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**The Empirical Link Between Internal Audit, Contract Income
and 'Passthrough' Efficiency in the Top 500 UK Charities**

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Abstract

This conference paper discusses some of the findings from the author's PhD thesis which considers the 'marketisation' of UK charities (Bruce & Chew, 2011) and subsequent governance evolution within the sector. It is argued that the considerable flow of public funds into the sector has resulted in charities altering their behaviour through having to focus on priorities identified by government and operate in ways in which they prescribe. Also, extensive performance information is also supplied to government under contractual terms and conditions (Hyndman & Jones, 2011).

This study analyses financial statement data taken from a full set of the Charity Commission England & Wales database for years 2011 to 2013. The total income analysed represents the significant majority of the UK Charity Sector at approximately £50 billion per annum. The analysis covers £151 billion in total represented by 27,428 sets of financial results, across three reporting years and sixteen charity classifications. Sizes of organisations range significantly from one case that declared zero income right up to the largest charity with an income of £950 million. A regression model was derived from extant literature, and a smaller study conducted in New Zealand by Reddy *et al.* in 2013, in order to analyse the data.

Results of the regression analysis of the full financial data set showed a correlation between the level of contract income and operational efficiency, as defined by the traditional 'passthrough' metric, with a 1.5% increase in efficiency observed for a corresponding 10% increase in contract income (significant at 1%). This would suggest that charities driven by contractual obligations ensure the majority of income is 'passing through' to beneficiaries rather than cost savings contributing toward surplus funds. It would evidence a focus of attention on charitable goals rather than the 'commercial' behaviour of creating margins.

A sub-set of the charities was further scrutinised as to the presence of an audit committee, internal audit service, board gender diversity and board size. A 20% sample of the 'Top 500' charities (by income) was used. The charities in the sample ranged in annual income from £17million to £781million with an average (mean) income of £55 million. Results from the 'Top 500' data set analysis echoed those of the full data set with a slightly stronger correlation between contract income and operational 'passthrough' efficiency: a 2.6% increase in operational efficiency was derived from a 10% increase in contract income (significant at 1%).

A strong correlation was found between internal audit and operational 'passthrough' efficiency in the 'Top 500' charities. A 14% improvement in 'passthrough' efficiency was associated with the presence of an internal audit function (significant at 5%).

In conclusion, the argument that a considerable flow of public funds into the sector has resulted in charities altering their behaviour may be evidenced by the correlation between contract income and 'passthrough' efficiencies. Having to focus on priorities identified by the contract, and provide considerable amounts of performance data under contractual terms and conditions, appears to be increasing the focus on beneficiary outcomes. Results suggest that internal audit may play a significant role in assisting trustee boards to achieve this focus.

Keywords: internal audit, contract income, audit committee, governance, charities

The Empirical Link Between Internal Audit, Contract Income and ‘Passthrough’ Efficiency in the Top 500 UK Charities

Introduction

This conference paper discusses some of the findings from the author’s PhD thesis which considers the ‘marketisation’ of UK charities (Bruce & Chew, 2011) and subsequent governance evolution within the sector. It is argued that the considerable flow of public funds into the sector has resulted in charities altering their behaviour through having to focus on priorities identified by government, operate in ways prescribed by government and provide considerable amounts of performance data to them under contractual terms and conditions (Hyndman & Jones, 2011). With some of the larger charities receiving as much as 90% of their income from government, arguments are made that they have become ‘extensions of the state’ (Sergeant, 2016). Increasingly complex structures are being adopted by non-profit organisations in order to navigate the influences of regulatory issues and governmental policy that have generated both ‘quasi-markets’ and ‘quasi-autonomous organisations’ (Cornforth 2010). Governance systems of many third sector organisations are now ‘multi-level and multi-faceted’. Trustee boards, mostly comprising unpaid, lay persons are struggling to provide the necessary challenge and oversight of executive management in these large and complex organisations. The sector has become the focus of public scrutiny following on from financial failures in the UK and ‘public trust in charities is at its lowest for eight years’ (Civil Society, 2015).

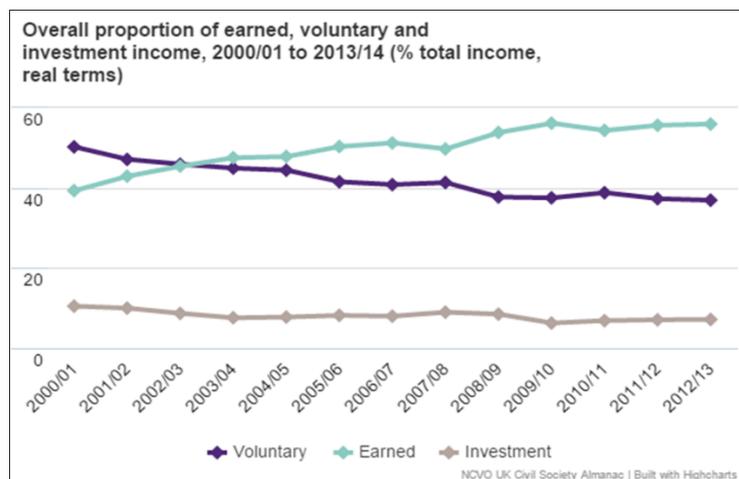
This study analyses financial statement data taken from a full set of the Charity Commission England & Wales database for years 2011 to 2013. The total income analysed represents the significant majority of the UK charity sector at approximately £50 billion per annum. The analysis covers £151 billion in total represented by 27,428 sets of financial results, across three reporting years and sixteen sectors. Sizes of organisations range significantly from one case that declared zero income right up to the largest charity with an income of £950 million. These combined to produce a mean £5.5m income per annum. A regression model was derived from extant literature, and a smaller study conducted in New Zealand by Reddy *et al.* in 2013, in order to analyse the data. A sub-set of the charities was further scrutinised as to the presence of an audit committee, internal audit service, board gender diversity and board size. This information was taken from the Annual Reports of charities to supplement the financial data in the regression model. A 20% sample of the ‘Top 500’ Charities (by income) was used. The

charities in the sample ranged in annual income from £17million to £781million with an average (mean) income of £55 million.

Background and Hypotheses

Charities are non-profit organisations that exist to provide a public benefit. They traditionally facilitated the flow of resources, including time and money, from donors to beneficiaries (Hyndman & McDonnell, 2009). However, the precise, legal definition of a charity varies across national jurisdictions (Hyndman & Jones, 2011). The UK charity sector has grown significantly in recent years with the number of UK charities increasing from 169,000 in 2006 (NCVO) to 188,000 by 2015 (Charity Commission, 2015; OCSR, 2015). Governmental influence over the last thirty years has been to try and introduce private sector, ‘market-like’ mechanisms to bring about a reform of public service provision. This was brought about by a decentralisation of service delivery and promotion of competition. The changing profile of the charity sector and the creation of new charities after the contracting out of public services has been categorised by Bruce & Chew as a ‘marketisation’ effect (2011). The marketisation trend in the UK echoes that of other developed western economies, such as the US, where market-based principles have been applied to reform public services (Eikenberry & Kluver, 2004).

Figure A: Income trend over 12 years from 2001 to 2013



UK Civil Society Almanac, NCVO 2015

Whereas previously statutory funding was delivered by way of grants, now the move is toward the use of contracts. In 2009, NCVO identified that 70% of all statutory funding was delivered via fulfilment of a contract. Earlier work by Bruce (2005) considered whether charities can

adapt to the new, market based environment without compromising their core values. The increase in trading activities in the charity sector is evidenced by the increase in ‘earned income’. As a percentage of the total income of UK charities, earned income represented 50% in 2000 and had risen to 70% by 2007 (Bruce & Chew, 2011). This is further demonstrated below showing figures up to and including 2013 (see figure A).

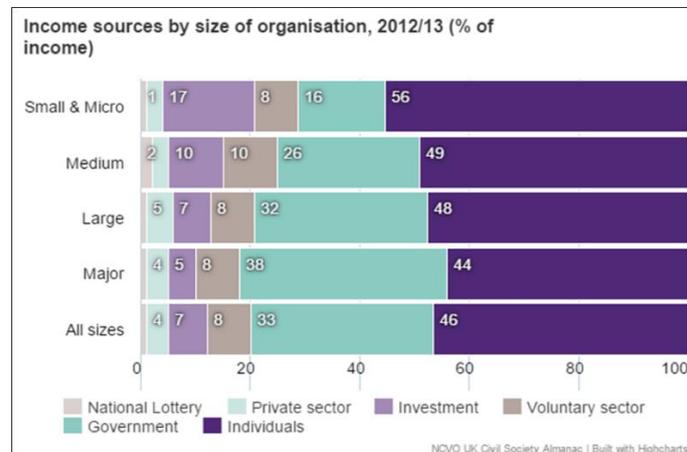
Tougher regulations and enforcement are called for by Eisenberg (2008) who states that although non-profits are ‘...fighting hard against more regulation and scrutiny...’ that there is no substitute for this. He goes further to say that self-regulation is not acceptable ‘...self-reform, however attractive to a self-indulgent charity community, is not an adequate substitute...’. Bruce & Chew (2011) agree that charities may need to adopt private sector governance and management systems to remain economically viable, and this may also affect their overall aims and objectives leading to ‘mission drift’. The ‘marketisation’ (Bruce & Chew, 2011) of the charity sector following the Big Society 2010 government initiative is discussed by Hyndman & Jones, 2011. They argue that the considerable flow of public funds into the sector has resulted in charities altering their behaviour by: having to focus on priorities identified by government; operate in ways prescribed by government; and to provide considerable amounts of performance data to government under contractual terms and conditions. In a report produced by the House of Commons Public Administration Select Committee in December 2011, *The Big Society: HC 902-1*, concerns were raised (items 43-48, pages 18-19) regarding the effect of the initiative on the voluntary sector. These concerns were centred on issues of ‘marketisation’ and the increasing commercial behaviours of non-profits in the delivery of public services. The concerns were around: **polarisation; independence; ‘mission drift’** (Bruce & Chew, 2011); **isomorphism**; the distorting effect of **new entrants chasing public contracts**; and the danger of charities becoming **agents of public policy**.

Polarisation

Concerns were raised about the likelihood of a polarisation of charitable entities according to their size and level of contracted public service contracts, with these factors causing a commercialisation of larger charities: a polarisation within the sector with “a larger gulf between large, ‘professionalised’ or ‘corporate’ charitable companies, and small, local, entirely voluntary community groups” (House of Commons Public Administration Select Committee, 2011, 18). This is something that is further investigated through the financial analysis of the Charity Commission data set, with tests aimed at showing correlations between size, levels of contract income and ‘commercial’ behaviours of charities. However, a straight forward graphical

representation is available from the NCVO publication the *UK Civil Society Almanac 2015* shown below:

Figure B: Income analysis by size of organisation 2012/ 2013



UK Civil Society Almanac, NCVO 2015

We can see that government income levels are significantly greater in the larger charities, with levels double or more those of smaller charities small charities.

Independence

Reassurance was sought that the independence of the charity sector would not be compromised. It is interesting to reflect back here on the definition of charities as used by the Office of National Statistics; this requires the charity to have independent governance which is separate from government. Harris expressed doubts about the level of independence from government exercised by charities which were heavily dependent on public contract income back in 2001. An article in The Times newspaper (Bennett, 2015) claimed that *Big charities are ‘secretly hooked on state funding’*. This article draws on details from a report issued by the ‘right-wing think tank’ Centre for Policy Studies which claims that the ‘proportion of funds that charities receive from the state is thought to have accelerated in the last decade’ (Bennett, 2015). The question as to whether charities should be independent from government is a thought-provoking one. As part of a societal lifeworld (Habermas, 1987) the charitable ‘sub-systems’ are subject to the steering media, brought about by that society, in order for it to function. These include legislation and regulation presented by government. Under such circumstances charities, as sub-systems of the whole, are never going to be wholly independent from government. However, donors making payments into charitable organisations may not wish to see their money diverted toward the achievement of politicised aims held by individual governments. The objects of a charity provide a

degree of protection here for donors, by preserving the focus of delivery of key objectives, but it is still an interesting area for discussion. Maintaining the integrity of charities by preserving focus against its objects brings us to the next concern of the committee: mission drift.

Mission-drift

The changes in government funding of charities, which has moved from grants to contracts, has been accompanied by greater performance monitoring and inspection (Cornforth, 2003). Bruce (2005) considered whether charities can adapt to the new, market based environment without compromising their core values: 'mission drift'. Later work by Bruce, in collaboration with Chew, (2011) also suggested that charities may need to adopt private sector governance and management systems to remain economically viable, and this may also affect their overall aims and objectives leading to 'mission drift'. This is reflected in the concerns raised through the committee: "charities that deliver public services are significantly less likely to agree that their charitable activities are determined by their mission rather than by funding opportunities." (House of Commons Public Administration Select Committee, 2011, 18). Hyndman & Jones (2011) state that a 'serious consideration of beneficiaries and their views' constitutes a 'vital' element of good governance in charities and that involvement of beneficiaries in decision making can help guard against mission drift.

Isomorphism

In earlier decades the discussion of isomorphism was based around normative behaviours driven by the 'signalling' of charities (Maggio & Powell, 1983; Meyer & Rowan, 1991) to suggest legitimacy to potential donors. Concerns are that as the sector changes to a 'marketised' version, isomorphic behaviours become mimetic rather than normative, as charities imitate commercial behaviours with the aim of improving cost efficiencies, rather than attempting to signal social fitness through the traditional means of lower salaries and suitable 'ethical' behaviours. As the signalling of legitimacy through traditional, charitable behaviours is overtaken by commercial style indicators of success the worry is that the traditional ethos of the sector will be overridden. When measuring success it is important to relate positive outcomes to objectives that may well be non-financial in principle. This study will consider the application of traditional charity performance metrics (passthrough ratio) against commercial style metrics that focus on generating margins through cost efficiencies with a view to considering this issue further.

New entrants purely in response to marketisation

New entrants in 2011 were observed to be more active in delivering public service contracts than the rest of the sector at that point: ‘Over half of all new charities registered with the Charity Commission between April and September 2011 have contracts to deliver public services, in comparison with only 39% of all charities as a whole.’ (House of Commons Public Administration Select Committee, 2011, 18). Levels of contract income will be analysed as part of the financial data analysis and this may be shown as a transition over the three years from 2011 to 2013.

Charities become agents of public policy

This concern further echoes the one raised over independence. As governmental influences increase charities may be used to deliver public policy. In light of the growing governmental influence in the charity sector, and the devolution of powers to organise and deliver public services, we also need to consider the influence of ‘political governance’ on charitable bodies (Rhodes, 1994; Cornforth, 2010). This is also reflected in the Habermasian view of society (1987), its sub-systems and steering media: where the charitable organisations are subsystems and steering media include regulators and governmental bodies.

Governance challenges

The changes in government funding of charities, moving from grants to contracts, has been accompanied by greater performance monitoring and inspection (Cornforth, 2003). There has also been a desire by non-profit organisations to develop new sources of income, some through commercial activities, and this large growth in earned income has implications for governance (Wilding et al., 2006; Reichart et al., 2008). The governance challenges faced by charities, and the strategies they adopt to cope with such challenges, may be influenced by a number of factors. The stage of an organisation’s development or lifecycle (Wood, 1992) and whether the organisation is facing extreme challenges may determine their approach to governance (Mordaunt & Cornforth, 2004). International Non-Governmental Organisations (INGOs) have developed inter-organisational governance arrangements to help co-ordinate activities on an international level and deal with differing legal and regulatory requirements and resource dependencies, such as the UK reliance on government contracts and partnerships (Cornforth, 2010). This echoes the ‘internal colonisation’ of steering media identified by Habermasian theory (Habermas, 1987; Broadbent & Laughlin, 2005), as discussed earlier in this section. Governance strategies for large, modern charities may involve the establishment of complex governance structures beyond the main board, the creation of subsidiary boards and

consultative structures, such as beneficiary scrutiny panels. Bruce & Chew (2011) state that 'core values' should remain the cornerstones of governance approaches in charities: altruism; compassion; charity; philanthropy; volunteerism; co-operation and collaboration. The call for improved governance practices is echoed in the study by Vernon & Stringer in 2009, *A Review of Charity Trusteeship in the UK*. It states that '...many of the things that might improve the quality of governance formalise it in a way that some trustees will find unpalatable...'. They go on to say that the power of stakeholders is insufficient to exact greater accountability '...beneficiaries, funders and regulators all have some part in this, but none of these groups currently exert enough pressure on boards to improve...' (p1). In his 2010 review of future directions for third sector governance research, Cornforth calls for an examination of '...how board structures and processes change over time and how these are influenced by internal and external contextual factors'.

Public Benefit Test

The Charities Act 2006 made it compulsory for all charities in England and Wales to pass a 'public benefit test'. This involves supplying evidence that: the beneficiaries are appropriate to the aims; the opportunity to benefit must not be unreasonably restricted; people in poverty must not be excluded from the opportunity to benefit; and any private benefits must be incidental. There are growing expectations within the public for greater transparency and accountability within charities. The Charity Commission list reputational risk as a 'major' risk element to be mitigated (Charity Commission, 2007). A 'public benefit' reporting requirement is a compulsory part of the Trustees' Annual Report and necessitated through accounting standards. In their study from 2013, Morgan & Fletcher observed that this requirement gave charities a wider accountability '...not just to their trustees, donors, or immediate service users...' but to the 'wider public'. This message of wider accountability is endorsed by the chief executive of the Charity Commission who concludes that this is entirely right because '...the entire sector benefits from indirect public support through the legal and fiscal privileges charity status confers' (Sam Younger, *Grant Thornton Charity Review*, 2013, 4).

Evolution of Charity Governance Structures

Increasingly complex structures are being adopted by non-profit organisations in order to navigate the influences of regulatory issues and governmental policy. There are two key elements that have resulted from governmental reforms over the last 30 years identified by Cornforth (2010); quasi-markets and quasi-autonomous organisations. The drive to bring competitive forces into public services has resulted in the creation of 'quasi-markets' and the

separation of the roles of ‘purchasers’ (customers) and ‘providers’ (sellers) of public services; the effects of this ‘marketisation’.

Cornforth & Simpson (2002) identified that governance structures, board size, formalisation and associated problems all varied according to organisational size. Later work by Cornforth in 2010 suggests that the governance systems of many third sector organisations are ‘multi-level and multi-faceted’.

Quasi- autonomous organisations

These are organisations created to operate semi-autonomously from government, but still be accountable to them. Powers are devolved to allow these organisations to deliver public services and examples include leisure and hospital trusts and housing associations (Mullins 2006). These changes have led to a ‘blurring of the lines’ between the public, private and third sectors. Cornforth (2003) comments on the evolution of third sector organisations to create ‘hybrids’ such as social enterprises, which pursue both social and commercial objectives. Governmental influence has been toward the construction of social enterprises since the early 2000s (DTI, 2002; Cabinet Office, 2006). They have multiple goals which include social, economic, resource and governance based aims (Chew, 2009).

Commercial groups with charitable subsidiaries

A number of social enterprises, that were specifically established to trade commercially, have created charitable subsidiaries to pursue their social aims (Spear et al., 2007). This allows them to attract the tax relief and grants only available to charities and also protect their socially motivated, charitable activities (Social Enterprise Coalition, 2007).

Charity group structures with profit making subsidiaries

A UK charity that wishes to engage in significant trading (that does not directly further its charitable objects) has, by law, to establish a separate, trading subsidiary. The decision to set up a trading subsidiary may also be made to protect charitable assets from trading risks and for tax purposes (Sladden, 2008). This results in a group structure where subsidiaries have their own separate boards, but ultimately are accountable to the charitable parent. Profits from the trading subsidiary are typically gift-aided to the parent entity on an annual basis.

Charity partnerships with commercial and governmental bodies

In a bid to address social issues there has been a move on behalf of government to create inter-organisational partnerships to deliver local and national initiatives (Newman, 2001). These have taken several structures ranging from informal networks to formally

agreed structures, terms and conditions. Renz (2006) suggests that this type of approach may no longer be sufficient and many social issues need to be addressed at a higher level.

Collaborative Agreements and Mergers

The decision by the former Housing Corporation (HC) to allocate housing development grants only to the larger, well established housing associations as ‘development partners’ led to an increase in collaborative agreements and mergers in the sector (Mullins & Pawson, 2010). This decision taken by the HC, as a public funder of subsidised, social housing, directly affected the profile of organisations in the sector, in terms of size, governance structure and organisational complexity.

Membership Associations

This structure typically consists of a set of members that elect or select a board, which is then accountable to members through annual meetings. This generates a two-tier, governance structure (Cornforth, 2010). In 2004 the Charity Commission identified that approximately half of the charities on its register had voting members, representing around 80,000 organisations. Another 20,000 charities, a further 12.5% of the total, had non-voting members. There are distinctive governance challenges when dealing with membership associations and the Charity Commission identified that they generate a greater scope for governance disputes (2004). These may arise from member relations not being managed well, membership records not being kept up to date and a non-diverse membership that is susceptible to domination by particular interest groups (Cornforth, 2010).

Federations, Confederations, Networks and Support Organisations

In a study from 2007 Brown et al. examined the governance structures of international advocacy charities. Examples of these types of organisations include, Amnesty International, Unicef and Save The Children and they are referred to as International Advocacy Non-Governmental Organisations (IANGOs). Four types of structure were identified: federations; confederations; networks; and support organisations. Federations have relatively centralised decision making processes and examples include Amnesty International and Greenpeace. Within confederations, national sub-sections have greater autonomy than the federations and they tend to concentrate on their work at a local level, for example, Oxfam International. Networks are largely autonomous organisations that share common values and information, for example,

CIVICUS. Support Organisations provide advice and support to a larger movement of networks, such as the Association for Women's Rights in Development.

Federal and Confederal Structures

These consist of independent local charities that are supported by a national charity providing a range of services. The democratic member involvement at local, regional and national levels, creates multiple layers of governance (Cornforth, 2010). These multi-level governance structures are found in national organisations, such as Mind, Citizens Advice and Age UK.

Charity SORP

The charity SORP, or Statement of Recommended Practice, provides guidance on how charity financial statements should be compiled for those accounts presented on an accruals basis. The Charity Commission and the Office of the Scottish Charity Regulator (OSCR) are authorised by the Financial Reporting Council to produce the charity SORP, in accordance with the body's reporting standards, after consultation and review with charities.

Differentiation is made between 'smaller entities' and larger charities in terms of the SORP requirements. To qualify as a **smaller entity** the charity must meet two out of three of the following criteria:

- gross income not exceeding £6.5 million;
- total assets not exceeding £3.26 million; and/or
- employs no more than 50 staff.

If differentiation is desirable for financial compliance, then maybe it follows that a similar distinction is suitable for governance.

Research Design

This analysis follows a similar approach to work undertaken by Reddy Locke and Fauzi (2013) based on registered charities in New Zealand '*Relevance of corporate governance practices in charitable organisations: A case study of registered charities in New Zealand*'.

Financial Performance Metrics

Metrics for allocative and technical efficiency are used as a proxy for 'performance' and considered through the statistical analysis of published data, obtained from the Charity Commission in 2014, representing financial years ending 2011, 2012 and 2013:

- **Traditional charity metric: Allocative efficiency (aEFF)**

Donors typically want to see a high 'passthrough' ratio, which represents the proportion of a charity's income that is ultimately distributed to beneficiaries, and this is a *standard*

indicator within the charity sector of how organisations are performing (Hyndman & Jones, 2011).

aEFF = Total costs of charitable activity provision/ Total revenue from charitable activity income and donations

(reflecting the utilisation of charity funds for beneficiary services)

A **higher** allocative efficiency represents a **higher** level of performance.

- **Commercial style metric: Technical efficiency (tEFF)**

The use of this particular metric in the Reddy et al. study is interesting as it represents more of a **commercial approach** to performance. The idea, of not expending all incoming resources, supports the concept of generating an accounting surplus or profit and is so inherently capitalistic in its nature.

tEFF= Total operating expenses/ Total revenue

A **lower** value of technical efficiency represents a **higher** level of performance.

As this study considers the ‘marketisation’ of the UK charity sector as a factor in the financial analysis it is really useful to have the two metrics representing slightly different approaches: the typical charitable focus in allocative efficiency; and more of a commercial focus in technical efficiency.

Data Set Analysed

Statistical analyses of sector data obtained from the Charity Commission England and Wales and representing financial years ending 2011 to 2013. The data set is particularly large and diverse. It represents 27,428 sets of financial results, across three reporting years and sixteen sectors. Sizes of organisations range significantly: from one case that declared zero income right up to the largest charity with an income of £950 million.

OLS regression of financial data set

An Ordinary Least Squares (OLS) regression model is used to analyse relationships between performance, in the form of the dependent variables aEFF and tEFF, as defined above. The quantitative analysis within this study relies on figures taken from financial statements.

Hypotheses (H)

H1. Contract income is positively correlated with the operational efficiency of charities.

Governmental influence over the last thirty years has been to try and introduce private sector, ‘market-like’ mechanisms to bring about greater efficiencies in public service

provision. This was introduced by a decentralisation of service delivery and promotion of competition, and in some part, by the Big Society 2010 initiative. The changing profile of the charity sector and the creation of new charities after the contracting out of public services has been categorised by Bruce & Chew as a ‘marketisation’ effect (2011). The marketisation trend in the UK echoes that of other developed western economies, such as the US, where market-based principles have been applied to reform public services (Eikenberry & Kluver, 2004). The proposition is that ‘marketisation’ leads to greater operational efficiency. Therefore the first hypothesis is that contract income is positively correlated with the operational efficiency of charities.

H2. Debt is positively correlated with the operational efficiency of charities.

There is an argument that organisations holding debt are monitored and evaluated by the debtholders, and so this provides an additional governance mechanism, through this set of key stakeholders (Reddy *et al.*, 2013; Agrawal & Knoeber, 1996; Begley & Feltham, 1999; Jensen, 1986). The proposition is that the additional governance associated with debt leads to greater operational efficiency. Therefore the second hypothesis is that debt is positively correlated with the operational efficiency of charities.

H3. Volunteerism is positively correlated with allocative efficiency in charities.

Cordery *et al.* (2011) argue that the presence of volunteers can provide an important bond between charities and their communities, so strengthening stakeholder accountability. However, Hyndman & Jones (2011) warn that the major benefits volunteers bring to charities, such as focus, passion and legitimation, may not be adequately reflected in standard performance metrics. It is proposed that volunteers regularly monitor the actions of decision makers, against outcomes of the charitable organisation, to ensure their effort is utilised in an efficient manner and *specifically* to deliver charitable services (Reddy *et al.*, 2013). Therefore the third hypothesis is that volunteerism is positively correlated with the *allocative* efficiency of charities.

H4. Governance processes are positively correlated with the operational efficiency of charities.

In their study from 2009 (1), *A Review of Charity Trusteeship in the UK*, Vernon & Stringer state that ‘...in practice, many large charities are run exclusively by their management...’. The study calls for funders to exert greater pressure on charities to evidence ‘good governance’ practices through bringing it in to selection processes for grants. Messner (2009) also echoes the need for charities to guard against management

acting in their own self-interest. The changes in government funding of charities, which has moved from grants to contracts, has been accompanied by greater performance monitoring and inspection (Cornforth, 2003). Earlier work by Bruce (2005) considered whether charities can adapt to the new, market based environment without compromising their core values. Later work by Bruce in collaboration with Chew (2011) also suggested that charities may need to adopt private sector governance and management systems to remain economically viable. The proposition is that governance processes lead to greater operational efficiency. Therefore the fourth hypothesis is that governance expenditure is positively correlated with the operational efficiency of charities.

H5. Competition within the charity sector is positively correlated with operational efficiency.

The promotion of competition by the Big Society 2010 initiative and the subsequent changing profile of the charity sector, after the contracting out of public services, has been categorised by Bruce & Chew as a ‘marketisation’ effect (2011). The marketisation trend in the UK echoes that of other developed western economies, such as the US, where market-based principles have been applied to reform public services (Eikenberry & Kluver, 2004). The proposition is that increased competition through ‘marketisation’ leads to greater operational efficiency. Therefore the fifth hypothesis is that competition is positively correlated with the operational efficiency of charities. The proxy used for competition is the level of costs associated with raising donations, such as advertising expenditure, which should rise as charities compete for donor income.

Control for Size

The data set represents financial information from around 8,000 charities over the three years from 2011-13. The total number of charity-years is 27,428. Within this set the size of organisations varies considerably. To control for size within the model two measures are introduced: Total Assets (TA); and Total Income (TINC).

Control for Sector

Different charity sectors may have been influenced to a lesser or greater extent by marketisation. Inclusion of the control for sector allows for this influence to be tested and also to test the effect this has upon performance.

Model specification

Ordinary least squares regression is used to analyse panel data for the years 2011-2013 and measure the effect of the independent variables on charity performance.

The following panel data model was estimated prior to the findings:

$$PERF = \alpha + \beta_1 CONT + \beta_2 LEV + \beta_3 VOL + \beta_4 GOV + \beta_5 ADV + \beta_6 SIZE + \sum_{i=1}^T \beta Sect i + e$$

PERF is the charities efficiency measured by tEFF and aEFF; *SIZE* = Ln(TA) or LN(TINC); T = 16; I = range 1 to 16, and the independent variables are defined as: *CONT* = Proportion of income derived from charitable contracts; *LEV* = Proportion of debt to total assets; *VOL* = Proportion of total workforce comprised from volunteers; *GOV* = Proportion of total expenditure assigned to governance; *ADV* = Proportion of expenditure to facilitate voluntary income; *SIZE* = Ln(TA) Reflection of size using total assets (natural log); or = Ln(TINC) Reflection of size using total income (natural log); *SECT* = Charity commission classifications ranging from 101 to 116

Dependent variables (DV)

There are two dependent variables included in this data analysis as proxies for performance (PERF):

DndVI. Allocative efficiency [aEFF]

Reflecting the utilisation of charity funds for beneficiary services

= Total costs of charitable activity provision

Total revenue

A **higher percentage** indicates a greater allocative efficiency.

In terms of the regression model it would be expected that where we see a positive correlation between [aEFF] and the independent variables this would indicate a positive correlation with performance. Donors typically want to see a high 'passthrough' ratio, which represents the proportion of a charity's income that is ultimately distributed to beneficiaries, and this is a **standard indicator** within the charity sector of how organisations are performing (Hyndman & Jones, 2011).

DndV2. Technical efficiency

Percentage of operating expenses compared to total revenue

= Total operating expenses

Total revenue

A ***lower percentage*** indicates a greater technical efficiency.

In terms of the regression model it would be expected that where we see a positive correlation between [tEFF] and the independent variables this would indicate a *negative* correlation with performance. The use of this particular metric in the Reddy et al. study is interesting as it represents more of a ***commercial approach*** to performance. The idea, of not expending all incoming resources, supports the concept of generating an accounting surplus or profit and is so inherently capitalistic in its nature.

Independent variables (*IndV*)

IndV1. Contract Income (CONT)

Proportion of income derived from charitable contracts defined as:

= Charitable contract income

Total income

Rationale for inclusion in the model

The marketisation trend in the UK echoes that of other developed western economies, such as the US, where market-based principles have been applied to reform public services (Eikenberry & Kluver, 2004). Whereas previously statutory funding was delivered by way of grants, now the move is toward the use of contracts. In 2009, NCVO identified that 70% of all government funding in this area was delivered via fulfilment of a contract. The proportion of income derived through contractual obligations is an indicator of the level of marketisation (Bruce & Chew, 2011) experienced by charitable organisations. The changes in government funding of charities, which has moved from grants to contracts, has been accompanied by greater performance monitoring (Cornforth, 2003). The introduction of market-like mechanisms was ultimately to improve performance.

Inclusion of this variable tests for correlation between increased marketisation and improved performance.

IndV2. Leverage (LEV)

Proportion of debt defined as:

$$= \frac{\text{Long term debt}}{\text{Total net assets}}$$

Rationale for inclusion in the model

There is an argument that organisations holding debt are monitored and evaluated by the debtholders, and so this provides an additional governance mechanism, through this set of key stakeholders (Reddy *et al.*, 2013; Agrawal & Knoeber, 1996; Begley & Feltham, 1999; Jensen, 1986). The proposition is that the additional governance associated with debt leads to greater operational efficiency.

Inclusion of this variable tests for improvements in performance generated through the additional oversight of debtholders as key stakeholders.

IndV3. Volunteerism (VOL)

Proportion of total workforce comprised from volunteers defined as:

$$= \frac{\text{Number of volunteers}}{\text{Total number of staff and volunteers}}$$

Rationale for inclusion in the model

Volunteers regularly monitor the actions of decision makers, against outcomes of the charitable organisation, to ensure their effort is utilised in an efficient manner and *specifically* to deliver charitable services (Reddy *et al.*, 2013). Larger and well established charities are adopting private sector management styles and employing greater numbers of paid staff instead of relying on volunteers (Bruce & Chew, 2011). Cordery *et al.* (2011) argue that the presence of volunteers can provide an important bond between charities and their communities, so strengthening stakeholder accountability. However, Hyndman & Jones (2011) warn that the major benefits volunteers bring to charities, such as focus, passion and legitimation, may not be adequately reflected in standard performance metrics. Inclusion of this variable tests for improvements in performance generated through the additional oversight of volunteers as key stakeholders.

IndV4. Governance Expenditure (GOV)

Proportion of total expenditure assigned to governance defined as:

$$= \frac{\text{Governance expenditure}}{\text{Total operational expenditure}}$$

Rationale for inclusion in the model

Bruce & Chew (2011) suggest that charities may need to adopt private sector governance and management systems to remain economically viable. Inclusion of this variable tests for improvements in performance generated through a greater organisational focus on governance.

IndV5. Advertising and non-trading fundraising (ADV)

Proportion of expenditure used to facilitate voluntary income defined as:

$$\frac{\text{Voluntary income costs}}{\text{Total operational expenditure}}$$

Rationale for inclusion in the model

Hind states that the annual income of charities in England and Wales alone was in excess of £50 billion in his paper of 2011. This has created an increasingly competitive ‘market’ for charities in terms of attracting donors, other funding, volunteers and sector specific resources. It is speculated whether increased competition, through such ‘marketisation’, leads to greater operational efficiency. The proxy used for competition is the level of costs associated with raising donations, such as advertising expenditure, which should rise as charities compete for donor income.

Inclusion of this variable tests for improvements in performance generated through increased competition in the sector.

IndV6a. Control for Size - ASSETS (Ln (TA))

Reflection of size using total assets defined as:

$$\text{Natural log (Ln) of Total assets}$$

IndV6b. Control for Size - Income (Ln (TINC))

Reflection of size using total income defined as:

$$\text{Natural log (Ln) of Total income}$$

Rationale for inclusion in the model

The data set represents financial information from around 8,000 charities over the three years from 2011-13. The total number of charity-years is 27,428. Within this set the size of organisations varies considerably. To control for size within the model two measures are introduced: Total Assets (TA); and Total Income (TINC).

IndV - Control for sectorial effect

Reflection of sector influence using dummy variables (equal to ‘1’ if charity belongs to this sector, otherwise ‘0’) as shown in adjacent table:

Rationale for inclusion in the model

Different charity sectors may have been influenced to a lesser or greater extent by marketisation. Inclusion of the control for sector allows for this influence to be tested and also to test the effect this has upon performance.

Data and data sources for financial analysis

The data for this research study was obtained from the Charity Commission England & Wales and represents the financial years ending 2011, 2012 and 2013. It is their complete set of data for these three years and includes 27,428 charity-year sets of financial data.

The financial data is that included in their Financial Statements as regulated by Financial Reporting and Accounting Standards and the Charities SORP 2005. On average, around 9,000 charities are included for each of the three financial years resulting in the 27,428 sets of data.

The publicly available data from the Register of Charities is subject to the terms of the Open Government Licence available online at the National Archive website:

<http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/>

Table I: Charity Sector Classifications

[SECT 101] – General purposes
Examples of charities listed as active in this sector include The Rotary Club, Relate and many memorial trusts dedicated to named individuals.
[SECT 102] – Education
Charities listed in this sector include The British Safety Council, research scholarships and lecture funds, and educational trusts and funds. Many private schools are part of this sector including the Westminster School and Cheltenham College.
[SECT 103] - Health
Charities included here are Marie Curie Cancer, Leukaemia & Lymphoma Research and the British Pregnancy Advisory Service.
[SECT 104] - Disability
Example charities from this sector include Scope, and Action for Children and Mencap.
[SECT 105] – Relief of poverty

The Oasis Charitable Trust, the Voluntary Service Overseas (VSO) and the Shaw Trust are all active in this sector.
[SECT 106] – Overseas aid
Examples of charities in this sector include Wateraid, Oxfam and Save the Children.
[SECT 107] - Housing
This sector includes the Single Homeless Project, Together, and many Housing Trusts, including the Wrekin Housing Trust.
[SECT 108] – Religious
Charities included here are the Salvation Army, Methodist Church in Great Britain and the Samaritan’s Purse.
[SECT 109] - Arts
Includes the Conservatoire for Dance & Drama, Wales Millenium Centre, and the Royal Academy of Arts.
[SECT 110] – Sport
The London Marathon, Hertsmere Leisure and the Professional Footballers’ Association are all participate in this sector.
[SECT 111] - Animals
Examples here include the Dogs Trust, RSPCA (Royal Society for the Prevention of Cruelty to Animals) and the WWF (World Wildlife Fund).
[SECT 112] - Environment
The Wildfowl and Wetlands Trust is part of both sectors 111 and 112. The Conservation Volunteers and Practical Action are also active in sector 112.
[SECT 113] – Community development
The Energy Saving Trust, the Anchor Trust and Walsall Housing Group are all participants in the Community Development sector.
[SECT 114] – Armed forces
This sector includes Help for Heroes, the ‘Lest We Forget’ Association and the Honorable Artillery Company.
[SECT 115] – Human rights
Examples here include Amnesty International, Anti-Slavery International and the Islamic Unity Society.
[SECT 116] – Recreation
The Guide Association, Womens Institute and Scout Groups all come under this heading.

Note: where charities operate in more than one sector each entry is included.

Pairwise correlation of the independent and control variables

The independent and control variables were tested for the likelihood of multicollinearity, which if found would undermine the reliability of the model. The highest correlation was found between the independent variables relating to size: Ln (TA) and Ln(TINC). These had a positive correlation coefficient of 0.549 (significant at 1%) and is entirely to be expected. Those charities with a large asset base also will typically generate large amounts of income. This is also in keeping with findings of the study by Reddy et al. (2013) where the coefficient of correlation between these two variables was found to be 0.528 (also significant at 1%). The next highest correlation was a negative one between the level of contract income (CONT) and the level of advertising expenditure (ADV). Again, this is to be expected, as charities with high levels of contract income will not necessarily be pursuing public donations, through advertising, as ardently as peers without a fixed income. Other correlations range between 0.000 and 0.335. None of the coefficients of correlation between independent variables are higher than 0.550 and so the possibility of multicollinearity is low.

Findings and regression results: full financial data set

Variability within the full financial data set

Low levels of R² reflect high variability within the data and makes the model limited in its use as a predictive tool for individual charities. This is to be expected due the ranges of organisations involved. It does not, however, detract from the underlying relationships and patterns that have been established through the model and shown to be of high significance (most at the 1% level).

The adjusted R² figure is a variation of R² that regulates for the number of terms in a model. R² will always increase when a new term is added to a model, but adjusted R² only increases if the new term develops the model more than would be likely by chance. As both versions are virtually identical in both models this shows that the addition of extra terms has not just automatically increased the R² by chance. These analytics are purely financial and so it is not unexpected that other, qualitative factors may affect efficiencies to a greater extent than those provided through a financial analysis.

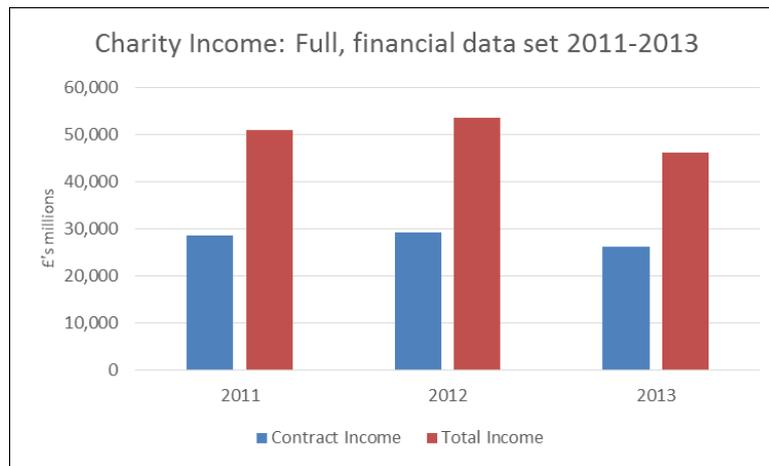
Descriptive Statistics

The charities in the sample covered a range in annual income from £0 to £951 million with an average (mean) income of £5.5 million. Volunteers made up 18% (mean) of the total workforce. Expenditure on advertising and fundraising was 3.4% (mean) of total operating costs and 2.0% (mean) of total operating costs was also spent on governance. The assets of the

charities ranged from £0 to £15 billion with an average level of £13 million (mean). Please refer to table x for a more complete analysis of the descriptive statistics for the variables.

The financial data analysed represents a significant sub-section of the total UK charity sector and accounts for around £50 billion of income annually. A way to consider the level of marketisation in the sector is to identify the level of income generated under ‘commercial’ style contractual arrangements. As can be seen in the chart below (figure C) levels of total income and contract income were fairly static over the period 2011 to 2013 with a slight fall in income overall in 2013.

Fig C: Full, financial data set analysis of income 2011 to 2013



Source: Author

OLS regression results: full financial data set

Improved ‘passthrough’ efficiency (positive correlations)

Two of the independent variables have positive correlations with aEFF: CONT; and Ln(TA); therefore indicating their link to improved allocative efficiency. Refer to column two in table III for betas relating to the aEFF model.

Contract income ⇒ improved allocative efficiency

The most substantial *positive* correlation we can see is that **CONT** (proportion of income derived from contracts) has a positive coefficient of 0.146 which is statistically significant at the 1% level. This means that an increase of 10% in the proportion of income generated through contractual activities in a charity could increase their allocative efficiency by 1.5%. Whilst this might seem a small increase, the allocative efficiency (passthrough rate) is generally the key performance metric for charities, and charities will already be striving to keep this at its highest level. We can see from the descriptives for the model variables that

the mean value for allocative efficiency in the sector is 84%. Small, incremental increases in this metric are noteworthy.

Total assets ⇒ improved allocative efficiency

Again, in column two of table x we find the β for **Ln(TA)** representing the size of the asset base of a charity. This also shows a *positive* correlation with allocative efficiency, of 0.016, significant at the 1% level. This corresponds with the findings of Reddy *et al.* (2013), where Ln(TA) was also found to be positively correlated with allocative efficiency with a higher β of 0.196 significant at the 10% level.

Reduced ‘passthrough’ efficiency (negative correlations)

Four of the independent variables have negative correlations with aEFF: (GOV; ADV; VOL and Ln(TINC)); therefore indicating their link to reduced allocative efficiency. Refer to column two in table III for β etas relating to the aEFF model.

Governance expenditure ⇒ reduced allocative efficiency

The highest *negative* correlation with allocative efficiency is shown to be **GOV** (proportion of total expenditure assigned to governance) with a value of -1.497, significant at the 1% level. Bruce & Chew (2011) suggest that charities may need to adopt private sector governance and management systems to remain economically viable and this variable was included to reflect a stronger focus on governance and maturity of established governance processes. The result indicates that for a 1% increase in the proportion of governance expenditure a corresponding 1.5% fall in allocative efficiency might be expected. The mean level of expenditure on governance is shown in the table of descriptives to be around 2% of operating expenditure. So, for example, if we were to increase the variable GOV by 1% we are essentially doubling the level of governance spend in the charity. Although this helps to provide context in terms of scale, the negative aspect of the correlation is unambiguous and statistically significant across this very large sample of 27,428 entries. This is an intriguing result and one that was not expected. The hypothesis offered was that: ‘*H4. Governance processes are positively correlated with the operational efficiency of charities*’. It may be that higher governance costs, which include: ‘...internal and external audit, legal advice for trustees and costs associated with constitutional and statutory requirements e.g. the cost of trustee meetings and preparing statutory accounts’ (Charity Commission SORP, 2005) may also be linked to larger board size and so increased board member

expenses. This is something that may be explored further when the content analyses of the sample charities' Annual Reports are added to the financial data.

Advertising expenditure ⇒ reduced allocative efficiency

In column two of table III we see the next most substantial negative correlation with allocative efficiency in the form of **ADV** (proportion of expenditure to facilitate voluntary income eg. Advertising and fundraising). This was included as a representative of the level of competition in the charity sector. The rationale being that increasing levels of advertising are required to fight for donations as the sector becomes more competitive.

The β is negative and has a value of -0.981 which is significant at the 1% level. This would indicate that increases in competition within the sector have a negative effect on the allocative efficiency of charities and that an increased costs, incurred through extra advertising, directly effect the amount of money passing through to beneficiaries. The metric implies almost a one-for-one relationship where a 1% increase in ADV produces a 1% decline in aEFF.

Voluntary staff ⇒ reduced allocative efficiency

The third *negative* correlation we will consider is the one between allocative efficiency and **VOL** (proportion of total workforce comprised from volunteers). The β is -0.047 and again, is significant at the 1% level. This finding does tally with the result from the Reddy *et al.* study (2013) although their result was not shown to be statistically significant and so not referred to for the purposes of this analysis. Here is another intriguing result and one that was not expected. The hypothesis offered was that: '*H3. Volunteerism is positively correlated with allocative efficiency in charities*'.

Total income ⇒ reduced allocative efficiency

The final variable, that has a *negative* correlation with allocative efficiency, is that of **Ln(TINC)** which represents the size of charity by means of its total income. The β is -0.042 and is significant at the 1% level. This finding is also in line with the result from the Reddy *et al.* study (2013) although, again, their result was not found to be statistically significant and so not referred to for the purposes of this analysis.

Table II: Descriptive statistics of the full financial data set

Variable	Mean	Median	Minimum	Maximum	Interquartile range
<i>Dependent</i>					
tEFF	1.16	1.11	-0.31	68.90	0.99-1.27
aEFF	0.84	0.90	-0.53	60.02	0.72-0.98
<i>Control</i>					
CONT	0.50	0.56	0.00	1.02	0.00-0.94
LEV	0.47	0.00	-0.10	1,589	0.00-0.04
VOL	0.18	0.00	0.00	1.00	0.00-0.25
GOV	0.02	0.01	-1.63	1.00	0.00-0.02
ADV	0.034	0.000	-0.19	1.66	0.00-0.02
<i>Size</i>					
TINC	£ 5,495,812	£ 1,404,885	£0	£ 951,392,000	£0.79bn-£3.6bn
TA	£ 12,901,623	£ 1,443,850	£0	£ 15,041,152,752	£0.45bn-£5.74bn
<i>Sector</i>					
101	0.26	0.00	0.00	1.00	
102	0.66	1.00	0.00	1.00	
103	0.27	0.00	0.00	1.00	
104	0.22	0.00	0.00	1.00	
105	0.23	0.00	0.00	1.00	
106	0.06	0.00	0.00	1.00	
107	0.15	0.00	0.00	1.00	
108	0.16	0.00	0.00	1.00	
109	0.16	0.00	0.00	1.00	
110	0.11	0.00	0.00	1.00	
111	0.03	0.00	0.00	1.00	
112	0.12	0.00	0.00	1.00	
113	0.19	0.00	0.00	1.00	
114	0.01	0.00	0.00	1.00	
115	0.03	0.00	0.00	1.00	
116	0.04	0.00	0.00	1.00	

Notes: CONT is the proportion of total income derived from charitable contracts. LEV is the proportion of long term debt against total assets. VOL is the proportion of total workforce comprised of volunteers. GOV is the proportion of total expenditure assigned to governance. ADV is the proportion of expenditure used to generate voluntary income. Ln (TINC) is the natural log of the charity's total income. Ln (TA) is the natural log of the charity's total assets. Sector 101 is a dummy variable equal to '1' if a charity is one of general purpose, otherwise '0'. Sector 102 is a dummy variable equal to '1' if a charity belongs to the education sector, otherwise '0'. Sector 103 is a dummy variable equal to '1' if a charity belongs to the health sector, otherwise '0'. Sector 104 is a dummy variable equal to '1' if a charity belongs to the disability sector, otherwise '0'. Sector 105 is a dummy variable equal to '1' if a charity belongs to the poverty relief sector, otherwise '0'. Sector 106 is a dummy variable equal to '1' if a charity belongs to the overseas aid sector, otherwise '0'. Sector 107 is a dummy variable equal to '1' if a charity belongs to the housing sector, otherwise '0'. Sector 108 is a dummy variable equal to '1' if a charity belongs to the religious sector, otherwise '0'. Sector 109 is a dummy variable equal to '1' if a charity belongs to the arts sector, otherwise '0'. Sector 110 is a dummy variable equal to '1' if a charity belongs to the sport sector, otherwise '0'. Sector 111 is a dummy variable equal to '1' if a charity belongs to the animal sector, otherwise '0'. Sector 112 is a dummy variable equal to '1' if a charity belongs to the environment sector, otherwise '0'. Sector 113 is a dummy variable equal to '1' if a charity belongs to the community sector, otherwise '0'. Sector 114 is a dummy variable equal to '1' if a charity belongs to the armed forces sector, otherwise '0'. Sector 115 is a dummy variable equal to '1' if a charity belongs to the human rights sector, otherwise '0'. Sector 116 is a dummy variable equal to '1' if a charity belongs to the recreation sector, otherwise '0'.

Table III: OLS regression results: full financial data set

	aEFF β	Std. Error	tEFF β	Std. Error
Constant	1.201***	0.055	1.777***	0.066
(t-value)	(21.93)		(26.76)	
CONT	0.146***	0.012	0.085***	0.014
	(12.38)		(5.94)	
LEV	-0.000	0.000	0.000	0.000
	(-0.76)		(0.76)	
VOL	-0.047***	0.013	0.030*	0.016
	(-3.47)		(1.85)	
GOV	-1.497***	0.077	-1.245***	0.093
	(-19.45)		(-13.34)	
ADV	-0.981***	0.043	-0.242***	0.053
	(-22.56)		(-4.59)	
Ln(TINC)	-0.042***	0.005	-0.069***	0.006
	(-9.21)		(-12.45)	
Ln(TA)	0.016***	0.003	0.025***	0.003
	(6.42)		(8.06)	
Sector dummies	Yes		Yes	
F-value	61.96***		21.56***	
(p-value)	(0.000)		(0.000)	
Adjusted R squared	0.049		0.017	
(R squared)	(0.049)		(0.018)	
n	27423		27423	

Notes: CONT is the proportion of total income derived from charitable contracts. LEV is the proportion of long term debt against total assets. VOL is the proportion of total workforce comprised of volunteers. GOV is the proportion of total expenditure assigned to governance. ADV is the proportion of expenditure used to generate voluntary income. Ln (TINC) is the natural log of the charity's total income. Ln (TA) is the natural log of the charity's total assets. Sector 101 is a dummy variable equal to '1' if a charity is one of general purpose, otherwise '0'. Sector 102 is a dummy variable equal to '1' if a charity belongs to the education sector, otherwise '0'. Sector 103 is a dummy variable equal to '1' if a charity belongs to the health sector, otherwise '0'. Sector 104 is a dummy variable equal to '1' if a charity belongs to the disability sector, otherwise '0'. Sector 105 is a dummy variable equal to '1' if a charity belongs to the poverty relief sector, otherwise '0'. Sector 106 is a dummy variable equal to '1' if a charity belongs to the overseas aid sector, otherwise '0'. Sector 107 is a dummy variable equal to '1' if a charity belongs to the housing sector, otherwise '0'. Sector 108 is a dummy variable equal to '1' if a charity belongs to the religious sector, otherwise '0'. Sector 109 is a dummy variable equal to '1' if a charity belongs to the arts sector, otherwise '0'. Sector 110 is a dummy variable equal to '1' if a charity belongs to the sport sector, otherwise '0'. Sector 111 is a dummy variable equal to '1' if a charity belongs to the animal sector, otherwise '0'. Sector 112 is a dummy variable equal to '1' if a charity belongs to the environment sector, otherwise '0'. Sector 113 is a dummy variable equal to '1' if a charity belongs to the community sector, otherwise '0'. Sector 114 is a dummy variable equal to '1' if a charity belongs to the armed forces sector, otherwise '0'. Sector 115 is a dummy variable equal to '1' if a charity belongs to the human rights sector, otherwise '0'. Sector 116 is a dummy variable equal to '1' if a charity belongs to the recreation sector, otherwise '0'.

*,**,*** significant at the 10,5 and 1 percent levels respectively

The comparative betas for size, between assets and income, are found to be at odds in terms of their relationship with allocative efficiency in both studies (although not proved to be significant in the Reddy *et al.* study). This indicates that a larger annual revenue reduces allocative efficiency whilst a larger asset base increases it, albeit, in relatively small measures.

The results for **LEV** are not shown to be significant and so do not figure in the revised model for allocative efficiency.

Improved ‘commercial’ efficiency (negative correlations)

Three of the independent variables have negative correlations with tEFF: (GOV; ADV; and Ln(TINC)); therefore indicating their link to improved technical efficiency. Refer to column four in table III for betas relating to the tEFF model.

Governance expenditure ⇒ improved technical efficiency

The leading independent variable exhibiting a negative beta is **GOV** (proportion of total expenditure assigned to governance) with a value of -1.245, significant at the 1% level. As discussed earlier, Bruce & Chew (2011) suggest that charities may need to adopt private sector governance and management systems to remain economically viable due to marketisation forces within the sector. The β indicates that if the proportion of expenditure made against governance processes increases by 1% then technical efficiency increases by 1.2%. The mean level of expenditure on governance is shown in the table of descriptives to be around 2% of operating expenditure. So, for example, if we were to increase the variable GOV by 1% we are essentially doubling the level of governance spend in the charity. This would only produce a minor *improvement* in technical efficiency of 1.2% but the relationship is clear and also highly significant within the model. The link is here between the ‘commercial’ style performance metric (tEFF) and commercialised behaviours in the form of stronger and established governance processes.

Advertising expenditure ⇒ improved technical efficiency

The next independent variable exhibiting a negative beta is **ADV** (proportion of expenditure to facilitate voluntary income eg. Advertising and fundraising) with a β value of -0.242, again significant at the 1% level. As discussed before this was included as a representative of the level of competition in the charity sector. The rationale being that increasing levels of advertising are required to fight for donations as the sector

becomes more competitive. This result also highlights the link between an *improved* ‘commercial’ style performance metric (tEFF) and commercialised behaviours in the form of higher levels of advertising in a competitive ‘market’.

Total income ⇔ improved technical efficiency

The third independent variable displaying a negative beta is **Ln(TINC)** which represents the size of charity by means of its total income. The β is -0.069 and is significant at the 1% level. This result shows that higher levels of income are associated with *improved* technical efficiency.

Reduced ‘commercial’ efficiency (positive correlations)

Three of the independent variables have positive correlations with tEFF: (CONT; Ln(TA) and VOL; therefore indicating their link to reduced technical efficiency. Refer to column four in table III for betas relating to the tEFF model.

Contract income ⇔ reduced technical efficiency

The first independent variable displaying a positive beta is **CONT** (proportion of total expenditure assigned to governance) with a value of 0.085, significant at the 1% level. This means that an increase of 8.5% in the proportion of income generated through contractual obligations in a charity would *reduce* their ‘commercial’ style margins by 0.1%. Although the amounts involved are low the relationship across the sector is established by the high significance level. This corresponds with the earlier findings regarding aEFF and its links to the passthrough ratio. It shows that charities are driven by contractual obligations to ensure the majority of income is ‘passing through’ to beneficiaries and that cost savings are not just contributing toward surplus funds.

Total assets ⇔ reduced technical efficiency

The second independent variable displaying a positive beta is **Ln(TA)** representing the size of the asset base of a charity. This also shows a β of 0.025, significant at the 1% level. Again, this echoes the results of the aEFF model showing that charities with a larger asset base are more likely to favour higher ‘passthrough’ rates rather than generating excess surpluses.

Volunteer staff ⇔ reduced technical efficiency

The third independent variable displaying a positive beta is **VOL** (proportion of total workforce comprised from volunteers). The β is 0.030 and is significant at the 10% level. This result is less statistically significant but would point toward a high proportion

of volunteers resulting in a less ‘commercially’ efficient workforce, despite their obvious advantage in terms of salary savings.

The results for **LEV** are not shown to be significant and so do not figure in the model for technical efficiency.

Summary of findings with relation to hypotheses: full financial data set

H1. Contract income is positively correlated with the operational efficiency of charities.

A positive correlation with ‘passthrough ratio’ performance metric (aEFF) has been established. With an increase of 10% in the proportion of income generated through contractual activities in a charity could increase their allocative efficiency by 1.5%. This would evidence a focus of attention on organisational goals rather than ‘commercial’ type behaviours of cost efficiencies and margins. *It shows that charities are driven by contractual obligations to ensure the majority of income is ‘passing through’ to beneficiaries rather than cost savings just contributing toward surplus funds.*

H2. Debt is positively correlated with the operational efficiency of charities.

Although the prior theorisation would indicate a connection between levels of debt, monitoring activities and improved performance, *no evidence was found to in this study to substantiate the prior theorisation.*

H3. Volunteerism is positively correlated with allocative efficiency in charities.

Hyndman & Jones (2011) warn that the major benefits volunteers bring to charities, such as focus, passion and legitimation, *may not be adequately reflected in standard performance metrics* and maybe this is reflected in the findings.

However, high levels of volunteer staff may lead to reduced efficiency according to the results of both metrics, both aEFF and tEFF, and possibly *reduced costs may be offset by reduced efficiencies and productivity.*

H4. Governance processes are positively correlated with the operational efficiency of charities.

The link is here between the ‘commercial’ style performance metric (tEFF) and commercialised behaviours in the form of stronger governance processes. Using governance expenditure as a

proxy an increased focus on governance is shown to be correlated with commercial style technical efficiency. However, there is a negative effect on the traditional charitable 'passthrough' ratio.

H5. Competition within the charity sector is positively correlated with operational efficiency.

The level of advertising a charity feels is necessary is used as an indicator of the strength of competition that it encounters in its area of operation. Advertising expenditure is positively associated with the 'commercial' style technical efficiency metric indicating that the competitive pressure these charities feel is leading them to behave commercially. *However, increased competition, exhibited through strengthened advertising, had a substantial, negative effect on the 'passthrough' metric (aEFF) with an almost a one-for-one relationship where a 1% increase in ADV produces a 1% decline in aEFF.*

How did the size of a charity affect the results?

Larger charities with significant turnover are shown to exhibit commercial style behaviours that focus on cost efficiencies rather than traditional 'passthrough' approaches.

In contrast, larger charities with significant asset bases are less concerned with creating margins and building reserves, and tend toward the traditional 'passthrough' model.

Was there a sectorial influence?

Sectors with a leaning toward a traditional 'passthrough' efficiency

Sectors that showed significant correlations with aEFF were as follows:

Health 103 ($\beta = 0.033^{***}$), Overseas Aid 106 ($\beta = 0.077^{***}$) and the Arts 109 ($\beta = 0.050^{***}$).

Sectors with a leaning toward a 'commercial' efficiencies

Sectors that showed significant correlations with tEFF were as follows:

General 101 ($\beta = -0.027^{**}$), Relief of poverty ($\beta = -0.045^{***}$), Religious 108 ($\beta = -0.062^{***}$) and the Armed forces 114 ($\beta = -0.162^{**}$)

The largest significant beta in any sector/ model was 0.077 and so sectorial influences accounted for a relatively minor part of the model.

Limitations of findings of financial data set

The Reddy *et al.* study of charity commission data in New Zealand (2013) included independent variables based upon the number of board members and the gender diversity of those members. In order to supplement and enhance findings from the financial data in this study, the qualitative elements used by Reddy *et al.*, when added, should help to explain the causative factors not identified by the financial model. Therefore, the addition of further, qualitative factors should strengthen the model.

‘Top 500’ sample

In order to supplement and enhance findings from the financial data, other elements were added to help explain the causative factors not identified by the financial model. These factors included the number of board members (BDS); the gender diversity of those members (GDIV); the presence of an audit committee (AC) and also that of an internal audit service (IA). The information was taken from the charities’ Annual Reports in the financial year ending 2013.

Model specification

Ordinary least squares regression is used to analyse panel data for the years 2011-2013 and measure the effect of the independent variables on charity performance.

The following panel data model was estimated prior to the findings:

$$PERF = \alpha + \beta_1 BDS + \beta_2 GDIV + \beta_3 AC + \beta_4 IA + \beta_5 CON \\ + \beta_6 VOL + \beta_7 GOV + \beta_8 ADV + \beta_9 SIZE + \sum_{i=1}^T \beta Sect i + e$$

Annual Reports for non-financial data

The Reddy *et al.* study of charity commission data in New Zealand (2013) included independent variables based upon the number of board members and the gender diversity of those members. To complement the analysis further, information was also gathered on the presence of an audit committee and provision of an internal audit service within the sample charities. Variable identifiers for these elements are as follows: number of board members (BDS); gender diversity of those members (GDIV); audit committee (AC) and internal audit service (IA). In order to include these elements in this study a representative sample was taken and the information taken from the charities’ Annual Reports in the financial year ending 2013.

Additional Hypotheses

H6. Large board size is negatively correlated with operational efficiency in charities.

This hypothesis is based upon the findings of Reddy *et al.* (2013) where reduced performance (tEFF) was shown through statistical analysis to be significant at the 5% level with a β of 0.066. Whilst previous research had remained generally inconclusive about the relationship between board composition and performance there is a collection of works that argue that an inverse relationship exists between the two factors. Reddy *et al.* found statistical evidence, in their charity research from 2013, that larger boards tend to reduce efficiency. They cite earlier findings by Eisenberg *et al.* (1998), Hossain *et al.* (2001) and their own earlier study from 2008 as suggesting links between larger boards and reduced financial performance. Taking an agency based perspective, Osterloh & Rota (2002) argue that in order to reduce the ability of some board members to take a ‘free ride’, whilst others take on all the monitoring work, a board should have less than six members. They should avoid the board becoming ‘unwieldy’ and yet allow for a reasonable trustee workload. Wilding *et al.* (2006) also warn against boards that are too large, as this might lead to a dichotomy of members, with an ‘inner core’ of trustees dominating the others, with their will prevailing in the decision making process.

H7. Gender diversity on the board is positively correlated with operational efficiency in charities.

This hypothesis is also based upon the findings of Reddy *et al.* (2013) where improved performance (tEFF) was shown through statistical analysis to be significant at the 5% level with a β of -0.113.

Huse & Solberg (2006) argue that ‘bringing women onto corporate boards’ should have ‘positive bottom line effects’. Their study concluded that the contribution women may make depends on ‘...the ability and willingness to make alliances with the most influential actors, to spend time on preparations, being present on the most influential decision making arenas, and to take leadership roles’.

H8. Audit committee is positively correlated with operational efficiency in charities.

The audit committee was originally established to consider risks and controls relating to the financial reporting process, but it has, over time, become a focal point for the

board's wider review of internal control and risk management. Vermeer et al. (2006) found that organisations receiving government grants were more likely to have an audit committee and use financial experts to monitor outcomes. In a review from 2012, Jetty & Beattie consider the determinants of audit committees in the UK charity sector. A statistical analysis found that there were correlations between the size of the organisation, the number of trustees and a 'Big4' external audit. As you might anticipate, the larger the organisations were more likely to have an audit committee, as were those charities paying for a 'Big4' external audit service. The larger numbers of trustees on the board also correlated positively with the existence of an audit committee. All of these determinants were significant at the 5% level. This links in to previous work by Bradbury (1990) which argued that larger boards tend to create sub-committees and delegate work to them; and the significance of the Big4 result is predicted by Carson (2002) and Vermeer et al. (2006). Other factors that were significant, but to a lesser extent (10% level), were those with a higher percentage of restricted funds, those with a two tier board structure and those in receipt of government grants.

H9. Internal audit is positively correlated with operational efficiency in charities.

The inclusion of this hypothesis was based on internal audit's contribution to governance and the achievement of objectives. *What every director should know about internal audit* (IOD & IIA, 2013, 3) identifies the role as follows: 'Internal audit is the eyes and ears of the board and its committees, above all its audit committee'. This phrase 'eyes and ears' suggest the closest of relationships between the board and internal audit, where you would expect a direct reporting line, with informal, as well as formal, contact. It would suggest that internal audit is a sub-set of the 'Directorate' function. The final part of the summary includes a role in governance review and reporting for internal audit: '...internal audit provides assurance to the board that ...the organisation is being properly governed' (*What every director should know about internal audit, IOD & IIA, 2013, 3*). This provides further legitimisation of the role that internal audit needs to undertake in the review and reporting of governance mechanisms. This would indicate that an internal audit service may strengthen governance processes to facilitate achievement of organisational objectives.

Representative sample

Due to the much larger size of data set in this study, 27,423 charity years instead of 881 in the New Zealand study, the decision was taken to focus on the top 500 charities by income. A representative sample of 100 charities, 20% of the top 500, was taken. One hundred charity Annual Reports from financial years ending 2013 were selected using a *systematic sampling technique* (DePoy & Gitlin, 2011). The ‘systematic’ sampling was achieved by arriving at a sample interval width, based on the size of data set and the level of sampling required. In this case the data set consisted of 500 charities that provided the highest score in terms of annual income for the financial year ending 2013. This was a sub set of the original and full charity commission data set used in the quantitative modelling earlier.

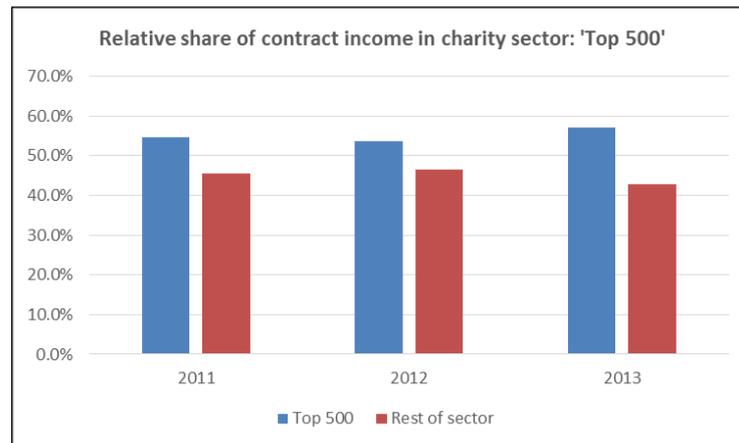
The sample required was 100, and the data sub-set 500, so the interval width was 100:500 or one in five. A random number between one and five was generated to provide the first participant in the sampling frame. After this, every fifth data entry was taken into the sample until one hundred had been selected. There were 4 reports that were unavailable on the Charity Commission website: one removed, one corrupted and two not filed. In these cases the next, subsequent entry was taken instead and all of these were available.

Descriptive statistics of the ‘Top 500’ sample

The charities in the sample covered a range in annual income from £17million to £781million with an average (mean) income of £55 million. The average (mean) board size was 13 members and, on average, 31% of the board was female. 69 out of 100 charities had an audit committee, 49 of the 100 charities employed an internal audit service and the mean level of contract income within the group was 62%. Volunteers made up 22% (mean) of the total workforce. Expenditure on advertising and fundraising was 2.4% (mean) of total operating costs and 0.7% (mean) was also spent on governance. The assets of the charities ranged from £0.4m to £7.3bn with an average level of £145m (mean). Please refer to table x for a more complete analysis of the descriptive statistics for the variables.

The ‘Top 500’ charities have increased their share of contract income within the sector in 2013 (see below figure D):

Figure D: Sector share of contract income in the ‘Top 500’ charities



Source: Author

Sectorial influences within the ‘Top 500’ sample

An examination of the sectorial influences has to allow for the fact that charities may be involved in more than one sector. We can see that 66% of the sample had some involvement in education (sector 102). We can also see that 31% of the sample was involved in poverty relief (sector 105) and 26% of the charities were active in the housing sector (107). These percentages combine to produce more than 100% and so the statistics need to be considered with this in mind. The following section will discuss the findings resulting from adding the qualitative data found in the annual reports to the regression model. Initial findings indicated that none of the sectorial influences were significant in the ‘Top 500’ sample apart from a marginal significance in one case out of the thirty two over the two models (aEFF and tEFF). *The effect of the sectorial additions to the model was to weaken its overall significance as 16 extra elements were being included that were not correlated to the independent variable. Hence, for the ‘Top 500’ sample sectorial controls were not included in the regression.*

Variability within the ‘Top 500’ sample data

As we move to the more compact range of the top 500 charities by income we see levels of R2 that reflect much reduced variability within the data. The R2 results for the two models (0.282:aEFF, 0.254:tEFF) indicate that the model now accounts for around 25% of changes in performance as indicated by aEFF and tEFF. This allows for a more ‘predictive’ application of the model where results are shown to be significant. Please refer to table x on the next page for R squared figures.

Pairwise correlation of the independent and control variables: 'Top 500' sample

The independent and control variables were tested for the likelihood of multicollinearity, which if found would undermine the reliability of the model. The highest correlation was found between the independent variables relating to size: Ln (TA) and Ln(TINC). These had a positive correlation coefficient of 0.455 (significant at 1%) and is entirely to be expected, as with the full financial data set results. Those charities with a large asset base also will typically generate large amounts of income. This is also in keeping with findings of the study by Reddy et al. (2013) where the coefficient of correlation between these two variables was found to be 0.528 (also significant at 1%). Also a correlation was found between sectors 105 and 106 with a coefficient of 0.469 (significant at 1%). This shows is that charities active in the relief of poverty are also often providing overseas aid. Other correlations range between 0.000 and 0.388. None of the coefficients of correlation between independent variables are higher than 0.455 and so the likelihood of multicollinearity is low.

Table IV: Descriptive statistics of the ‘Top 500’ sample data

Variable	Mean	Median	Minimum	Maximum	Interquartile range
<i>Dependent</i>					
tEFF	1.13	1.11	0.00	2.55	1.03-1.21
aEFF	0.83	0.88	0.00	1.60	0.73-0.98
<i>Control</i>					
BDS	12.73	12.00	3.00	26.00	10.00-15.00
GDIV	0.31	0.31	0.00	0.78	0.19-0.43
AC	0.69	1.00	0.00	1.00	0.00-1.00
IA	0.49	0.00	0.00	1.00	0.00-1.00
CONT	0.62	0.83	0.00	1.00	0.17-0.96
VOL	0.216	0.008	0.00	1.00	0.000-0.391
GOV	0.007	0.003	0.000	0.050	0.003-0.008
ADV	0.024	0.004	0.000	0.240	0.000-0.013
<i>Size</i>					
TINC	£ 54,843,353	£ 27,347,447	£ 16,633,000	£ 781,289,000	£20.5m-£48.6m
TA	£ 144,818,774	£ 24,892,841	£ 398,000	£ 7,265,072,000	£10.0m-£57.6m
<i>Sector</i>					
101	0.14	0.00	0.00	1.00	
102	0.66	1.00	0.00	1.00	
103	0.30	0.00	0.00	1.00	
104	0.20	0.00	0.00	1.00	
105	0.31	0.00	0.00	1.00	
106	0.09	0.00	0.00	1.00	
107	0.26	0.00	0.00	1.00	
108	0.06	0.00	0.00	1.00	
109	0.11	0.00	0.00	1.00	
110	0.03	0.00	0.00	1.00	
111	0.01	0.00	0.00	1.00	
112	0.14	0.00	0.00	1.00	
113	0.21	0.00	0.00	1.00	
114	0.01	0.00	0.00	1.00	
115	0.02	0.00	0.00	1.00	
116	0.00	0.00	0.00	1.00	

Notes: BDS is the number of board members. GDIV is the proportion of women on those boards. IA is a dummy variable equal to ‘1’ if a charity has an internal audit service, otherwise ‘0’. CONT is the proportion of total income derived from charitable contracts. LEV is the proportion of long term debt against total assets. VOL is the proportion of total workforce comprised of volunteers. GOV is the proportion of total expenditure assigned to governance. ADV is the proportion of expenditure used to generate voluntary income. Ln (TINC) is the natural log of the charity's total income. Ln (TA) is the natural log of the charity's total assets. Sector 101 is a dummy variable equal to '1' if a charity is one of general purpose, otherwise '0'. Sector 102 is a dummy variable equal to '1' if a charity belongs to the education sector, otherwise '0'. Sector 103 is a dummy variable equal to '1' if a charity belongs to the health sector, otherwise '0'. Sector 104 is a dummy variable equal to '1' if a charity belongs to the disability sector, otherwise '0'. Sector 105 is a dummy variable equal to '1' if a charity belongs to the poverty relief sector, otherwise '0'. Sector 106 is a dummy variable equal to '1' if a charity belongs to the overseas aid sector, otherwise '0'. Sector 107 is a dummy variable equal to '1' if a charity belongs to the housing sector, otherwise '0'. Sector 108 is a dummy variable equal to '1' if a charity belongs to the religious sector, otherwise '0'. Sector 109 is a dummy variable equal to '1' if a charity belongs to the arts sector, otherwise '0'. Sector 110 is a dummy variable equal to '1' if a charity belongs to the sport sector, otherwise '0'. Sector 111 is a dummy variable equal to '1' if a charity belongs to the animal sector, otherwise '0'. Sector 112 is a dummy variable equal to '1' if a charity belongs to the environment sector, otherwise '0'. Sector 113 is a dummy variable equal to '1' if a charity belongs to the community sector, otherwise '0'. Sector 114 is a dummy variable equal to '1' if a charity belongs to the armed forces sector, otherwise '0'. Sector 115 is a dummy variable equal to '1' if a charity belongs to the human rights sector, otherwise '0'. Sector 116 is a dummy variable equal to '1' if a charity belongs to the recreation sector, otherwise '0'.

Table V: Regression results from the ‘Top 500’ sample data

	aEFF	Std.	tEFF	Std.
	β	Error	β	Error
Constant	0.952	0.609	2.737***	0.673
(t-value)	(1.56)		(4.07)	
BDS	0.005	0.006	0.002	0.007
	(0.86)		(0.33)	
GDIV	0.108	0.142	0.064	0.157
	(0.73)		(0.41)	
AC	-0.062	0.062	0.044	0.068
	(-0.11)		(0.64)	
IA	0.140**	0.056	0.192***	0.061
	(2.52)		(3.13)	
CONT	0.256 ***	0.080	0.133	0.089
	(3.18)		(1.50)	
VOL	0.104	0.084	-0.034	0.093
	(1.23)		(-0.37)	
GOV	-2.094	2.874	-5.539*	3.173
	(-0.73)		(-1.75)	
ADV	-0.180	0.585	0.303	0.646
	(-0.31)		(0.47)	
Ln(TINC)	-0.015	0.040	-0.117*	0.045
	(-0.38)		(-2.63)	
Ln(TA)	-0.009	0.019	0.013	0.021
	(-0.44)		(0.60)	
Sector dummies	No		No	
F-value	3.50***		3.03***	
(p-value)	(0.001)		(0.002)	
Adjusted R squared	0.202		0.170	
(R squared)	(0.282)		(0.254)	
n	100		100	

Notes: BDS represents board size and is the number of board members. GDIV is the proportion of women on those boards. AC is a dummy variable equal to ‘1’ if a charity has an audit committee, otherwise ‘0’. IA is a dummy variable equal to ‘1’ if a charity has an internal audit service, otherwise ‘0’. CONT is the proportion of total income derived from charitable contracts. LEV is the proportion of long term debt against total assets. VOL is the proportion of total workforce comprised of volunteers. GOV is the proportion of total expenditure assigned to governance. ADV is the proportion of expenditure used to generate voluntary income. Ln (TINC) is the natural log of the charity's total income. Ln (TA) is the natural log of the charity's total assets.

*, **, *** significant at the 10, 5 and 1 percent levels respectively

Summary of findings with relation to hypotheses: ‘Top 500’ sample

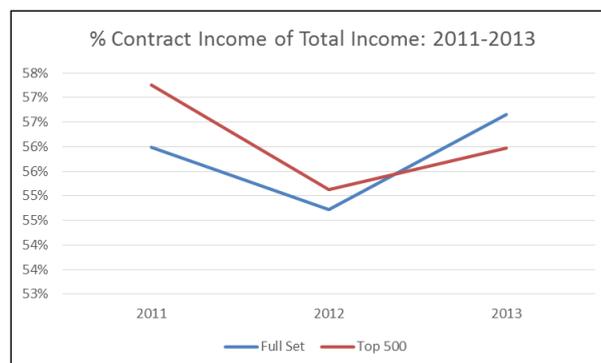
H1. Contract income is positively correlated with the operational efficiency of charities.

The link between contract income and allocative efficiency is continued again within the ‘Top 500’ sample. This time the correlation is stronger with a 10% increase in the proportion of contract income delivering a 2.6% increase in performance. The most substantial *positive* correlation we can see is that CONT (proportion of income derived from contracts) has a positive coefficient of 0.256 which is statistically significant at the 1% level. This would evidence a focus of attention on organisational goals rather than ‘commercial’ type behaviours of cost efficiencies and margins. It shows that charities are driven by contractual obligations to ensure the majority of income is ‘passing through’ to beneficiaries rather than cost savings just contributing toward surplus funds. The allocative efficiency (passthrough rate) is generally the key performance metric for charities, and charities will already be striving to keep this at its highest level. We can see from the descriptives for the model variables that the mean value for allocative efficiency in the sector is 83%. Small, incremental increases in this metric are noteworthy. Average proportions of contract income within the ‘Top 500’ sample were higher than in the full, financial data set as follows:

- median of the ‘Top 500’ = 82%, and the median of the full, financial data set = 56%; and
- mean of the ‘Top 500’ = 62% and the mean of the full, financial data set = 50%.

Over the three years the ‘Top500’ charities are showing an increasing reliance on contracts and have now exceeded the rest of the sector in the proportion of contract income that makes up their total income (see figure E below):

Figure E: Dependence on contract income in the ‘Top 500’ charities



Source: Author

H2. Debt is positively correlated with the operational efficiency of charities.

This hypothesis was not included the ‘Top 500’ sample regression model as it was not shown to be significant, for either metric aEFF or tEFF, across the main body of the financial data.

H3. Volunteerism is positively correlated with allocative efficiency in charities.

No evidence was found to substantiate this hypothesis. *Results were not significant within the aEFF or tEFF regression of the reduced sample size.*

There were no significant regression results for this hypothesis despite the full, financial data set showing a negative correlation between volunteer levels and both efficiency metrics.

Average levels of volunteerism within the ‘Top 500’ sample were higher than in the full, financial data set as follows:

- median of the ‘Top 500’ = 0.8%, and the median of the full, financial data set = 0%;
and
- mean of the ‘Top 500’ = 21.6% and the mean of the full, financial data set = 18%.

H4. Governance processes are positively correlated with the operational efficiency of charities.

There were no significant regression results for this hypothesis despite the full, financial data set showing a positive correlation between governance expenditure and the ‘commercial’ technical efficiency metric. Average levels of governance expenditure within the ‘Top 500’ sample were lower than in the full, financial data set as follows:

- median of the ‘Top 500’ = 0.3%, and the median of the full, financial data set = 1%;
and
- mean of the ‘Top 500’ = 0.7% and the mean of the full, financial data set = 2%.

H5. Competition within the charity sector is positively correlated with operational efficiency.

The regression results for the ‘Top 500’ sample did not identify a correlation between advertising expenditure, used as a proxy for market competitiveness, and either metric of efficiency. Average levels of advertising expenditure within the ‘Top 500’ sample were lower than in the full, financial data set as follows:

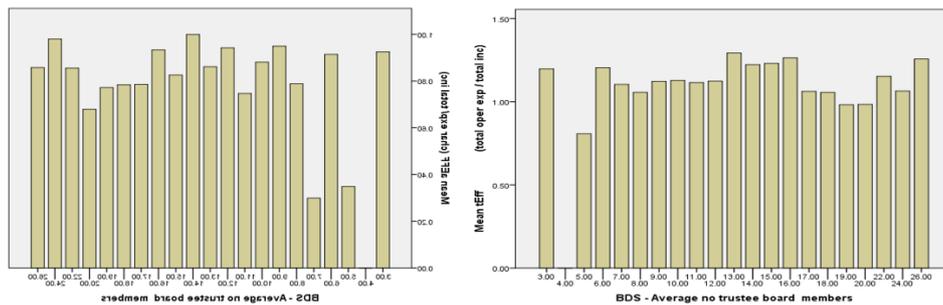
- median of the ‘Top 500’ = 0.4%, and the median of the full, financial data set = 0%;
and
- mean of the ‘Top 500’ = 2.4% and the mean of the full, financial data set = 3.4%.

H6. Large board size is negatively correlated with operational efficiency in charities.

H7. Gender diversity on the board is positively correlated with operational efficiency in charities.

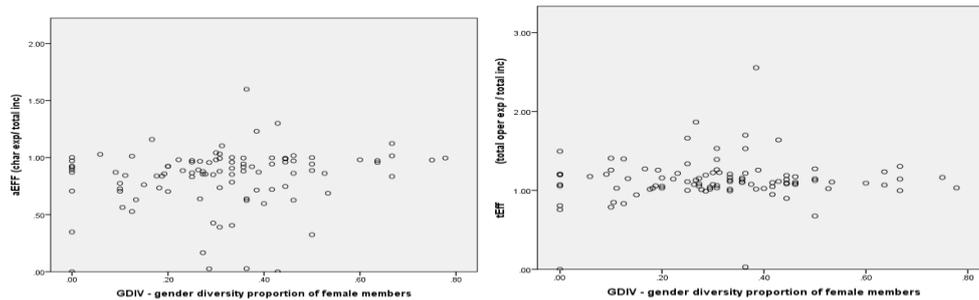
No link was found between performance and board size, or the gender diversity of that board. Descriptives for these independent variables show that the average board size consisted of 13 members and around a third of those members were women.

Figure F: Efficiencies compared with board size



Source: Author

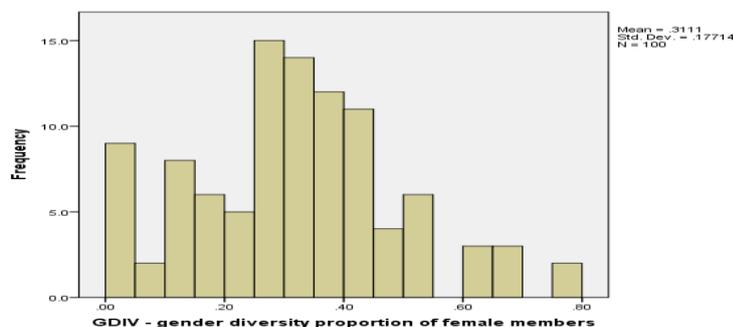
Figure G: Efficiencies compared with gender diversity (GDIV) of the board



Source: Author

The figure below (fig H) shows the average proportions of women members of the board being at 31% (mean and median).

Figure H: Frequency chart: gender diversity (GDIV) of the board



Source: Author

H8. Audit committee is positively correlated with operational efficiency in charities.

There were no significant regression results for this hypothesis. 69 out of the 100 charities had an audit committee, although many variations were found including ‘Audit and Risk’ Committee, ‘Audit, Finance and Legal’, ‘Audit and Finance’, ‘Audit, Risk and Governance’, ‘Finance, Audit and Risk’ and the ‘Audit and Control’ Committee. The variations in name will almost certainly reflect differences in Terms Of Reference (TOR) and subsequent authority and power. These variations may have contributed toward the lack of significant results for AC.

H9. Internal audit is positively correlated with operational efficiency in charities.

The link between an internal audit service and allocative efficiency is evidenced within the ‘Top 500’ sample. The correlation is strong with the presence of an internal audit function associated with a 14% increase in performance.

The β for **IA**, representing the presence of an internal audit service, shows a *positive* correlation with aEFF of 0.140, significant at the 5% level. This would indicate that the presence of an internal audit function (dummy variable = 1) may increase the allocative efficiency by 14%.

For the tEFF model the key independent variable displaying a positive β is IA (presence of an internal audit service) with a value of 0.192, significant at the 1% level. This means that the presence of an internal audit function in a charity may *reduce* their ‘commercial’ style margins by 19%. This corresponds with the earlier findings regarding aEFF and its links to the passthrough ratio. It shows that charities with an internal audit function are striving to ensure the majority of income is ‘passing through’ to beneficiaries and that any cost savings are not just contributing toward surplus funds. IA may well be contributing toward greater efficiencies, as might be expected, but it is also ensuring that savings are utilised toward charitable purposes rather than just adding to surplus margins. This highlights a potential difference in the role of an internal audit function in a non-profit entity to that in a commercial one.

How did the size of a charity affect the results?

Total Assets (TA): results were not significant within the aEFF or tEFF regression of the reduced sample size. An independent variable displaying a negative β is **Ln(TINC)** which represents the size of charity by means of its total income. The β is -0.117 and is significant at the 10% level. This result shows that higher levels of income are associated with *improved* technical efficiency. The results suggest that larger charities with significant turnover are shown to exhibit commercial style behaviours that focus on cost efficiencies rather than

traditional 'passthrough' approaches. These findings echo those of the full, financial data set, where the β was at -0.069^{***} , so we can see here that the effect is strengthened with a β of -0.117^* .

Note: *, **, *** significant at the 10, 5 and 1 percent levels respectively

Was there a sectorial influence?

Initial findings indicated that none of the sectorial influences were significant in the 'Top 500' sample, apart from a marginal significance in one case out of the thirty two, over the two models (aEFF and tEFF). The effect of the sectorial additions to the model was to weaken its overall significance as 16 extra elements were being included that were not correlated to the independent variable. Hence, for the 'Top 500' sample sectorial controls were not included in the regression.

Summary and Conclusions

Results of the regression analysis of the full financial data set showed a correlation between the level of contract income and operational efficiency, as defined by the traditional 'passthrough' metric, with a 1.5% increase in efficiency observed for a corresponding 10% increase in contract income (significant at 1%). This would suggest that charities driven by contractual obligations ensure the majority of income is 'passing through' to beneficiaries rather than cost savings contributing toward surplus funds. It would evidence a focus of attention on charitable goals rather than the 'commercial' behaviour of creating margins.

Results from the 'Top 500' data set analysis echoed those of the full data set with a slightly stronger correlation between contract income and operational 'passthrough' efficiency: a 2.6% increase in operational efficiency was derived from a 10% increase in contract income (significant at 1%).

Whilst these efficiency results might appear minor it is important to state that the mean level of operational 'passthrough' efficiency, across both sets of data, is relatively high at 83-84%. Therefore, small, incremental advances are most welcome to improve results for this fundamental charity metric.

A strong correlation was found between internal audit and 'passthrough' efficiency. A 14% improvement in 'passthrough' efficiency was associated with the presence of an internal audit function (significant at 5%). The regression results were equally strong for the 'commercial style' metric tEFF, only this time with a negative association of 19% (significant at 1%). This would appear to show that whilst internal audit may well contribute toward greater efficiencies and cost savings, as might be expected, it is also ensuring that savings are utilised toward charitable purposes rather than just adding to surplus margins.

This raises an interesting question as to differences in the role of an internal audit function in a non-profit entity to that in a commercial one. Differences may lie in the nature of audit work undertaken between commercially driven and non-profit organisations and this area might provide an interesting topic for future research. However, both functions are contributing toward the achievement of organisational objectives, whether they be generating profits or delivering charitable services, and as such, convey a common and vital purpose.

In conclusion, the argument that a considerable flow of public funds into the sector has resulted in charities altering their behaviour may be evidenced by the correlation between contract income and 'passthrough' efficiencies. Having to focus on priorities identified by the contract, and provide considerable amounts of performance data under contractual terms and conditions, appears to be increasing the focus on beneficiary outcomes. Results suggest that internal audit may play a significant role in assisting trustee boards to achieve this focus.

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