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# **Assessing the Financial Vulnerability of Charities Serving Women**

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# Acknowledgements

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## About the Womens Resource Centre

The Womens Resource Centre is a charity which supports women's organisations to be more effective and sustainable. We provide training, information, resources and one to one support on a range of organisational development issues. We also lobby decision makers on behalf of the women's not-for-profit sector for improved representation and funding.

Our members work in a wide range of fields including health, violence against women, employment, education, rights and equality, the criminal justice system and the environment. They deliver services to and campaign on behalf of some of the most marginalised communities of women.

There are over ten thousand people working or volunteering for our members who support almost half a million individuals each year.

## About the Capacity Building Cluster on the economic impact of the Third Sector

The Capacity Building Cluster is funded by the ESRC, the Cabinet Office and the Barrow Cadbury Trust as part of a major investment in third sector research. The cluster is hosted by the CMPO at the University of Bristol.

The initiative is intended to build research capacity both in the academic community and in the sector. The cluster offers opportunities to develop partnership projects between third sector organisations and academics, focusing on economic impact. The aim of these projects is to help organisations to assess the impact and value of what they do and to use data and analysis to improve service delivery.



# Assessing the Financial Vulnerability of Charities Serving Women

**Report prepared for the Women's Resource Centre by the  
Capacity Building Cluster on the Economic Impact of the Third Sector  
at the Centre for Market and Public Organisation, University of Bristol**

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**Women's Resource Centre**

Ground Floor East, 33-41 Dallington Street, London, EC1V 0BB

**Tel:** 020 7324 3030 **Email:** [info@wrc.org.uk](mailto:info@wrc.org.uk) **Web:** [www.wrc.org.uk](http://www.wrc.org.uk)

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# Overview

## **Assessing the Financial Vulnerability of Charities Serving Women:**

**Report prepared for the Women's Resource Centre  
by the**

**Capacity Building Cluster on the Economic Impact of the Third Sector at the  
Centre for Market and Public Organisation, University of Bristol<sup>1</sup>**

The aim of this report was to make a preliminary assessment of the potential financial vulnerability of charities serving women ("women's organisations") using data from Guidestar. Financial vulnerability refers to the susceptibility of organisations to financial shocks in terms of the likely impact of such shocks on the organisation's ability to provide services, and even to survive. The report compares the potential financial vulnerability of women's organisations with that of other, similar, service-providing charities.

The report makes an assessment of the potential financial vulnerability of women's organisations in the following ways:

First, it looks at a number of financial measures that have been identified by earlier academic and policy studies as potential indicators of financial vulnerability. These measures include income concentration, past financial surpluses and the ratio of assets to income. The report compares these indicators for women's organisations and other service charities.

The main source of potential vulnerability of women's organisations is that they are dependent on fewer sources of income than other service charities. Their sources of income are significantly more concentrated and in particular they derive a significantly higher share of their total income from voluntary sources (including statutory income).

Second, the report looks at the survival of the two types of organisation over the period 2005/6 – 2007/8 and asks whether women's organisations were more or less likely to survive than comparable, other service charities.

Women's organisations are significantly less likely to survive than other service charities, even controlling for these financial indicators, as well as for income and region. This may be due to financial factors that have not been identified in the previous literature and/or to sector-specific factors that mean that women's organisations are inherently more vulnerable than other, comparable service charities.

<sup>1</sup> This research was funded through the Capacity Building Cluster on the Economic Impact of the Third Sector: [www.bris.ac.uk/cmppo/cbcluster](http://www.bris.ac.uk/cmppo/cbcluster) by the Economic and Social Research Council, the Office of the Third Sector and the Barrow Cadbury Trust.

## The Structure of this Report is as follows:

**Section 1** contains information on the data and sample. The report focuses on charities, rather than a wider set of organisations serving women, because of the availability of data through Guidestar. The analysis is based on a sample of charities from the three most recently available waves of Guidestar data, covering the period from 2005/06 to 2007/08.

**Section 2** compares the characteristics of women’s organisations with those of a randomly selected group of other service-providing charities. As well as looking at basic income and spending, the analysis includes a comparison between the two types of organisations of a number of financial variables which have previously been identified in the academic and policy literature as indicating organisations that are potentially financially vulnerable. These measures include income concentration, the administrative cost ratio, surplus and asset ratio.

Compared to other service charities, women’s organisations are more likely to be “medium-sized” with incomes in the range £100k - £500k. The incomes of other service charities are more dispersed and there are more of both smaller organisations (incomes less than £100k) and larger organisations (incomes over £1m) among the other service charities compared to women’s organisations. The median income of women’s organisations (i.e. the income of a typical women’s organisation) is larger than the median income of other service charities, although the mean (the statistical average) is slightly less because of the presence of fewer large organisations.<sup>2</sup> Previous research has shown that smaller organisations are more likely to be financially vulnerable than are larger organisations – this evidence suggests that women’s organisations are not any more at risk than other service charities simply because of their size.

However, women’s organisations are typically more dependent on fewer sources of income than other service charities. Their sources of income are significantly more concentrated and in particular they derive a significantly higher share of their total income from voluntary sources (the other sources are sales and fees and investments). In the Guidestar data, voluntary sources include both individual donations and government grants. Unfortunately, it is not possible to separate these further in the available Guidestar data, although other evidence confirms that many women’s organisations are heavily dependent on statutory funding.<sup>3</sup> In the previous literature, high levels of income concentration have been identified as an indicator of potential vulnerability. The evidence here suggests that women’s organisations are potentially at risk because of their higher level of income concentration.

However, women’s organisations are not more vulnerable in terms of the other indicators looked at. Over the three years looked at, they had higher asset ratios (i.e. the ratio of assets to income) and higher surpluses than other service charities over the three years looked at.

**Section 3** of the report looks explicitly at organisation survival and at what distinguishes organisations that survive from those that do not. It looks at the relationship between the indicators of potential financial vulnerability identified in the literature (and examined in section

<sup>2</sup> Both the mean and the median are measures of averages. The mean (the statistical average) is more sensitive than the median to the present outliers (in this case very large charities). The median reflects the middle of the distribution.

<sup>3</sup> See, for example, the recent report by New Philanthropy Capital, *Understanding the stability and sustainability of the violence against women sector*

2) and the actual probability of survival. It also looks at whether women's organisations are more or less likely to survive than other service charities, controlling for the set of financial indicators.

The indicators for income concentration, surplus and asset ratio are all significantly correlated with whether or not organisations are observed to survive. These indicators for potentially at risk organisations therefore have predictive power with respect to organisations' actual survival. As already discussed, the picture is mixed for women's organisations – they are more at risk than other service charities in terms of income concentration but less at risk in terms of their asset ratios.

A second, striking finding is that, controlling for these financial indicators, as well as for income and region, women's organisations are significantly less likely to survive than other service charities. The results indicate that, comparing a women's organisation with another service charity with the same income, income concentration, asset ratio, surplus and administrative cost ratio and in the same region, the women's organisation is nearly 16 percentage points less likely to survive than the other service charity. This may be due to general financial factors that have not been identified in the previous literature and/or to sector-specific factors that mean that women's organisations are inherently more vulnerable than other, comparable service charities.

The analysis presented here is subject to a number of important caveats

The first concerns limitations with the data. It was not possible to obtain all of the available Guidestar data – covering a longer time period and/or more a more detailed level of disaggregation of the income and expenditure variables could allow for a more detailed and robust analysis. Also, many variables are missing in the Guidestar dataset. Without a lot of further work, it is not possible to determine whether these are genuine "missings", or reflect reporting error. In this report, it is assumed that missings are genuine. To the extent that reporting error is systematic across different types of organisations (women's organisations and other service charities) this assumption should not affect the main findings of the report.

The research presented is preliminary in nature. It has led to some new findings on the potential financial vulnerability of women's organisations. However, the finding that women's organisations are significantly less likely to survive than comparable other service charities could point either to other financial indicators of at risk organisations that the literature has failed to identify and/or specific factors affecting women's organisations that make them particularly vulnerable. It is beyond the scope of this report to separate the two.

Finally – the most recently available wave of Guidestar data is from 2007/08. This predates the recent recession in the UK which formally started in the second quarter of 2008 (and ended in the fourth quarter of 2009). Cutbacks in government spending may feed through even later than this. Looking directly at the impact both of the recession and public spending cuts is an important exercise for the future.

## Section 1:

### The Data and Sample

The analysis in this report is based on the three most recent waves of Guidestar data that are available – 2005/6, 2006/7 and 2007/8.

The initial sample consisted of 1,273 charities serving women (referred to in this report as women’s organisations). The selection of the sample of women’s organisations followed that in an earlier Women’s Resource Centre on the funding of women’s organisations.<sup>4</sup> It is estimated to be the population of charities serving women. For comparison, a random sample of 1,000 charities that provided other social services (“other service charities”) was also selected.

For our comparative analysis of women’s organisations and other service charities in section 2, we focus on organisations which have non-missing income (and spending) information in all three years. We also exclude organisations that have mean-zero income and spending across all three years. Our analysis sample consists of 454 women’s organisations and 264 other service charities. The very high level of “missings” and “zeroes” in the data is a clearly a concern with using Guidestar to do analysis of the sector.

We also drop one other service charity, Cancer Research UK, which has an annual income of £435 million and which would otherwise dominate the other service charities sample.

As shown in Figure 1, women’s organisations are more likely to be based in London. In our sample, there are also a small number of other service charities in Wales (compared to none of the women’s organisations in this sample). We control for region in the analysis below but find little significant variation by region.

Figure 1:

Distribution, by region – women’s organisations and other service charities

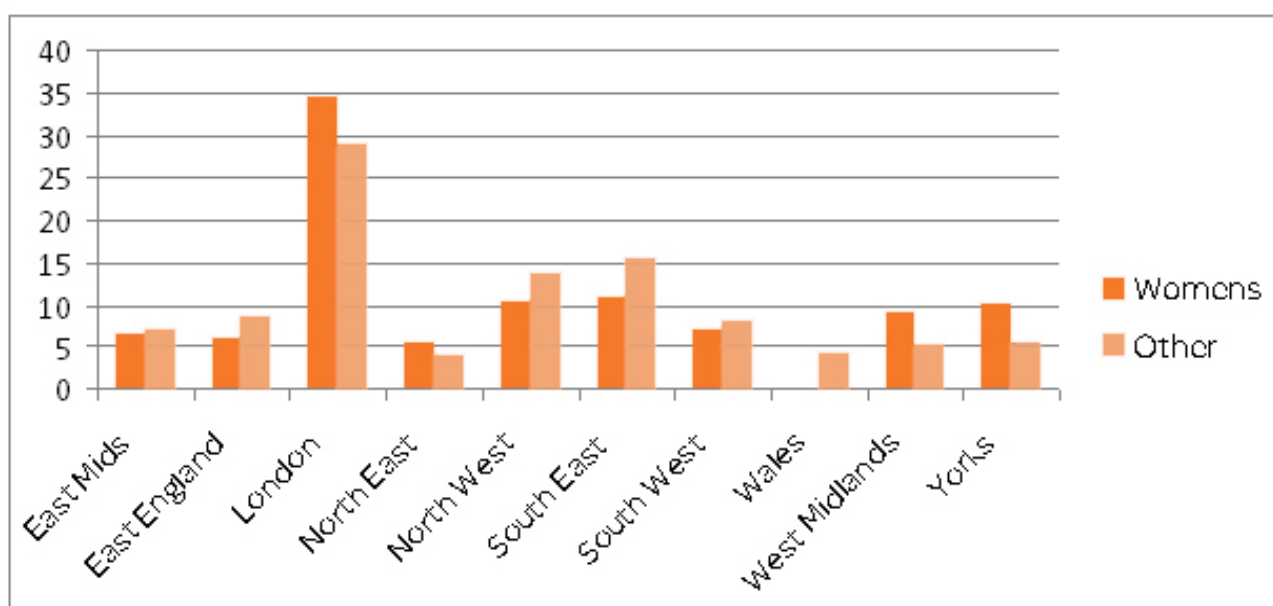


Figure compares percentage of women’s organisations and other service organisations located in each region

<sup>4</sup>[www.wrc.org.uk/includes/documents/cm\\_docs/.../final\\_report\\_version1.pdf](http://www.wrc.org.uk/includes/documents/cm_docs/.../final_report_version1.pdf)

## Section 2:

# Comparing Women's Organisations and other service charities

This section compares the characteristics of women's organisations and other service charities. Table 1 summarises key variables – including indicators of size as well as sources of income, administration costs and assets, which are used in the measures of financial vulnerability. Note that none of the differences in means between the organisations is statistically significant, reflecting a high degree of variance within both groups.

**Table 1**

**Sample averages, thousands of pounds**

Variable	Women's organisation Average, 2005/6 - 2007/8		Other service charities Average, 2005/6 - 2007/8	
	Mean	Median	Mean	Median
<b>Total Income</b>	£692k	£216k	£748k	£130k
<b>Income volatility</b>	£127k		£127k	
<b>Voluntary income</b>	£176k	£83k	£233k	£39k
<b>Sales and fees</b>	£493k	£82k	£409k	£41k
<b>Total expenditure</b>	£649k	£204k	£744k	£126k
<b>Administration Costs</b>	£15k	£5k	£15k	£4k
<b>Assets</b>	£676k	£114k	£2,452k	£87k
<b>N</b>	454		264	
<p>Definitions</p> <p>Total income = total incoming resources (= voluntary income + sales and fees + investment + other)</p> <p>Income volatility = standard deviation of income over the three years</p> <p>Voluntary income = donations, legacies, grants and similar income</p> <p>Sales and fees = sales and fees from operating activities, including charitable activities, fundraising activities and trading subsidiaries</p> <p>Total expenditure = total resources expended</p> <p>Administration costs = management and administration costs, governance and compliance costs</p> <p>Assets = fixtures &amp; fittings, land &amp; buildings, plant &amp; motor vehicles, investment assets, current assets (debtors and cash)</p> <p>Note that none of the differences in means between women's organisations and other service charities is statistically significant at the 5% level.</p>				

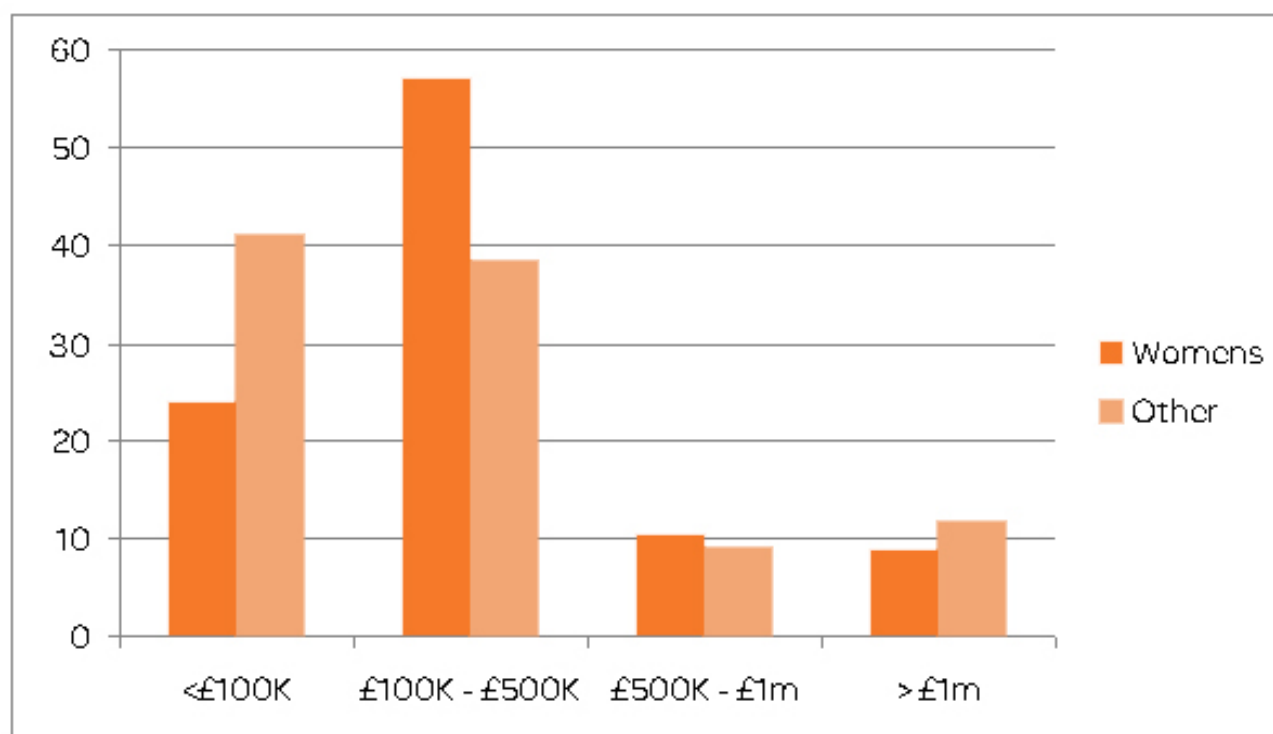
- Size of organisations

Size may be linked to vulnerability – with smaller organisations being potentially more vulnerable. As indicated by the median income and expenditure values in Table 1 and shown in Figure 2, the typical women’s organisations is larger than the typical other service charity.

**Figure 2:**

**Distribution, by total income – women’s organisations and other service charities**

**Figure compares percentages of women’s organisations and other service organisations located in each income band (defined by average annual total income)**



The income categories shown in Figure 2 reflect the breakdown used by the NCVO. In the NCVO breakdown, however, there is an additional category of charities with total incomes of less than £10k. In the sub-sample analysed here, there is only one organisation that falls into this category, so we define the smallest category to contain organisations with incomes less than £100k. There are likely to be more organisations in the wider population that have low levels of income below the £10k threshold but are excluded by the criteria used to define the sub-sample.

A higher proportion of the women’s organisations have average annual incomes between £100k and £500k compared to the other service charities. There is a greater dispersion in the size of other service charities – there are more of both smaller organisations (incomes less than £100k) and larger organisations (incomes more than £1m). The presence of more, larger, other service charities explains the higher mean income among this group compared to women’s organisations. These findings on the size of women’s organisations mirror those in other studies, including the previous WRC report and a more recent report on violence against women organisations carried out by New Philanthropy Capital.<sup>5</sup>

<sup>5</sup> Understanding the stability and sustainability of the violence against women voluntary sector, report by New Philanthropy Capital for the Government Equalities Office.

## 2.1 Indicators of Potential Financial Vulnerability

A number of academic and policy studies have used a range of financial indicators to assess the potential financial vulnerability of not-for-profit organisations. These indicators are intended to capture the susceptibility of not-for-profits to financial shocks (i.e. the likely impact that financial shocks will have on organisations in terms of cutting back on essential services and even survival). The indicators are financial ratios that, in principle, may identify organisations that have more or less financial flexibility in dealing with shocks.

### The indicators

A set of indicators of potential financial vulnerability was first defined by Tuckman and Chang (1991):<sup>6</sup>

- The *revenue concentration index* is a measure of the amount and variety of revenue sources that an organization has. In principle, the more diversified an organisation's sources of income, the less vulnerable they are to financial shocks (particularly where the financial shocks impact on individual revenue streams).
- The *equity ratio* measures the relative amount of equity that an organization has. The larger this ratio, the less vulnerable organisations are to financial shocks.
- The *surplus margin* measures the excess of revenues over expenses relative to revenues. As with the equity ratio, the larger this ratio, the less vulnerable organisations are to financial shocks because they have a potential cushion.
- The *administrative cost ratio* measures the percentage of revenues spent on administrative, as opposed to program, costs. Tuckman and Chang argued that the greater this ratio, the more scope the organisation would have for cutting back on administrative spending, reducing the potential impact of a financial shock on services and survival. However, organisations with high administrative cost ratios are likely to be inefficient and hence less able to adapt to financial shocks.

These indicators have subsequently been operationalised in various ways across a number of different studies. Based on the original Tuckman and Chang list and the subsequent studies, we define the following set of indicator variables using the Guidestar data:

<sup>6</sup>Tuckman, R.P., & Chang, C. F. (1991). A methodology for measuring the financial vulnerability of charitable nonprofit organisations. *Nonprofit and Voluntary sector Quarterly*, 20 (4), 445-460.

**Table 2****Indicators of potential financial vulnerability**

<b>Indicator</b>	<b>Definition</b>	<b>Direction</b>	<b>Source</b>
<b>Share of income from voluntary</b>	Voluntary income / total income (average over three years)	Higher share indicates potential vulnerability	Wells et al (2009)
<b>Share of income from sales</b>	Income from sales and fees as a share of total income (averaged over three years)	Higher share indicates potential vulnerability	Wells et al (2009)
<b>Income concentration index</b>	Sum of squares of: share of income from voluntary, share of income from sales and fees, share of income from other (=investment + other sources). All shares defined as averages over three years.	Higher concentration indicates potential vulnerability	Hager (2001), Trussel (2002)
<b>Administrative cost ratio</b>	Spending on management and administration as a share of total expenditure	Lower ratio indicates potential vulnerability	Hager (2001)
<b>Surplus</b>	Total income minus total expenditure, as a share of total income	Lower surplus indicates potential vulnerability	Hager (2001), Wells et al (2009)
<b>Asset ratio</b>	Ratio of total assets (net of liabilities) to total income	Lower ratio indicates potential vulnerability	Hager (2001)
<p>References:</p> <p>Hager, M. A. (2001). Financial vulnerability among arts organizations: A test of the Tuckman-Chang measures. <i>Nonprofit and Voluntary Sector Quarterly</i>, 30 (2),376-392.</p> <p>Trussel, J. M. (2002). Revisiting the prediction of financial vulnerability. <i>Nonprofit Management and Leadership</i>, 13 (1), 17-31.</p> <p>Wells, P., Dayson, C. and Wilson, I. (2009) Third sector and recession: An initial quantitative assessment, Report for capacitybuilders</p>			

Table 3 summarizes each of the indicator variables for the women’s organisations and other service charities. The final column (p-value) indicates whether the difference is statistically significant between the two types of organisation.

In most of the cases, there is no statistically significant difference in the means between the women’s organisations and the other service charities. The exception is that women’s organisations derive a significantly higher share of their total income from voluntary sources. This includes both voluntary donations and government grants. Unfortunately, it is not possible to break this down between income from individual donations and from government sources in the available Guidestar data. However, other evidence suggests that most of the income comes from government. The higher proportion of voluntary income is mirrored in the index of income concentration, which is also significantly higher on average among women’s organisations than among other service charities.

**Table 3**

**Sample averages (based on three-year means), indicators of potential financial vulnerability**

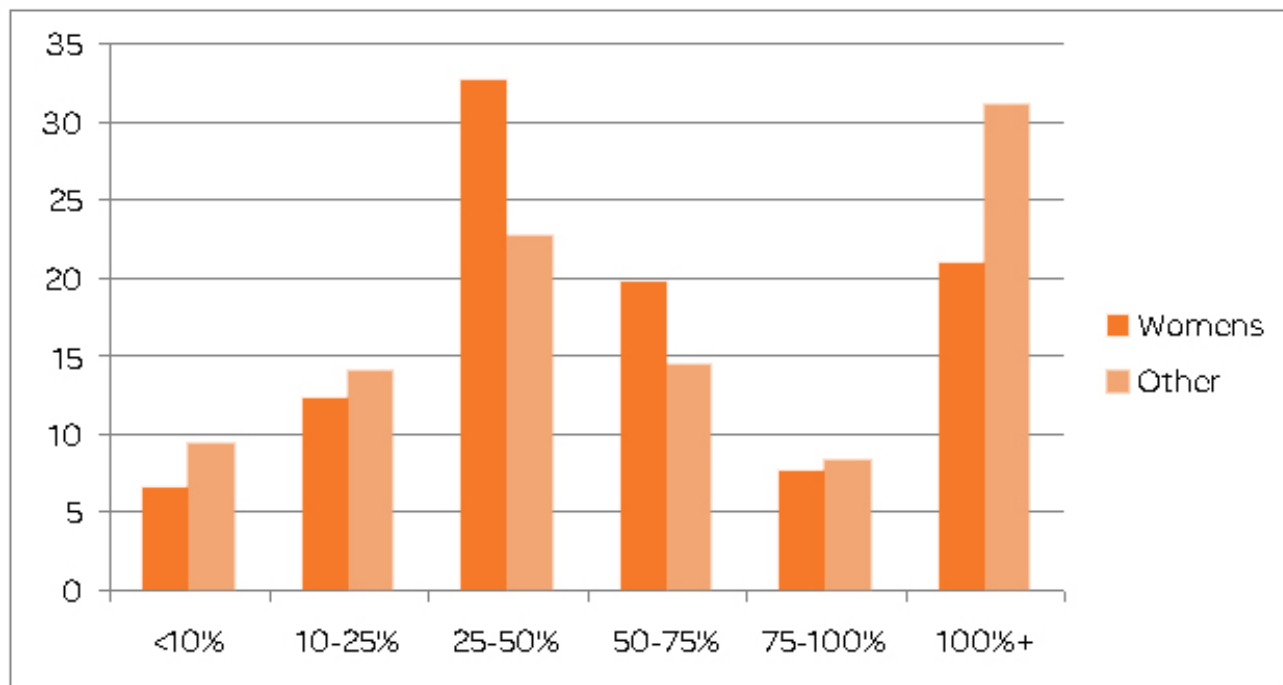
<b>Indicator variable</b>	<b>Women’s organisations</b>	<b>Other service charities</b>	<b>p-value</b>
<b>Share of income from voluntary</b>	<b>46.3%</b>	<b>39.1%</b>	<b>0.002*</b>
<b>Share of income from sales</b>	50.3%	47.4%	0.241
<b>Income concentration index (0 - 1)</b>	<b>0.663</b>	<b>0.612</b>	<b>0.000*</b>
<b>Administrative cost ratio</b>	6.9%	6.9%	0.962
<b>Surplus</b>	4.2%	3.5%	0.599
<b>Asset ratio</b>	0.97	1.56	0.404
<p>Notes to table:</p> <p>For variable definitions, see Table 2</p> <p>The p-value is derived from the test of whether there is a statistically significant difference in the means between women’s organisations and other service charities. A value smaller than 0.050 indicates that the difference is statistically significant at the 5% level. This is indicated by an asterisk.</p>			

Figure 3 compares asset ratios (i.e. the ratio of net assets to income) across the two types of charity in more detail. Table 1 shows that the mean level of assets among other service charities is much higher than among women’s organisations, and in Figure 3, other charities are more likely to have assets greater than their annual income. However, other service charities are also more concentrated at the bottom of the distribution – women’s organisations are less likely to have very low asset ratios (less than 25% of income).

**Figure 3:**

**Distribution, by ratio of assets to income – women’s organisations and other service charities**

**Figure compares percentage of women’s organisations and other service organisations located in each band, according to the ratio of their assets to income**



## 2.2: Comparing Indicators of Potential Financial Vulnerability

In this section, we address more formally the following question: Are women’s organisations more or less likely than other service organisations to be at risk of being financially vulnerable, according to the financial indicators. Here we implicitly assume that the indicators can identify potentially vulnerable organisations, something we explore further in the next section.

Following the original Tuckman and Chang study, most studies define organisations as being at risk if they are in the bottom fifth of the distribution for the indicator variables (i.e. the one-fifth

of the population with the most concentrated income, the one-fifth with the lowest surplus etc). We follow this convention here. Accordingly, any charity is defined as being at risk according to a particular indicator if they are in the bottom fifth of the distribution.

For each of the indicators, we look at whether women's organisations are more or less likely to be in the bottom fifth than other service charities. If both types of organisations are equally at risk, there should be no significant correlation between being a woman's organisation and being in the bottom fifth. Finding a significant correlation indicates that women's organisations are more or less likely to be at risk than other service charities. Because women's organisations differ from the other service charities in the distribution of income and by region – factors that may independently affect whether or not organisations are at risk – we include controls for income and region.

Formally, we run regressions of the following form for each of the indicators of financial vulnerability:

$$Y_i = \beta WO_i + \gamma \ln(\text{total income})_i + \delta_r + u_i \quad (1)$$

Where  $Y_i$  is a binary indicator for whether or not the charity is at risk (i.e.  $Y_i = 1$  if the organisation lies in the bottom fifth of the distribution for the indicator variable and 0 otherwise),  $WO_i$  is a binary indicator for whether or not the charity is a women's organisation. We include controls for the natural log of total income and a set of regional indicators. We are interested in the magnitude and significance of the coefficient  $\beta$  which indicates whether women's organisations are more or less likely to be potentially financially vulnerable compared to other service charities.

We estimate equation (1) separately for each financial indicator using logistic regressions. Table 4 reports the coefficient  $\beta$  from each of the regressions as an odds ratio. In this case, the odds ratio is the ratio of the likelihood that a woman's organisations will be potentially at risk (i.e. in the bottom fifth of the distribution) to the likelihood that another service charity will be at risk. An odds ratio of 1 indicates that both groups are equally likely to be at risk. An odds ratio greater than 1 indicates that it is more likely that women's organisations are in the bottom fifth than are other service charities, while an odds ratio less than 1 indicates that women's organisations are less likely to be in the bottom fifth. Table 4 reports separate results from running regressions with and without controls for income and region.

The regression results confirm that women's organisations are potentially more vulnerable than other service charities in terms of their revenue concentration. They are significantly more likely than other service charities to be in the bottom fifth of the distribution in terms of share of income from voluntary sources (i.e. receive the highest income shares from this source) and are also significantly more likely to have very concentrated incomes. The magnitude of the estimated odds ratios indicates that women's organisations are nearly 60 per cent more likely to be at risk (i.e. in the bottom fifth of the distribution) than other service charities in terms of income concentration.

Looking at other indicators, however, suggests a more mixed picture. Women's organisations appear to be in a relatively strong asset position and are significantly less likely than other service charities to be in the bottom fifth of the distribution in terms of the ratio of their assets to income. This is

consistent with the distribution in Figure 2 – although women’s organisations have relatively low asset ratios, they are less likely to be found at the very bottom of the distribution. The magnitude of the estimated odds ratios indicate that women’s organisations are nearly 30 per cent less likely to be at risk than other service charities in terms of asset ratios. Women’s organisations are also less likely than other service charities to have the smallest surpluses – although this is not statistically significant.

Women’s organisations are also significantly less likely to be potentially vulnerable in terms of their administrative cost ratio (i.e. they are less likely to have the smallest administrative cost ratios). According to Tuckman and Chang, higher administrative cost ratios may provide some scope for reducing costs before services are threatened. However, it is plausible that the administrative cost ratio may also reflect other factors such as the nature of services provided and the efficiency of the organisation. The next section presents further evidence on the relationship between the potential indicators and organisation survival.

**Table 4**

**Odds ratios: Likelihood that women’s organisations are at risk of financial vulnerability compared to other service charities**

<b>Definition of at risk organisations according to.....</b>	<b>Specification with no controls</b>	<b>Specification with controls for size and regional location</b>
Share of income from voluntary	<b>1.47*</b>	<b>1.57*</b>
Share of income from sales	1.36	1.25
Income concentration	<b>1.60*</b>	<b>1.59*</b>
Administrative cost ratio	<b>0.67*</b>	<b>0.67*</b>
Surplus	0.74	0.80
Asset ratio	0.74	<b>0.69*</b>
Including controls for income and region	No	Yes
<p>Notes to table:</p> <p>At risk organisations are defined as those in the bottom fifth of the distribution for each of the indicator variables. For definitions of the variables, see Table 2</p> <p>The odds ratio is the ratio of the likelihood that women’s organisations will be at risk, i.e. in the bottom fifth of the distribution, to the likelihood that other service charities will be in the bottom fifth. An odds ratio more than 1 indicates that women’s organisations are more likely to be in the bottom fifth, while a ratio of less than one indicates that they are less likely to be in the bottom fifth. Those with an asterisk are statistically significant at the 5 per cent level.</p>		

## Section 3:

# Organisation Survival – Women’s organisations compared to other service charities

In this section we focus on actual outcomes and look at survival rates among different types of charities.

We look at the relationship between the indicators of potential financial vulnerability used in the previous section and the actual probability of survival.

We also look at whether the probability of survival is the same for women’s organisations as for other service charities, conditional on the financial indicators. It is possible that the indicators do not capture all important aspects of at risk organisations. Comparing survival rates for women’s organisations with those for other service charities, controlling for the indicators, will help assess the extent to which there may be sector-specific vulnerabilities which the indicators do not capture.

For this analysis, we define a sub-sample of 1,467 charities (out of the initial total sample of 2,273 charities) which have non-missing, non-zero information on total income, voluntary income, assets and/or administrative costs in the first year for which we have data (2005/06). Of this sub-sample, 740 are women’s organisations and 727 are other service organisations.

For this sub-sample, we define “survival” as having non-missing income information in either 2006/07 and/or 2007/08. Of course, some charities may have missing information in the Guidestar dataset but continue to operate.<sup>7</sup> To the extent that this is random with respect to charity type (i.e. women’s organisations compared to other service type), it will not affect the conclusions from our analysis.

The data show that 74.3 per cent of women’s organisations “survive”, compared to 82.2 per cent of other service charities. This difference is statistically significant.<sup>8</sup> Women’s organisations therefore have a lower survival rate – we explore whether this can be explained by the financial indicators, or whether there is evidence of other, possibly sector-specific factors, at work.

<sup>7</sup> This may be because they fail to report in one year and/or they merge with other organisations.

<sup>8</sup> Measurement error is likely to mean that these are biased estimates of the true survival rates – some charities will still be operating but have missing income information in the Guidestar dataset. However, so long as the measurement error affects both types of organisation in the same way, the difference in survival probabilities will be valid.

### 3.1: Comparing Survivors and Non-survivors

The first question we address is whether there are significant differences in the values of the indicator variables between survivors and non-survivors. Table 5 compares the means of the financial indicators in 2005/06 for the two groups, together with the p-value for the test that the means are statistically significantly different.

**Table 5**

**Means of indicator variables, 2005/06 – survivors and non-survivors**

Indicator variables	Survivors	Non-survivors	p-value
Share of income from voluntary	<b>43.6%</b>	<b>36.9%</b>	<b>0.009*</b>
Share of income from sales	38.0%	36.7%	0.603
Income concentration index	<b>0.801</b>	<b>0.851</b>	<b>0.000*</b>
Administrative cost ratio	5.8%	6.3%	0.626
Surplus	7.7%	-46.4%	0.065
Asset ratio	2.26	1.22	0.599
Number of organisations	1,148	319	
<p>Notes to table:</p> <p>For variable definitions, see Table 2</p> <p>The p-value is derived from the test of whether there is a statistically significant difference in the means between survivors and non-survivors. A value smaller than 0.050 indicates that the difference is statistically significant at the 5% level. This is indicated by an asterisk.</p>			

The results provide some preliminary evidence that the indicators are significantly correlated with actual survival, although the relationship is not always in line with the predictions from the literature.

- There is a significant difference in the share of voluntary income between surviving and non-surviving organisations, although it is surviving organisations that derive a significantly higher share of their total income from voluntary sources.

- Surviving organisations have a significantly lower level of income concentration than non-surviving organisations – this is in line with the prediction that organisations with more concentrated sources of income are more likely to be at risk.
- Surviving organisations typically have larger surpluses than non-surviving organisations – this difference is statistically significant at the 6.5% level. Surviving organisations also have larger asset ratios, but this is not statistically significant. Both of these findings are in line with the predictions from the literature.
- Contrary to the initial arguments presented by Tuckman and Chang, surviving organisations have lower (not higher) administrative ratios on average, although this difference is not statistically significant. This does not seem to be a useful indicator for thinking about vulnerability since there is little coherent theoretical reason why organisations with larger admin cost ratios are better able to survive, nor any empirical support.

### 3.2: Estimating the Probability of Survival

To examine more formally what factors are correlated with the probability of an organisation surviving, we estimate (variations in) an equation of the following form:

$$Y_i = \beta_1 WO_i + \beta_2 vol\_sh_i + \beta_3 sales\_sh_i + \beta_4 conc_i + \beta_5 adm_i + \beta_6 surplus_i + \beta_7 asset_i + \gamma \ln(\text{total income})_i + \delta_r + u_i \quad (2)$$

Where  $Y_i$  is a binary indicator for whether or not the charity survives (i.e.  $Y_i = 1$  if the organisation survives with non-missing income information in 2006/07 and 2007/08, and 0 otherwise) and  $WO_i$  is a binary indicator for whether or not the charity is a women's organisation. The financial indicators (defined in the base year, 2005/06) are included as  $vol\_sh$ ,  $sales\_sh$ ,  $conc$ ,  $adm$ ,  $surplus$  and  $asset$ . As before, we also include additional controls for the natural log of income in 2005/06 and a set of regional indicators. We estimate equation (2) using a linear probability model. This makes the coefficients easier to interpret; the marginal effects from a probit model are very similar.

Table 6 reports the results from a number of different specifications.

Column (1) reports the results from a regression that includes only an indicator for being a women's organisation and controls for income and region. The coefficient on women's organisations therefore identifies the difference between the probability that a woman's organisation survives compared to the probability of survival of a similar-sized other service charity in the same region. In the "raw" data, i.e. without adjusting for income and regional variations, this difference is  $(74.3 - 82.2) = -7.9$  percentage points. The results show that larger organisations are significantly more likely to survive. Controlling for income and region, the difference in probabilities between women's organisations and other service charities widens to -13.3 percentage points. This difference is statistically significant.

Column (2) shows the correlations between the probability of survival and the various financial indicators, including controls for income and region but not organisation type. It confirms the findings that organisations with more concentrated incomes are significantly less likely to survive. Organisations with larger surpluses and higher asset ratios are also significantly more likely to survive. The sign on the administrative cost ratio and the voluntary and sales shares are counter to the predictions from the literature, but these coefficients are not statistically significant. These results confirm the usefulness of measures of income concentration, surplus and assets ratio as indicators of at risk organisations.

Compared to column (2), column (3) additionally includes an indicator for women's organisations. This allows us to identify differences in the probability of survival between women's organisations and other service charities controlling for financial factors (as well as income and region). Effectively, this means comparing the survival probability of a women's organisation to that of another service charity that is identical in terms of its income concentration, surplus and asset ratio, as well as income and region. Compared to the results in column (1), the effect of including the financial indicators is to increase the difference in probabilities between women's organisations and other service charities: A women's organisation is nearly 16 percentage points less likely to survive than a comparable other service charity.<sup>9</sup>

One important conclusion from these results is that the difference in observed survival probabilities between women's organisations and other service charities cannot simply be explained in terms of the financial variables identified in the literature as being indicators of at risk organisations. It may be that there are other, better financial indicators of vulnerable organisations and/or that women's organisations are inherently more vulnerable than other service charities because of sector-specific factors. This is left for future research.

<sup>9</sup> Other US studies have also found significant differences between different types of charity.

**Table 6****Regression results, linear probability model**

Dependent variable = whether or not the organisation survives (0/1)

	Regression results					
	(1)		(2)		(3)	
	Coef	SE	Coef	SE	Coef	SE
Covariates						
Women's organisations	<b>-0.1336</b>	<b>(0.0231)</b>			<b>-0.1556</b>	<b>(0.0242)</b>
Share of income from voluntary			0.0077	(0.0373)	<b>0.0847</b>	<b>(0.0387)</b>
Share of income from sales			-0.0332	(0.0369)	0.0180	(0.0372)
Income concentration index			<b>-0.1341</b>	<b>(0.0605)</b>	<b>-0.1169</b>	<b>(0.0597)</b>
Administrative cost ratio			0.0695	(0.0678)	-0.0502	(0.0670)
Surplus			<b>0.0111</b>	<b>(0.0046)</b>	<b>0.0101</b>	<b>(0.0045)</b>
Asset ratio			<b>0.0012</b>	<b>(0.0005)</b>	<b>0.0011</b>	<b>(0.0005)</b>
Ln (total income)	<b>0.0517</b>	<b>(0.0061)</b>	<b>0.0363</b>	<b>(0.0069)</b>	<b>0.0433</b>	<b>(0.0069)</b>
Number of observations	1467		1467		1467	
Notes to table:						
For variable definitions, see Table 2						
All regressions additionally include a full set of regional indicators. None of these is statistically significant. In the table, coefficients in bold are statistically significant at the 5% level.						





**The Women's Resource Centre (WRC)** is a charity which supports women's organisations to be more effective and sustainable. We provide training, information, resources and one-to-one support on a range of organisational development issues. We also lobby decision-makers on behalf of the women's not-for-profit sector for improved representation and funding.

Our members work in a wide range of fields including violence against women, employment, education, rights and equality, the criminal justice system and the environment. They deliver services to and campaign on behalf of some of the most marginalised communities of women.

There are over ten thousand people working or volunteering for our members who support almost half a million individuals each year

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