get access to funding than smaller groups and that some groups and areas were missing out entirely” (DCMS, 2002, p4). Some changes were made as early as 1998 to address these concerns but the DCMS seems to have remained worried that not enough was continuing to get through to deprived communities and locations.

The only independent research on the topic of the spatial distribution of UK lottery funds appears to be the recent study by Feehan and Forrest, (2007). This study examines the distribution of lottery grants across local authority areas (LAs) in England and Wales to examine the issue of regressivity in lottery taxation. Their model relates the level of awards per capita to various

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3 LA socio-economic characteristics and dummies for London and other
4 Metropolitan areas. They find a tendency for big cities, particularly London, to
5 win a disproportionate share of Lottery grants (especially in the Arts). The
6 percentage of graduates (positive impact) and proportion of the population in
7 socio-economic groups 1 and 2 (negative impact) are other significant
8 explanatory variables.
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20 This paper covers some of the same ground as that of Feehan and Forrest
21 (2007) but also extends it. In particular it utilises different explanatory
22 variables and examines directly the impact of levels of deprivation on Lottery
23 grant funding. Further research is justified both by the important welfare
24 issues outlined above and the paucity of work on the regional and local
25 distribution of this aspect of government expenditure relative to mainstream
26 spending. It is also timely in view of the fact that Lottery Funds are to be a
27 major source of funding required infrastructure for the London Olympics.
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41 It is, of course, important to note that it has never been the intention of the
42 government to ensure an equal distribution of lottery funds in per capita terms.
43 Indeed, it has been recognised that specific towns and cities might be the
44 natural locations for some of the activities (e.g. Arts, Heritage) funded by the
45 lottery regardless of wider welfare issues. However, since there was unequal
46 provision of facilities prior to the lottery, for historical reasons, it is a perfectly
47 valid use of lottery funding to try to reduce these cultural inequalities.
48 Moreover, spatial disparities in spending inevitably have important economic
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3 implications and an understanding of the nature of such disparities is of
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5 interest from both an academic and policy perspective.
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10 This article examines the spatial distribution of lottery funding both in total and
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12 in terms of the six good causes identified in the amended National Lottery Act
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14 of 1998, namely arts, sport, heritage, charitable causes, projects to mark the
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16 year 2000 and the beginning of the new millennium and, projects on or
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18 connected with health, education or the environment (National Audit Office
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20 2000). The analysis begins by assessing the regional and local distribution of
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22 awards in broad terms before developing a model to try and explain the
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24 spatial pattern of funding. This is then tested using published data and the
25
26 main findings are outlined. Finally, the article discusses the wider implications
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28 of the study.
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36 **Lottery Funding in the UK**

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41 There are wide variations in lottery funding per head (accumulated through to
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43 June 2006) at the broad regional level, ranging from a high of £575 in London
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45 to a low of just £163 in the adjacent East of England Government Office
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47 region (Table 1). In addition, the North East, Scotland, Northern Ireland and
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49 Wales also seem to do well from the lottery, partly replicating the findings for
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51 Government expenditure in total (Mackay (2001), Gripaios (2002), Heald and
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53 Short (2002), McClean and McMillan (2003), HM Treasury (2003) and
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55 Gripaios and Bishop (2005)).
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3 Whether such a distribution is “fair” is an arguable proposition depending on
4 the extent to which one believes that lottery funding should go on iconic
5 projects, wherever they are most properly located, or, whether it should be
6 skewed towards regions of greater need. A further dimension is whether some
7 notion of fairness should take into account the regional distribution of lottery
8 ticket sales. Table 2 shows that there are considerable variations in
9 participation rates and household expenditure across regions. Thus, some
10 63% of households in the North East played the lottery in the period 2001/2-
11 2003/4, whereas only 39% of London households did likewise. The data
12 suggest that London and Northern Ireland do particularly well from Lottery
13 grant expenditure relative to ticket sales.
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32 There is no breakdown of ticket sales below regional level, but figures on the
33 distribution of lottery expenditure are published for all local authority
34 jurisdictions in the UK. Table 3 shows the relevant figures for the ten highest
35 and lowest lottery expenditure areas in England, the focus of the work in this
36 article. The differences are considerable, ranging from £29 per head in Hart to
37 £4,407 per head in the City of London. Even given the broad regional figures
38 discussed above, it is perhaps a little surprising that London boroughs occupy
39 eight of the top ten places. It might be thought that London would feature
40 particularly strongly in specific categories of expenditure such as Heritage and
41 the Arts, given the importance of these sectors in the capital both at the
42 present time and historically. Table 4 demonstrates that this is the case with
43 London boroughs occupying the first four places for Arts and the first three for
44 Heritage. However, they are also strongly represented for other categories of
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3 expenditure that might be expected to be more evenly distributed. Indeed,
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5 London boroughs occupy the first eight places for Charitable expenditure, and
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7 the first three for spending on Health, Education and the Environment. In
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9 every category, there are at least 3 London boroughs in the top ten. There are
10
11 also differences in the extent of spatial variation for the different categories of
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13 funding. In England, the smallest variation in expenditure is for the two
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15 categories Health, Education and Environment and Sports while the greatest
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17 is for Millennium and Heritage (Table 5).
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25 **Explaining the spatial distribution of funding**

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29 Given the large variations in Lottery funding across spatial areas both in total
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31 and for all specific award categories, it is of some interest to try to identify the
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33 factors that might explain the observed pattern. Consequently, a model was
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35 developed with the dependent variable defined as the log of lottery funding
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37 per head of population from January 1995 through to June 2006 (LLOTPH).
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39 More disaggregated models were also estimated for arts (LARTS) Charitable
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41 Expenditure (LCHAR), Heritage (LHER), Millennium funding (LMIL), Sport
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43 (LSPORT) and Health, Education and the Environment (LHEE). The source of
44
45 the lottery award expenditure is the DCMS Lottery Grants Database and the
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47 area of study was the 354 LAs in England. Of course, there are limitations in
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49 using this dependent variable as a measure of local benefits as there may be
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51 extensive spill-over benefits across neighbouring LAs. These may be
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53 particularly extensive in London and the other large metropolitan areas which
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55 contain multiple LAs. However, they are also likely between adjacent urban
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3 and rural areas where the city limits are tightly defined so as to exclude
4 economic hinterlands.
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10 As far as explanatory variables are concerned, an important point to emerge
11 from the discussion and evidence presented in this paper is that some London
12 boroughs do extremely well from lottery funding. There are a number of
13 reasons that might explain this. One is that London, as the capital city, has
14 always been the main location of Arts, Heritage, Sports and other facilities
15 such as teaching hospitals and major universities that could qualify for awards
16 to upgrade or extend existing provision. Moreover, given that London is a
17 major domestic and international tourist destination, it is likely to be a sensible
18 location for completely new projects, on the grounds that any such projects
19 might be expected to be more viable there than elsewhere in the UK and
20 might add to the general attractiveness of the UK as a tourist destination.
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39 Although the unique features of London are important, one might expect the
40 “London effect” to operate particularly in inner London and specific London
41 boroughs. For example, the City of London might be a special case because
42 of its low population, while Westminster is unique because it is the location of
43 many facilities visited by tourists and Londoners alike. Similarly, Greenwich
44 may attract a high level of lottery funding per head because it has the
45 somewhat ill-fated Dome within its boundaries, whilst Kensington and Chelsea
46 is the location for some key museums and educational establishments. Of
47 course, such location-specific factors may be important outside London. A
48 major northern city such as Manchester may attract funding for similar
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3 reasons to London and also for unique factors such as the need to rebuild the
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6 centre after the IRA bomb.
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10 Given the potential importance of the “London effect”, three alternative
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12 dummy variables were utilised to approximate the effect, with the relevant
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14 London areas coded 1 in every case. The first (IL1) defined inner London to
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16 represent the City of London alone, the second (IL2) included the City of
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18 London, Westminster and Greenwich and the third (IL3) also added Islington
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20 and Camden.
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27 It is important to recognise that the London dummies only pick up the most
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29 obvious outliers in the dataset. More generally, it might be expected that large
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31 urban areas would do better than rural or smaller urban ones for the same
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33 sort of reasons that might explain the London effect, such as the location of
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35 main hospitals, arts facilities, universities and serving markets well beyond
36
37 local authority boundaries. However, an alternative hypothesis, at least for
38
39 some aspects of funding, would be that rural and small urban areas might do
40
41 better from the Lottery because of a greater sense of community enabling
42
43 them to develop and engender local support for projects. Indeed, such
44
45 communities may have higher lottery funding per head because many have
46
47 not had access to other sorts of funds (e.g. Single Regeneration Budget, City
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49 Challenge, Neighbourhood Renewal Fund, New Deal for Communities)
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51 available elsewhere. Finally, they might do better because of the very fact
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53 that, traditionally, they have not had the facilities of large urban areas, leaving
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55 open the possibility of remedying the deficit through lottery bids.
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6 The impact of the rurality or urban nature of areas is, therefore, a complex
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8 issue and two alternative variables are included to try to account for this. The
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10 first is population density (LPOPDENS – the log of population per hectare
11
12 2002), which may be a good indicator of scale effects in the provision of new
13
14 services and, therefore of project viability. The second is a measure of the
15
16 degree of rurality - the proportion of employment in agriculture and forestry in
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18 2001 (AGRI). There are, of course, important limitations to this variable as it
19
20 may not account for all self-employment. The above arguments suggest that
21
22 these variables could potentially take a positive or negative sign. The source
23
24 of the data is Regional Trends for population and the Census of Population for
25
26 employment.

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34 Given Government priorities and advice to award boards (see, for example,
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36 National Audit Office, 2000, Appendix 2), a further potential explanatory
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38 variable is the level of deprivation in specific local authority areas. A high level
39
40 of deprivation might be expected to lead to more favourable treatment, *ceteris*
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42 *paribus*. The variable used to measure deprivation is the Index of Deprivation
43
44 (2004) Average Score (DEPRIV) available from the Department of
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46 Communities and Local Government.

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53 One important factor which may affect whether specific bids get funding is the
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55 quality of the bids. It is not possible to assess this directly. Instead, we use
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57 two proxy variables. The first is the proportion of managers and professionals
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59 in the local population in 2001 (PROF); the second is the percentage of
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3 residents in an area with qualification levels 4 and 5 (QUAL). Our assumption
4 is that persons involved in writing bids in a professional capacity and/or with
5 better qualifications will be better able to bring their skills to bear on making
6 the case for support by local sports clubs, amateur dramatics and the like.
7
8 Interestingly, there could be a different explanation. Feehan and Forrest
9 (2007) also use a similar QUAL variable arguing that it is correlated with
10 income and so can be used as a proxy for income. They argue that more
11 affluent areas will benefit disproportionately from lottery funding as the type of
12 activities which the lottery supports are attractive to high income groups and
13 organisations with high income members will find it easier to generate
14 requisite match funding.
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32 Match funding may certainly be important to demonstrate commitment, to
33 reduce the risk to award bodies and to otherwise “oil the wheels”. It is not
34 easy to get direct data on this, even in the case of the public sector, for there
35 are many funds operated by bodies such as the European Union, National
36 Government Departments, Local Authorities and various quangos. Moreover,
37 access to some sources may be dependent on some of the factors
38 hypothesised as determining lottery grant funding. This paper includes a
39 limited attempt to examine this issue directly by assessing whether
40 designation as an Objective One European region affects lottery funding.
41 Thus, a dummy variable (OBONE - eligible authorities coded 1) is used to
42 designate the local authorities eligible for such funding in Merseyside, South
43 Yorkshire and Cornwall. Clearly, given the points by Feehan and Forrest
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3 (2007), the match funding explanation may be also partly picked up by other
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5 regressors.
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10 **Results**

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15 The model was tested for the 354 Unitary and District Local Authorities in
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17 England using OLS multiple regression. Various formulations were tried but
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19 there were clear instances of multicollinearity between two sets of variables.
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21 These were AGRI and LPOPDENS which were both used to test for rurality/
22
23 scale effects ($r=-0.82$) and QUAL and PROF ($r=0.89$) which were used as a
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25 proxy for the quality of bids. As a result, it was decided to use one of each pair
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27 in a variety of combinations. In practice, it made little difference to the results
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29 and so we do not present all variations for either the total model or for
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31 individual good causes. In no case was OBONE significant, suggesting that it
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33 is either an inadequate measure of availability of match funding or that this is
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35 not important in the distribution of grants. Hence it is not included in the
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37 reported equations. It also made little difference which inner London dummy
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39 was used, so only the equations utilising IL2 are reported.
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49 The results for lottery funding in total are presented in Table 6. The three
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51 variations of the basic equation that are reported fit reasonably well for cross-
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53 section data, with their explanatory power ranging from 47% to 56%.
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55 Equation (1) passes normality, reset and heteroscedasticity tests, whereas
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57 version (2) fails the normality test. There was some evidence of
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59 heteroscedasticity in equation (3) and the presented results for this equation
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3 reflect standard errors corrected for heteroscedasticity using the jackknife
4 methods. Given these specification issues, version (1) is the preferred
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8 variant.
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12 All coefficients are significant in equation (1). Deprivation, the London dummy
13 and QUAL all have the expected positive impact on funding. Of course, the
14 significance of QUAL may either reflect its role as a measure of professional
15 bid writing capability (as we hypothesise), or of some combination of income
16 and availability of match funding as suggested by Feehan and Forrest (2007).
17
18 The coefficient on LPOPDENS, for which there was no clear prediction, is
19 negative. This suggests that far from being at a disadvantage, rural areas do
20 relatively well from lottery funding once other factors such as deprivation and
21 the London effect are allowed for. This might also be the conclusion drawn
22 from the alternative equation (3), where AGRI is positive and significant.
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39 Details of the results for the individual lottery funds are presented in Table 7.
40 In the reported equations, LPOPDENS is used as the measure of rurality and
41 QUAL as the measure of local professional capabilities. All equations bar Arts
42 and Sports had evidence of heteroscedasticity and hence the standard errors
43 for these equations were corrected using the jackknife method. The
44 explanatory power of the equations differs considerably with the best results
45 being for Charitable expenditure and Arts. For Arts, Heritage funding and
46 Charitable expenditure all variables have the same signs as that for lottery
47 funding in total though IL2 is not significant for Arts or Charitable expenditure.
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60 It should be noted that only the Arts and Millennium equations passed

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3 normality tests. This may reflect the fact that large sums of money have gone
4 to a small number of key projects in specific locations. As argued above, this
5 is likely to become even more the case as lottery funds are diverted to finance
6 the London Olympics in 2012.
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15 Millennium funding was directed at special projects in a restricted set of
16 locations and might be expected to follow different rules. This is confirmed as
17 it has one of the weakest fitting equations and only DEPRIV, LPOPDENS and
18 QUAL are significant. Sports spending might be expected to be much more
19 widely distributed and to replicate the pattern of lottery funding in total. In fact,
20 once again only DEPRIV, LPOPDENS and QUAL are significant. Turning
21 finally to Health, Education and Environment spending, the statistically
22 significant coefficients are those on QUAL and DEPRIV.
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36 **Conclusions**

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40 The welfare aspects of the National Lottery are both interesting and complex.
41 Relevant issues include the general question as to whether the promotion of
42 lotteries is something which the government should be encouraging given the
43 issue of gambling addiction and the consequences of that for individuals and
44 health service provision. In addition, it is debatable as to whether a National
45 Lottery is the most efficient method of raising money for good causes,
46 whether the effective tax rate is appropriate and whether it is regressive. The
47 previous research outlined above suggests that there are problems regarding
48 all of these issues.
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6 In this paper, the main focus has been on a specific welfare issue - whether
7 the regional and local distribution of grant expenditure is “fair”. One important
8 aspect of this whether the pattern of expenditure reflects the pattern of ticket
9 sales, a topic which can only be examined at broad regional level. Our
10 conclusion here is that there are clear anomalies. For example, although the
11 North East and East regions have the joint highest average household ticket
12 expenditure per head on the lottery, they are almost at opposite ends of the
13 league table in terms of lottery grants per head. If the East of England does
14 very badly in these terms, then the adjacent region, London, does especially
15 well. Such disparities also apply to Lottery grant expenditure *per se*, for which
16 London heads the league table followed by the North East, Scotland and
17 Wales. Apart from the North East, this seems to replicate the distribution of
18 overall “identifiable” Government expenditure (McKay 2002) for which
19 Scotland, Wales and London are the top three recipients in mainland Britain.
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41 So should we be concerned at these inequalities? It is certainly not surprising
42 that London heads the list – a fact which can be justified on a range of
43 grounds. One is that London, for historical reasons, is the location of many
44 cultural, sporting, heritage, education and health facilities that good cause
45 lottery funding was designed to help. A second is that there are economies of
46 scale in concentrating expenditure in the capital. A third is that improving and
47 concentrating facilities there is the best way of attracting international tourists
48 and their spending. A fourth is that London is the most accessible location for
49 the citizenry of the UK. These are all valid arguments, such that the real
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3 question is the *extent* to which high levels of per capita spending in London
4 can be justified. Is it, for example, justifiable that lottery expenditure per head
5 in the capital is 3.5 times that in the East of England and 3.3 times that in the
6 South East, even allowing for the fact that the residents of (some parts of) the
7 latter two regions have easier access to London facilities than those of more
8 peripheral regions?
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20 There are, of course other welfare issues associated with lottery grant
21 expenditure. One is that, though all UK citizens have access to major projects
22 in London and other large urban centres, they do not have equal access. It is,
23 for example, much less costly in both actual and psychic terms for a resident
24 of London to visit the Millennium Dome or Wembley Stadium or Twickenham
25 than a resident of the South West and that will affect the number of visits. On
26 the other hand, South West residents benefit more from the extensive Lottery
27 Funding given to the Eden Project in Cornwall because it is far easier for them
28 to get there than it is for other UK residents. Of course, there would be
29 winners and losers even if lottery expenditure per head was the same by
30 region because the type and range of facilities supported by the Lottery varies
31 over space. London horticulturalists, for example, may derive little benefit
32 from better sports facilities there or from facilities such as the Eden Project
33 located more than 250 miles away.
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55 This paper has demonstrated that, at local authority level, disparities are even
56 more marked than at the broad regional level, both for Lottery expenditure per
57 head in total and for all types of Lottery award. On the face of it, many small,
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3 relatively rural authorities seem to do poorly while some in large urban areas
4 and especially in Inner London and specific provincial regional centres do very
5 well. However, the empirical results suggest that whilst levels of deprivation
6 are an important predictor of funding per head, perhaps surprisingly, rural
7 areas do not seem to lose out once this and other factors have been taken
8 into account. The qualifications of residents also seems to make a difference
9 to funding, possibly through influencing the quality of bids and/or, as Feehan
10 and Forrest (2007) suggest, because qualifications are a proxy for high
11 income and high income areas may be more capable than poor in delivering
12 match funding.
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29 In any event, no version of the model picks up more than 60% of the variation
30 in the dependent variable suggesting that other factors play an important role
31 and/or that the variables included here are inadequate proxies for
32 hypothesised determinants. There is certainly scope for further research work
33 on, for example, the extent to which different local authorities put in bids and
34 the extent to which they encourage, promote and improve the quality of bids
35 from organisations in their area through, for example, the employment of
36 dedicated and competent Lottery Officers. Another potentially important
37 avenue of research would be the use of better measures of bid quality, which
38 is likely to be difficult, and of the availability and role of match funding in
39 securing Lottery grants. Finally, there is the issue of the extent to which lottery
40 funding is “additional” in a specific locality. Central Government may, for
41 example, make compensating reductions in other grants to Local Authorities
42 that attract lottery spending. Equally, it may mean that the need for match
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3 funding forces local authorities to switch money from other potential
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5 expenditures, especially if good cause projects generate a large amount of
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7 local interest.
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12 One problem with examining welfare issues at the spatial level is the
13 appropriate unit of analysis. Regions may be too large while, given extensive
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15 spillover benefits, local authority areas may be too small. Using functional city
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17 regions would be preferable but data problems preclude this at the present
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19 time. However, whatever the scale of the analysis, it seems likely that future
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21 studies will throw up even more marked disparities in the distribution of
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23 Lottery funds given that ministers have indicated that funds are to be diverted
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25 from other potential good causes to that of providing the necessary
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27 infrastructure for the 2012 Olympics. As these are to be held very largely in
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29 London, it will again be the capital which benefits. No doubt some of the
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31 money will find its way to the deprived residents of East London but they are
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33 not the only or necessarily the most deprived ones in the UK.
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46 Acknowledgement.

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50 earlier version of this paper.
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Table 1: Lottery funding accumulated to June 2006

| Area | Total | Lottery funding (per '000 persons) |
|-----------------------------|------------------------|---|
| East Midlands | £931,041,414 | £221.00 |
| Eastern | £881,655,145 | £163.00 |
| London | £4,228,937,074 | £575.00 |
| North East | £879,767,847 | £350.00 |
| North West | £1,809,091,352 | £267.00 |
| Northern Ireland | £580,204,827 | £342.00 |
| Scotland | £1,703,623,206 | £337.00 |
| South East | £1,403,588,245 | £175.00 |
| South West | £1,262,187,157 | £254.00 |
| Wales | £902,679,021 | £309.00 |
| West Midlands | £1,334,074,085 | £252.00 |
| Yorkshire and Humberside | £1,201,278,487 | £241.00 |
| UK | £17,118,127,860 | £289.00 |

Source: DCMS Lottery Grants Database.

Table 2: Participation in the National Lottery (2001/2-2003/4)

| | % of households | Average household expenditure (£) |
|--------------|-----------------|-----------------------------------|
| North East | 63 | 4.7 |
| North West | 57 | 4.2 |
| Yorks & Humb | 55 | 4.6 |
| E Mids | 54 | 4.3 |
| W Mids | 53 | 4.6 |
| East | 49 | 4.7 |
| London | 39 | 4.6 |
| S East | 47 | 4.3 |
| S West | 45 | 4.2 |
| Wales | 54 | 4.3 |
| Scotland | 56 | 4.2 |
| N Ireland | 48 | 4.1 |
| UK | 51 | 4.4 |

Source ONS Regional Trends 39.

Table 3: Lottery Funding per head of population to June 2006

| Local authority | £per head | Local authority | £ per head |
|---------------------|-----------|------------------------|------------|
| Lowest funding | | Highest funding | |
| Hart | 29 | Southwark | |
| Crawley | 37 | Kensington and Chelsea | 919 |
| Rochford | 41 | Chelsea | 936 |
| Erewash | 44 | Norwich | 972 |
| Spelthorne | 45 | Manchester | 980 |
| Wyre | 48 | Lambeth | 1218 |
| South Staffordshire | 48 | Camden | 1730 |
| Castle Point | 55 | Islington | 1871 |
| Broxtowe | 56 | Greenwich | 3106 |
| Brentwood | 62 | Westminster | 3115 |
| | | City of London | 4407 |

Source: DCMS Lottery Grants Database.

Table 4: Lottery Funding per head to June 2006 (Top 10 LA's by funding area)

| | Arts | Charities | Heritage |
|----|------------------------|------------------------------|--------------------------|
| 10 | South Bucks | Eden | Greenwich |
| 9 | Kensington and Chelsea | Isles of Scilly | High Peak |
| 8 | Hackney | Hackney | Carrick |
| 7 | Salford | Southwark | Cambridge |
| 6 | Lambeth | Tower Hamlets | Camden |
| 5 | Gateshead | Lambeth | Kennet |
| 4 | Islington | Westminster | Purbeck |
| 3 | Camden | Camden | Kensington and Chelsea |
| 2 | City of London | Islington | Westminster |
| 1 | Westminster | City of London | City of London |
| | Millenium | Sports | Health Educ, Env. |
| 10 | Leicester | Hammersmith and Fulham | St. Helens |
| 9 | Camden | Eastleigh | Derbyshire Dales |
| 8 | Durham | Norwich | Norwich |
| 7 | Portsmouth | Bath and North East Somerset | Castle Morpeth |
| 6 | Mid Sussex | Rushcliffe | Exeter |
| 5 | Norwich | City of London | Westminster |
| 4 | Southwark | Bridgnorth | Durham |
| 3 | Lambeth | Manchester | City of London |
| 2 | Restormel | Charnwood | Camden |
| 1 | Greenwich | Brent | Islington |

Source: DCMS Lottery Grants Database

Table 5: Standard Deviation of Lottery Funding to June 2006, by category

| | |
|--------------------------------|---------|
| Arts | 107,614 |
| Charitable Expenditure | 88,835 |
| Heritage | 119,311 |
| Millennium | 150,729 |
| Sports | 49,945 |
| Health, Education, Environment | 35,961 |

Source: DCMS Lottery Grants Database.

For Peer Review

Table 6: Model estimates for total lottery funding per head

| <i>Dependent</i> | <i>Llottph (1)</i> | <i>Llottph (2)</i> | <i>Llottph (3)</i> |
|--------------------|--------------------|--------------------|--------------------|
| Constant | 10.9 | 10.3 | 9.97 |
| AGRI | | | .097 (7.9)** |
| PROF | | .053 (8.6)** | |
| DEPRIV | .061 (16.9)** | .065 (14.3)** | .052 (16.3)** |
| LPOPDENS | -.17 (-7.5)** | -.15 (-5.8)** | |
| QUAL | 5.2 (12.7)** | | 4.6 (9.9)** |
| IL2 | 1.7 (5.6)** | 2.0 (6.2)** | 1.7 (4.0)** |
| R ² adj | 0.56 | 0.47 | 0.55 |
| F | 112.9** | 78.4** | 107.2** |

Notes: Figures in brackets are t statistics; the standard errors (and hence t statistics) for equation (3) were corrected for heteroscedasticity using the jackknife method. *indicates significance at 10% level, ** significance at 5% level.

Table 7: Model estimates for category of lottery funding per head

| <i>Dependent</i> | <i>Arts</i> | <i>Char</i> | <i>Heritage</i> | <i>Millen</i> | <i>Sports</i> | <i>Health</i> |
|--------------------|------------------|-----------------|------------------|------------------|------------------|----------------|
| Constant | 7.1 | 9.8 | 10.1 | 3.8 | 9.6 | 8.2 |
| QUAL | 10.1 (11.7)** | 4.7 (9.8)** | 7.6 (7.6)** | 12.7 (5.3)* | 3.8 (5.4)** | 2.6 (3.7)** |
| DEPRIV | .09 (11.9)** | .06 (16.4)** | .097 (10.6)** | .14 (8.1)** | .05 (7.5)** | .06 (9.6)** |
| LPOPDENS | -.2 (-4.5)* | -.2 (-9.6)** | -.50 (-9.3)** | -.36 (-3.4)** | -.17 (-4.2)** | .04 (0.9) |
| IL2 | .6 (0.9) | .84 (1.0)** | 1.9 (5.3)** | -.49 (-0.1) | .27 (.51) | .48 (0.9) |
| R ² adj | .41 | .60 | .35 | .20 | .16 | .33 |
| F | 60.45** | 130.7** | 46.8** | 21.1** | 17.0** | 43.3** |

Notes: Figures in brackets are t statistics; the standard errors (and hence t statistics) for Char, Heritage, Millen and Health were corrected for heteroscedasticity using the jackknife method *indicates significance at 10% level, ** significance at 5% level.

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