

Design Council Support and Business Survival and Growth

A report prepared for the Design Council by the Enterprise Research Centre

Karen Bonner, Mark Hart and Laura Heery

June 2017

Summary of key points

The aim of this project was twofold; to estimate the survival rates of firms supported by the Design Council and test whether this differed across firms of different size, age, sector and region. Secondly to test how survivability compared to non-supported firms in the wider population.

The analysis was independently conducted by the Enterprise Research Centre. We used a dataset compiled by the Design Council covering their recipient firms from 2002-14. We also matched this into the longitudinal version of the Business Structure Database to construct and measure survivability compared to control groups from the wider firm population.

The analysis found:

- **DC-supported businesses survive longer:** 91% of businesses we supported were still trading after 5 years, compared to 49% of a control group.
- **DC support appears to have played a key role:** even after accounting for wider government support programmes accessed by participating businesses, 85% of those supported by Design Council survived compared to 48% in our control group samples.
- **DC-supported businesses grow twice as much:** over the long term the DC-supported firms (either with or without BEIS support) grew by around 40% between 2008 and 2016, more than double that of the control group. Considering that the control group acts as the counterfactual this suggests a relatively strong impact from DC support, not only on survivability, but also on employment growth prospects.
- **DC-supported businesses are more productive:** the fact that turnover growth exceeded growth in employment amongst DC-supported firms suggests that there was an increase in productivity amongst these survivor firms (i.e. it means that firms are becoming more productive without shedding labour; these firms are often termed 'growth heroes').

While the growth results are caveated in that the analysis could not detect causality, the estimates suggest that compared to similar firms that were not supported, Design Council recipients enjoy higher survivability and growth.

1 Introduction

The aim of this project is to undertake a survival analysis of companies supported by Design Council (DC). This will feed into the evidence base to inform the Government's Industrial Strategy. The project will be undertaken in two stages; the first will comprise survival analysis of the Design Council dataset by a range of metrics to include age of the company; region, size and sector, amongst others. The second stage will involve linking the dataset to the longitudinal version of the Business Structure Database (BSD) to conduct a further survival analysis comparison against a control group of similar non-supported businesses.

2 Dataset

The Design Council dataset covers 1,066 companies that were supported between 2002-14¹. The dataset contains information from both Companies House and Design Council and includes a number of variables relating to the project supported and the birth, death and DC cohort year for each company.

Prior to conducting the analysis the dataset was cleansed to standardise the recording of variables; to ensure that entries were valid e.g. cohort dates followed birth dates etc. and assess the extent of missing data which would impact on the ability to estimate survival.

The cleansing exercise resulted in a number of exclusions from the dataset (in consultation with Design Council), as follows:

1,066 companies in population:

- 2 duplicates
- 3 listed as "Active –proposal to strike off"
- 2 listed as "Withdrawn applications"

In order to estimate length of survival after being supported companies need to have non-missing cohort dates and be either recorded as Active (based on Companies House info); or be recorded as dead (Liquidated or dissolved) and have an associated death date.

Of the 1,059 remaining companies:

- 278 have a missing cohort year
- A further 72 of the remainder have a missing Company Status (from Companies House)
- 7 of those recorded as 'Dissolved' or 'Liquidation' have a missing death date

This leave 702 firms with valid entries upon which to undertake the survival analysis. Of these, 37 companies had unresolved queries regarding a cohort date which preceded their birth date so were also excluded from the analysis leaving a final sample of 665 companies².

3 Descriptive Analysis

The 665 remaining companies in the sample represent 62 per cent of the number on the original database. The following tables provide a breakdown by sector, age and region of the

¹ The latest cohort date on the dataset is given as 2014.

² Note that a further 12 companies are listed as having a Design Council status recorded as 'stalled'; these are included in the analysis at present.

sample. The results are compared to the original dataset of 1,059 firms (which excludes the 7 initially removed) to ensure that the further exclusion of firms, as detailed above, has not unduly skewed the sample. Note that not all variables have complete information, hence the varying totals. The employment and turnover data, in particular, are missing for approximately half of all firms so no comparisons are made here between sample and population.

The sectoral profile shows that one third of the sample is in Manufacturing and around one quarter in the Professional, Scientific and Business Support sectors³. The sectoral sample is representative of the wider population of firms in the dataset.

Table 1: Sectoral Breakdown of the Sample and Population Data

	Sample		Population	
	N	%	N	%
Manufacturing	219	34.1	302	33.0
Wholesale & Retail	72	11.2	118	12.9
Information & Communication	64	10.0	89	9.7
Professional / Business Support	152	23.6	210	23.0
Other	136	21.2	195	21.3
Total	643	100.0	914	100.0

The age distribution of the sample data differs substantially from the population due to an under-representation of firms aged 10 years or older (Table 2). Three fifths of the population data are aged over 10 compared to just two-fifths of the sample. Conversely, the sample has much larger shares of firms in the 2-4 and 5-9 age bands.

Table 2: Age Breakdown of the Sample and Population Data

	Sample		Population	
	N	%	N	%
0-1	99	14.9%	119	11.4%
2-4	121	18.2%	122	11.7%
5-9	166	25.0%	169	16.3%
10+	279	41.9%	630	60.6%
Total	665	100.0	1,040	100.0

³ The sectoral data has been recoded into SIC 2007 broad categories based on the existing data provided by DC and data sourced by ERC from Companies House.

There is little difference between the sample and population data in terms of the regional distribution (Table 3). The most marked difference is in the share of firms in Yorkshire and the Humber at just 20 percent compared to a population share of 28 per cent. Just under half of the sample is comprised of firms from the South East and Yorkshire and the Humber.

Table 3: Regional Breakdown of the Sample and Population Data

	Sample		Population	
	N	%	N	%
East Midlands	4	0.6%	6	0.6%
East of England	61	9.2%	71	6.7%
London	54	8.1%	71	6.7%
North East	63	9.5%	98	9.3%
North West	62	9.3%	76	7.2%
South East	170	25.6%	274	26.0%
South West	57	8.6%	82	7.8%
West Midlands	61	9.2%	77	7.3%
Yorkshire and the Humber	133	20.0%	297	28.2%
Total	665	100.0	1,052	100.0

As stated above due to the extent of missing employment and turnover data for the entire population of firms the sizeband analysis is conducted on the sample only. Table 4 shows that the majority of firms are small, with just 14 per cent having more than 50 employees and a similar share having a turnover value of £5m or more. Firms have an average employment of 22 with a turnover of £2.4m. This is skewed somewhat by a small number of larger firms, as indicated by the smaller median values, which indicate an average employment of 9 and a turnover of £700,000.

Table 4: Sizeband Analysis of the Sample by Employment and Turnover

Employment	Employment		Turnover (£)	Turnover	
	N	%		N	%
0-4	145	31.2	0-499k	181	42.2
5-9	93	20.0	500k-999k	71	16.6
10-49	158	34.0	1m-4.9m	117	27.3
50+	69	14.8	5m+	60	14.0
Total	465	100	Total	429	100
Mean Size	22		£2,399,498		
Median Size	9		£700,000		

4 Survival Analysis

In total 581 firms, or 87 per cent of the 665 companies in the sample were still regarded as ‘Active’ or alive in 2016. This, however, does not give an indication of the overall survival rate as the 581 firms will be comprised of firms of different ages and of different cohort years. Survival analysis is therefore conducted via the Kaplan-Meier method⁴ to provide an estimate of the length of survival after receipt of support. The method is appropriate when there is right censoring of the data i.e. in cases where the firm has not died but is artificially ‘cut-off’ due to the study end date. Here we assume 2016 as the end year of the period of study⁵; given that the earliest cohort year is 2002 the maximum survival function that can be estimated is 14 years.

Table 5 shows the overall survival function for all cohorts combined. It suggests relatively high survival rates with 91 per cent of supported firms alive 5 years after support and 83% alive 10 years after support⁶.

Table 5: Overall Survivor Function of Full Sample (n=663)⁷

Years after DC Support	Survivor Function
1	99%
2	98%
3	97%
4	94%
5	91%
6	88%
7	85%
8	83%
9	83%
10	83%
11	79%
12	79%
14	66%

The survival analysis is re-run across a number of metrics to include age of firm (at receipt of support), size, region, sector and whether firms were recipients of single or multiple support schemes. Due to the reduction in the number of observations per category when split into ageband, sizeband etc. the standard errors for the survival rates increase, particularly over

⁴ Kaplan, E. L.; Meier, P. (1958). "Nonparametric estimation from incomplete observations". [Journal of American Statistical Association](#), **53** (282): 457–481

⁵ Of those that are recorded as ‘Dissolved’ the latest death date is given as 2016 so we make the assumption that the study period ends in 2016.

⁶ Due to the small number of firms accessing support in the earlier cohorts the standard errors become large after ten years. See Appendix One Table A1 for the full table including standard errors.

⁷ Note that two companies on the dataset died in the year they received support; the Kaplan-Meier method excludes such firms so the analysis is run on the remaining 663 firms.

longer periods of time. The following analysis is therefore restricted to a maximum time period of 6 years after receipt of support⁸.

Between 1 and 3 years after receipt of support around 90-100 per cent of firms across all agebands are still alive (Table 6). However the survival rates then start to diverge and by year 6 just 73 percent of firms that were start-ups at the time of support (age 0-1) survive compared to over 90 percent of older firms (age 5+)⁹. This difference is statistically significant. Likewise the 79 per cent of firms aged 2-4 years that survive 6 years after support is significantly lower than the survival rate of 94 per cent for the oldest firms (aged 10+)¹⁰.

Table 6: Survivor Function of firms, by age (years) at time of DC support

Years after DC Support	Age 0-1	Age 2-4	Age 5-9	Age 10+
1	98%	98%	99%	100%
2	96%	94%	99%	100%
3	91%	90%	99%	100%
4	83%	86%	95%	99%
5	79%	84%	93%	97%
6	73%	79%	92%	94%

The number of firms in the survival analysis by employee size is reduced by around 200 due to missing data. There is little difference in the survival rates across the sizebands (Table 7). In fact 6 years after receipt of support there is no significant difference between the smallest three size categories. All of the firms with 50 or more employees survive the six year period, although the number of firms involved is relatively small.

Table 7: Survivor Function of firms, by size (employees) (n=463¹¹)

Years after DC Support	0-4 emp	5-9 emp	10-49 emp	50+ emp
1	100%	99%	-	-
2	99%	98%	99%	100%
3	95%	95%	99%	100%
4	91%	94%	94%	100%
5	87%	91%	93%	100%
6	81%	85%	89%	100%

⁸ After 6 years the standard errors widen considerably for some categories. The full tables are included in the Appendices.

⁹ The survival rates for those aged 0-1 at the time of support are relatively high compared to survival rates from birth in the wider population. For example Table 12 indicates that under half of non-supported firms survive to age 5, which is also consistent with other empirical evidence (see Anyadike-Danes and Hart, M. (2015) "All grown up? The fate after 15 years of the quarter of a million UK firms born in 1998", ERC; Calvino, F., C. Criscuolo and C. Menon (2015), "Cross-country evidence on start-up dynamics", OECD Science, Technology and Industry Working Papers, 2015/06, OECD Publishing, Paris.) The results are indicative that Design Council support does enhance survival of both young and established firms, caveated by the fact that we have not controlled for other influences on survivability.

¹⁰ These results must be considered within the context that there is an under-representation of older firms within the sample.

¹¹ Of the usable sample, 200 firms did not provide employee information

The analysis by turnover sizeband is also affected by missing data. As with the employee data, there is little difference in the survival rates by turnover size (Table 8). Over 80 per cent of the smallest turnover firms survive 6 years after receipt of support, rising to over 90 per cent for the largest. Due to the relatively small numbers involved the differences by year 6 are not statistically significant across the sizebands.

Table 8: Survivor Function of firms, by size (turnover) (n=427)¹²

Years after DC Support	£0-499k	£500k-999k	£1m-4.9m	£5m+
1	99%	-	99%	-
2	98%	100%	99%	100%
3	95%	98%	99%	100%
4	91%	97%	94%	98%
5	87%	95%	94%	98%
6	83%	95%	89%	98%

Due to the number of categories involved the regional survival analysis is also affected by small numbers giving rise to large standard errors. The survival rates are therefore similar across all regions with no significant differences in the rate 6 years after support (Table 9).

Table 9: Survivor Function of firms, by region¹³ (n=663)

Years after DC support	East Midlands	East of England	London	North East	North West	South East	South West	West Midlands	Y&H
1	-	98%	-	97%	100%	-	96%	98%	-
2	100%	-	98%	97%	98%	99%	93%	97%	100%
3	-	98%	96%	95%	95%	96%	91%	97%	99%
4	100%	97%	91%	89%	85%	93%	89%	92%	98%
5	-	97%	91%	85%	85%	92%	87%	92%	92%
6	-	97%	89%	80%	-	86%	84%	90%	91%

Survival rates by sector are found to be similar within the first 3 years of receipt of support (Table 10). However by year 6 there are some notable differences; Manufacturing firms have a 95 per cent survival rate 6 years after receiving support compared to just 82 per cent of those in Professional and Business Support sectors. This difference is statistically significant suggesting that, other things being equal, support has a bigger impact on manufacturing firm survival¹⁴. There are no significant differences between the other sectors.

¹² Of the usable sample, 236 firms did not provide turnover information

¹³ The missing survival rates in the regional table are due to the fact that survival function is estimated based on number of firms that fail and/or are lost due to censoring. Small sample sizes at the regional level can result in neither event occurring in certain years, thus the survival estimate cannot be made for that year.

¹⁴ Without having access to data on other influences of survival these results are indicative only. To confirm that the increased survival was due to Design Council support only, one would need to control for these other potential influences.

Table 10: Survivor Function of firms, by sector (n=641¹⁵)

Years after DC support	Manufacturing	Wholesale & Retail	Information & Communication	Professional Services/Business Support	Other
1	100%	-	98%	99%	99%
2	99%	100%	97%	97%	97%
3	99%	98%	95%	95%	94%
4	98%	92%	93%	90%	92%
5	97%	92%	91%	85%	89%
6	95%	90%	84%	82%	86%

Splitting the sample into those that received one type of support and those that received multiple support types (Table 11) also shows no difference in survival. In total 87 per cent of both types of firm survive 6 years after their first receipt of support.

Table 11: Survivor Function of firms by type of DC support received (n=313¹⁶)

Years after DC support	Multi-support	Single support
1	99%	99%
2	98%	97%
3	95%	96%
4	92%	94%
5	91%	91%
6	87%	87%

Survival analysis has not been undertaken by cohort year as half of all firms in the sample were supported in just two years (2009 and 2010) and fewer than 60 firms were supported annually in any other individual year between 2002-14.

Similarly almost 70 per cent of firms received support for 'branding' as their first project type, resulting in too few observations for the other project types to undertake survival analysis by type of support given.

5 Linking to the Business Structure Database

The second stage of the analysis involved linking the Design Council dataset to the Business Structure Database (BSD) in order to undertake survival analysis against a control group of non-DC supported firms. The BSD database is composed of annual snapshots of the Interdepartmental Business Register (IDBR), which contains data on all firms in the UK registered for VAT and/or PAYE.

¹⁵ Of the usable sample, sectors could not be allocated to 22 firms

¹⁶ Of the usable sample, type of support provided was not available for 350 firms

Linking the Design Council dataset of 1,059 observations to the BSD resulted in a match for 759 firms; removing those previously identified as firms to be excluded left 563 firms with employment and turnover records from the BSD.

The first stage in undertaking the survival analysis was to construct a control group of firms that had not received support from the Design Council. This would provide the counterfactual position i.e. it would show the expected survival rate of firms had they not been supported by the Design Council. The control group was based on a random sample of firms on the BSD that had similar sectoral, size and year of birth profiles as the supported firms. Control Group 1 was based on a similar sample size to that of the DC supported firms, and was composed of 500 firms.¹⁷

Whilst firms in the wider population, from which the control groups were drawn, had not received support from the Design Council it is possible that they may have received support from other Government schemes. Indeed the Design Council supported firms may also have received other support. To reduce the impact of this on the analysis the samples were matched to a second dataset, provided to ERC, which contained firms that received Government Support from 9 different BEIS schemes. Once matched, those firms that had received other support were identifiable. The survival analysis was then run with these firms in receipt of other support both included and, subsequently, excluded from the sample. Control Group 2 was drawn only from the wider population of firms that had not received support from any of these schemes.

6 Survival Analysis against Control Groups

Due to the fact that the control groups had not received support from the Design Council the survival analysis was estimated as survival from birth rather than the previous analysis which estimated survival after receipt of support. Table 12 shows the survival time in years from birth for Control Group 1 both including, and excluding, those supported via BEIS schemes. The survival rates for Design Council supported firms are also shown when those supported by other schemes are both included and excluded.

After 5 years from birth just under half of firms in the control group had survived compared to 91% of the DC supported. When those that received other BEIS support are excluded the results are similar, around half of the control group survived 5 years compared to 85% of the DC supported. This finding, for the control groups, is consistent with expectations whereby around half of firms are thought to survive their first 5 years¹⁸¹⁹.

After 20 years just one fifth of the control group survived compared to between 66% - 77% of the supported firms. It is notable, for the DC supported firms, that the long-term survival rates (10 and 20 years) are significantly higher for those that also received support from other BEIS schemes compared to those that did not. Appendix 3 shows the survival rates in graph format.

¹⁷ A second control group was also drawn for robustness purposes. This was based on a sample size double that of the DC supported firms, and was composed of 1,000 firms. A larger sample size was drawn for Control Group 2 to allow for a greater number of firms to be included in the subsequent analysis of surviving firms.

¹⁸ The results for Control Group 2 are also consistent with these findings and are reported in Appendix 3 Table A3:1.

¹⁹ Anyadike-Danes and Hart, M. (2015) "All grown up? The fate after 15 years of the quarter of a million UK firms born in 1998", ERC ; Calvino, F., C. Criscuolo and C. Menon (2015), "Cross-country evidence on start-up dynamics", OECD Science, Technology and Industry Working Papers, 2015/06, OECD Publishing, Paris

Table 12: Survivor Function of DC Supported Firms versus Control Groups

Time (years)	Beg. Total	Survivor Function	Std. Error	95% CI lower	95% CI upper
Control Group 1 (with BEIS schemes)					
1	500	84.4%	1.6%	80.9%	87.3%
3	355	61.6%	2.2%	57.2%	65.7%
5	254	48.8%	2.3%	44.3%	53.2%
10	120	31.9%	2.2%	27.6%	36.3%
20	47	22.2%	2.2%	18.1%	26.6%
Control Group 1 (without BEIS schemes)					
1	486	84.2%	1.7%	80.6%	87.1%
3	342	60.7%	2.2%	56.2%	64.9%
5	242	47.8%	2.3%	43.2%	52.2%
10	111	30.3%	2.2%	26.0%	34.7%
20	40	20.2%	2.2%	16.2%	24.6%
DC supported (with BEIS schemes)					
1	563	97.5%	0.7%	95.8%	98.5%
3	541	94.0%	1.0%	91.7%	95.7%
5	494	90.6%	1.2%	87.9%	92.8%
10	382	85.2%	1.5%	81.9%	88.0%
20	174	77.0%	2.1%	72.6%	80.9%
DC supported (without BEIS schemes)					
1	297	97.0%	1.0%	94.3%	98.4%
3	280	90.6%	1.7%	86.6%	93.4%
5	247	85.3%	2.1%	80.7%	88.9%
10	183	77.1%	2.5%	71.7%	81.6%
20	72	65.7%	3.3%	58.7%	71.8%

Turning to sub-groups within the overall samples, Table 13 shows the survival function of the control group versus the DC supported for those in the manufacturing and non-manufacturing sectors. The results, and those of subsequent tables, include those firms that have received other forms of BEIS support as their exclusion reduces the sample sizes to the extent that it affects the ability to estimate survival.

The DC supported have higher survival rates than the control group across both sectors. For the control group there is no difference in survival between the two sectors however, for the DC supported, over the long term (20 years) there is a significantly higher survival rate for those in manufacturing than non-manufacturing. This suggests a greater impact from DC support on manufacturing than would be the case otherwise²⁰.

Table 13: Survivor Function of DC Supported Firms versus Control Group by Manufacturing and Non-Manufacturing

Time (years)	Beg. Total	Survivor Function	Std. Error	95% CI lower	95% CI upper
Control Group – Non-Manufacturing					
1	351	84.6%	1.9%	80.4%	88.0%
3	245	59.8%	2.6%	54.5%	64.7%
5	173	48.2%	2.7%	42.8%	53.3%
10	79	31.9%	2.7%	26.7%	37.2%
20	31	22.8%	2.7%	17.8%	28.2%
Control Group - Manufacturing					
1	149	83.9%	3.0%	76.9%	88.9%
3	110	65.8%	3.9%	57.6%	72.8%
5	81	50.5%	4.1%	42.1%	58.2%
10	41	31.9%	4.0%	24.4%	39.7%
20	16	21.1%	3.8%	14.2%	28.9%
DC Supported – Non-Manufacturing					
1	395	97.5%	0.8%	95.4%	98.6%
3	378	93.4%	1.3%	90.5%	95.5%
5	339	89.2%	1.6%	85.6%	91.9%
10	244	82.7%	2.0%	78.4%	86.2%
20	83	72.8%	2.9%	66.6%	77.9%
DC Supported - Manufacturing					
1	168	97.6%	1.2%	93.8%	99.1%
3	163	95.2%	1.6%	90.7%	97.6%
5	155	94.0%	1.8%	89.2%	96.7%
10	138	90.9%	2.2%	85.4%	94.4%
20	91	85.1%	3.0%	78.1%	90.0%

²⁰ The caveat here is that some of these firms were also in receipt of other types of BEIS support which may also have an impact and we have also not been able to exclude other potential influencing factors.

Survival by size of firm at birth is shown in Table 14. The sizes are split into those with fewer than 10 employees at birth and those with 10 or more employees. There are two key points; over the long term (10 and 20 years) survival rates are significantly higher for those born with 10 or more employees irrespective of whether in the control group or DC supported. Secondly, the DC supported have significantly higher survival rates than the control group at each point in time for both smaller and larger firms.

Table 14: Survivor Function of DC Supported Firms versus Control Group by Size at Birth (Under 10 employees or over 10 employees)

Time (years)	Beg. Total	Survivor Function	Std. Error	95% CI lower	95% CI upper
Control group – Size under 10					
1	395	83.8%	1.9%	79.8%	87.1%
3	273	59.2%	2.5%	54.2%	63.9%
5	189	46.1%	2.6%	41.0%	51.0%
10	76	27.8%	2.5%	23.0%	32.7%
20	18	17.4%	2.5%	12.8%	22.6%
Control group – Size 10 plus					
1	105	86.7%	3.3%	78.5%	91.9%
3	82	70.5%	4.5%	60.8%	78.2%
5	65	59.0%	4.8%	49.0%	67.7%
10	44	45.2%	4.9%	35.5%	54.5%
20	29	35.0%	4.8%	25.7%	44.5%
DC Supported – Size under 10					
1	413	97.1%	0.8%	94.9%	98.3%
3	393	92.5%	1.3%	89.5%	94.7%
5	351	88.4%	1.6%	84.9%	91.2%
10	256	82.3%	2.0%	78.1%	85.7%
20	79	70.7%	3.0%	64.4%	76.1%
DC Supported – Size 10 plus					
1	150	98.7%	0.9%	94.8%	99.7%
3	148	98.0%	1.1%	93.9%	99.4%
5	143	96.6%	1.5%	92.1%	98.6%
10	126	93.1%	2.1%	87.5%	96.2%
20	95	89.7%	2.6%	83.1%	93.8%

Survival by period of birth is show in Table 15. The sample is split into those born before and after 2008 to take into account recession effects. This time period selection may also reflect changes to the UK business support mechanism which moved from a previously devolved to a more centralised arrangement over these periods.

Due to the fact that those born in 2008 can only have a maximum of 8 years of survival (to 2016) the results are best compared at the 5 year point. For the control group there is no real difference in the 5 year survivor rates of firms born in either period, with around half still alive at that point. The DC supported have significantly higher survival rates of survival than control group firms, for those born in either period.

Amongst the DC supported firms survival rates are all higher for those born before the recession (<2008) compared to those born after. As indicated above this could be a reflection of the period of stability prior to the recession, or indeed, due to the more localised devolved support structure for firms in this period.

Table 15: Survivor Function of DC Supported Firms versus Control Group by Period of Birth (Pre and post-2008)

Time (years)	Beg. Total	Survivor Function	Std. Error	95% CI lower	95% CI upper
Control Group – Born <2008					
1	369	86.2%	1.8%	82.2%	89.3%
3	268	62.6%	2.5%	57.5%	67.3%
5	203	48.2%	2.6%	43.1%	53.2%
10	120	31.2%	2.4%	26.5%	35.9%
20	47	21.7%	2.3%	17.4%	26.2%
Control Group – Born >=2008					
1	131	79.4%	3.5%	71.4%	85.4%
3	87	58.8%	4.3%	49.9%	66.7%
5	51	51.8%	4.5%	42.5%	60.2%
8	13	40.1%	5.3%	29.7%	50.2%
DC Supported – Born <2008					
1	420	99.3%	0.4%	97.8%	99.8%
5	409	96.0%	1.0%	93.6%	97.5%
10	382	91.0%	1.4%	87.8%	93.3%
20	174	82.2%	2.1%	77.6%	86.0%
DC Supported – Born >=2008					
1	143	92.3%	2.2%	86.5%	95.7%
3	128	82.5%	3.2%	75.2%	87.8%
5	85	74.1%	3.8%	65.8%	80.7%
8	37	66.4%	4.6%	56.6%	74.5%

7 Growth Trend of Survivors

Having established that DC supported firms enjoy higher survival rates, even after controlling for receipt of other types of BEIS support, we now analyse the growth rates of the survivors. Given that the number of surviving firms in the control group declines more rapidly than the DC supported we also include firms from Control Group 2, this larger control sample allowing for a bigger number of surviving firms and a more robust analysis.

Tables 16 and 17 show employment and turnover growth for DC supported and control group firms that survived between 2008 and 2016. For the DC supported this relates to firms that were supported in 2009 or 2010 to allow for an analysis of the trends post-support²¹. The control groups exclude firms that were in receipt of support from other BEIS schemes. Figures 1 and 2 plot the growth in index form.

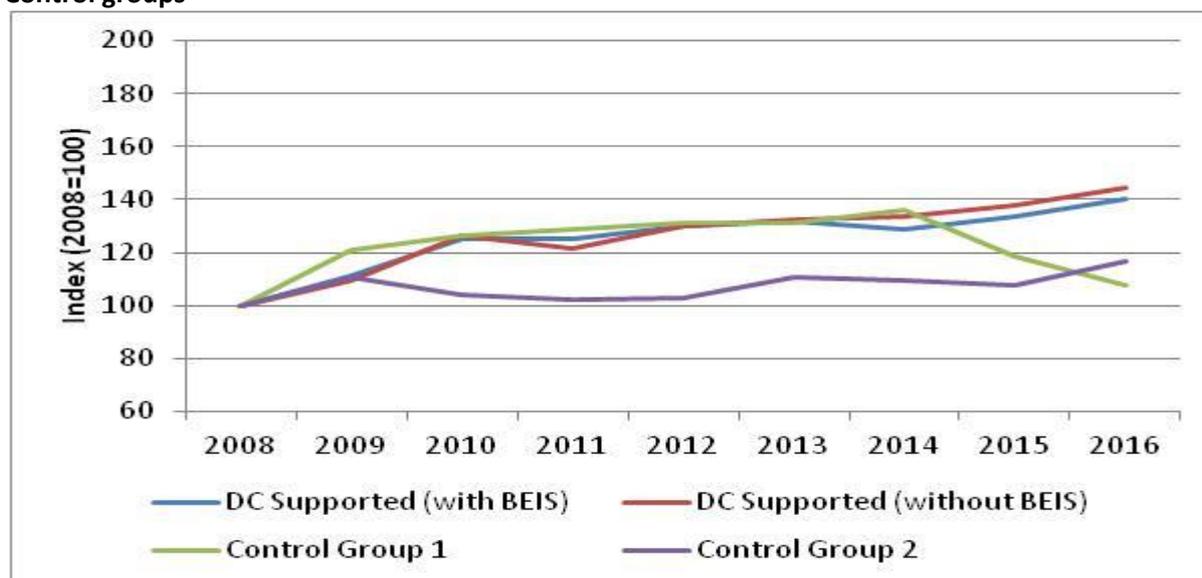
Comparing employment growth post-2010 (Figure 1) we see steady growth for the DC supported throughout the period; Control Group 1 also maintains a similar growth rate until 2014 and then declines. Control Group 2, on the contrary, experiences relatively little growth until 2015/16. Over the long term the DC supported firms (either with or without BEIS support) grow by around 40% between 2008 and 2016, more than double that of the control groups. Considering that the control group acts as the counterfactual this suggests a relatively strong impact from DC support, not only on survivability, but also on employment growth prospects.

Table 16: Employment and Index of Employment Change for Survivors 2008-16: DC Supported in 2009/10 versus Control Groups

	N	2008	2009	2010	2011	2012	2013	2014	2015	2016
DC Supported (with BEIS support)	206	4569	5082	5720	5721	5950	6012	5893	6103	6397
DC Supported (without BEIS support)	113	2213	2419	2790	2687	2874	2928	2961	3047	3192
Control Group 1	92	1588	1918	2005	2047	2084	2088	2164	1878	1712
Control Group 2	207	3438	3802	3569	3508	3527	3799	3754	3707	4015
Index (2008=100)										
	N	2008	2009	2010	2011	2012	2013	2014	2015	2016
DC Supported (with BEIS support)	206	100.0	111.2	125.2	125.2	130.2	131.6	129.0	133.6	140.0
DC Supported (without BEIS support)	113	100.0	109.3	126.1	121.4	129.9	132.3	133.8	137.7	144.2
Control Group 1	92	100.0	120.8	126.3	128.9	131.2	131.5	136.3	118.3	107.8
Control Group 2	207	100.0	110.6	103.8	102.0	102.6	110.5	109.2	107.8	116.8

²¹ The 2009 and 2010 cohorts were combined to increase the number of observations. There were too few firms in the other cohort years to undertake an analysis of survivor growth.

Figure 1: Index of Employment Change for Survivors 2008-16: DC Supported in 2009/10 versus Control groups



The turnover growth trends for the DC supported are more pronounced than that for employment and when compared to the control groups. Figure 2 shows immediate strong turnover growth post-2011 for those that received DC and other BEIS support; those in receipt of DC support only witnessing the strongest growth post-2013. Firms in Control Group 2 grew relatively slowly whilst those in Control Group 1 experienced a growth spurt between 2011 and 2014 but on the whole both again grew more slowly than the DC supported. In fact turnover growth over the whole 2008-16 period for the control groups was less than half that of the DC supported.

The fact that turnover growth exceeded growth in employment amongst DC supported firms also suggests that there was an increase in productivity amongst these survivor firms. Indeed, productivity growth which results from both employment and turnover growth, the latter exceeding the former, is the preferred type of productivity growth in the economy. It means that firms are becoming more productive without shedding labour; these firms termed 'growth heroes' (Du and Bonner, 2016)²².

²² Du J. and Bonner, K. (2016) "Decomposing UK aggregate labour productivity and growth: 1998-2013 using the ONS business structure database data", ERC Research Paper No. 48

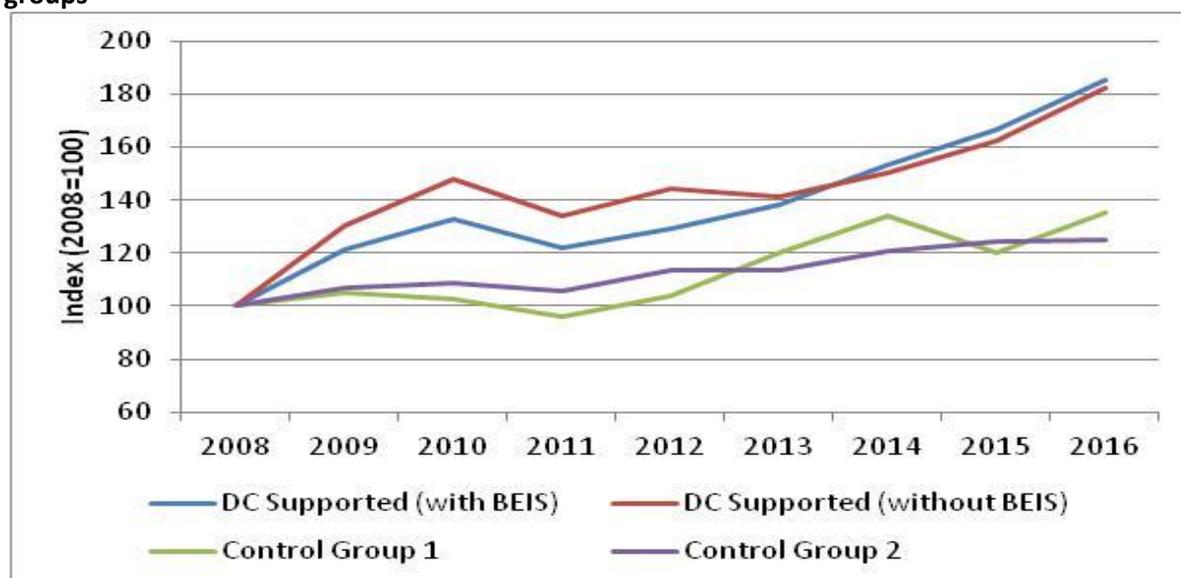
Table 17: Turnover (£000S) and Index of Turnover Change for Survivors 2008-16: DC Supported in 2009/10 versus Control Group

	N	2008	2009	2010	2011	2012	2013	2014	2015	2016
DC Supported (with BEIS)	206	427,514	518,190	567,846	522,752	553,194	591,738	656,024	711,425	792,885
DC Supported (without BEIS)	113	209,599	273,131	310,106	281,479	301,919	296,335	314,594	340,468	381,760
Control Group 1	92	142,748	150,394	146,557	136,920	148,400	171,928	191,801	171,918	193,519
Control Group 2	207	355,749	380,544	385,826	376,212	404,630	404,193	430,131	442,215	444,918

Index

	N	2008	2009	2010	2011	2012	2013	2014	2015	2016
DC Supported (with BEIS)	206	100.0	121.2	132.8	122.3	129.4	138.4	153.5	166.4	185.5
DC Supported (without BEIS)	113	100.0	130.3	148.0	134.3	144.0	141.4	150.1	162.4	182.1
Control Group 1	92	100.0	105.4	102.7	95.9	104.0	120.4	134.4	120.4	135.6
Control Group 2	207	100.0	107.0	108.5	105.8	113.7	113.6	120.9	124.3	125.1

Figure 2: Index of Turnover Change for Survivors 2005-13: DC Supported in 2009/10 versus Control groups



8 Summary

The purpose of this analysis was to examine the survivability of Design Council supported firms. This was investigated in two ways, firstly in terms of survival after receipt of support and secondly, when compared to control groups of non-supported firms, in terms of survival from birth.

The analysis indicated that Design Council supported firms did indeed enjoy relatively high survival rates after receiving support. In fact over four fifths were still in operation 10 years after receipt of initial assistance. Those firms that were already well established by the time they received support fared better than those in receipt within the first few years of start-up. However there were little differences in the survivor rates of those firms of different size, or across regions. A notable difference was that manufacturing firms had higher survival rates than firms in professional services.

Given the strong survivability amongst the Design Council supported firms their resilience against the wider population was tested by comparing survival from birth against groups of firms with similar characteristics. Control groups were used to provide the counterfactual position, namely how those firms supported by Design Council would have performed in the absence of the support. To aid this analysis those in both the Design Council sample and the control groups that were in receipt of support from other BEIS schemes were identified and, where appropriate, excluded from the analysis to reduce the impact of wider support on the results.

Estimates of survivability from birth also pointed to strong Design Council impacts, particularly over the long term. Consistent with other research, it was found that around half of the non-supported firms did not survive past the 5 year mark which was in contrast to over 85% of firms supported by Design Council. The 10 and 20 year survival rates of the supported firms, at over 65%, were also higher than the 5 year survival rates of the control groups. These better survival rates for the supported firms also held up when the samples were further broken down by sector, size and age.

Once the improved survivability of DC supported firms was confirmed, albeit caveated by the fact that the analysis was descriptive in nature rather than causal and cannot take into account all other factors that may have had an impact, the growth trends of survivor firms were examined. Here the post-support trends in employment and turnover were analysed. Compared to the counterfactual, estimated using two control groups, the Design Council supported firms saw higher employment and turnover growth overall; both increasing by at least double that of the control groups by 2016. The growth rate in turnover also exceeded total employment growth for the supported firms pointing to improved productivity overall for this group. Again, given the nature of the analysis, a direct causal link cannot be assumed between Design Council support and the improved growth rates. In the absence of a more robust econometric analysis, however, the results of both the survival and growth trend analysis does point to improved rates of survival and higher growth associated with receipt of Design Council support.

Appendix One

Table A1:1: Kaplan-Meier Survivor Function for Full Sample (n=663)

Time	Beginning Total	Fail	Net Lost	Survivor Function	Std. Error	95% Conf. Interval	
1	663	6	3	99%	0%	98%	100%
2	654	7	53	98%	1%	97%	99%
3	594	9	46	97%	1%	95%	98%
4	539	17	28	94%	1%	91%	95%
5	494	13	24	91%	1%	88%	93%
6	457	15	162	88%	1%	85%	90%
7	280	10	141	85%	2%	81%	88%
8	129	3	38	83%	2%	79%	86%
9	88	0	18	83%	2%	79%	86%
10	70	0	48	83%	2%	79%	86%
11	22	1	6	79%	4%	70%	86%
12	15	0	9	79%	4%	70%	86%
14	6	1	5	66%	13%	36%	84%

Table A1:2: Kaplan-Meier Survivor Function of firms by age (years) at time of DC support (n=663)

Time	Beginning Total	Fail	Net Lost	Survivor Function	Std. Error	95% Conf. Interval	
0 – 1 years							
1	99	2	3	98%	1%	92%	99%
2	94	2	11	96%	2%	89%	98%
3	81	4	11	91%	3%	83%	95%
4	66	6	2	83%	4%	73%	90%
5	58	3	2	79%	5%	68%	86%
6	53	4	14	73%	5%	61%	81%
7	35	5	11	62%	6%	49%	73%
8	19	0	6	62%	6%	49%	73%
9	13	0	2	62%	6%	49%	73%
10	11	0	9	62%	6%	49%	73%
11	2	0	1	62%	6%	49%	73%
12	1	0	1	62%	6%	49%	73%
2-4 years							
1	120	2	0	98%	1%	94%	100%
2	118	5	14	94%	2%	88%	97%
3	99	4	4	90%	3%	83%	95%
4	91	4	1	86%	3%	78%	92%
5	86	2	5	84%	4%	76%	90%
6	79	5	27	79%	4%	70%	86%
7	47	1	28	77%	4%	68%	84%
8	18	1	4	73%	6%	60%	83%
9	13	0	5	73%	6%	60%	83%
10	8	0	8	73%	6%	60%	83%
5 – 9 years							
1	165	1	0	99%	1%	96%	100%
2	164	0	12	99%	1%	96%	100%
3	152	1	10	99%	1%	95%	100%
4	141	5	8	95%	2%	90%	98%
5	128	3	4	93%	2%	87%	96%
6	121	1	47	92%	2%	86%	96%
7	73	2	43	90%	3%	83%	94%
8	28	0	14	90%	3%	83%	94%
10	14	0	12	90%	3%	83%	94%
11	2	0	1	90%	3%	83%	94%
12	1	0	1	90%	3%	83%	94%
10+ years							
1	279	1	0	100%	0%	97%	100%
2	278	0	16	100%	0%	97%	100%
3	262	0	21	100%	0%	97%	100%
4	241	2	17	99%	1%	96%	100%
5	222	5	13	97%	1%	93%	98%

6	204	5	74	94%	2%	90%	97%
7	125	2	59	93%	2%	88%	96%
8	64	2	14	90%	3%	83%	94%
9	48	0	11	90%	3%	83%	94%
10	37	0	19	90%	3%	83%	94%
11	18	1	4	85%	5%	70%	93%
12	13	0	7	85%	5%	70%	93%
14	6	1	5	71%	14%	35%	89%

Table A1:3: Kaplan-Meier Survivor Function of firms, by size (employees) (n=463)

Time	Beginning Total	Fail	Net Lost	Survivor Function	Std. Error	95% Conf. Interval	
0-4							
1	143	0	2	100%	.	.	.
2	141	2	23	99%	1%	94%	100%
3	116	4	18	95%	2%	90%	98%
4	94	4	6	91%	3%	84%	95%
5	84	4	7	87%	3%	79%	92%
6	73	5	32	81%	4%	71%	87%
7	36	2	27	76%	5%	65%	84%
8	7	0	6	76%	5%	65%	84%
9	1	0	1	76%	5%	65%	84%
5-9							
1	93	1	1	99%	1%	93%	100%
2	91	1	13	98%	2%	92%	99%
3	77	2	12	95%	2%	88%	98%
4	63	1	3	94%	3%	86%	97%
5	59	2	4	91%	3%	81%	95%
6	53	3	20	85%	4%	74%	92%
7	30	0	22	85%	4%	74%	92%
8	8	1	6	75%	11%	47%	90%
9	1	0	1	75%	11%	47%	90%
10-49							
2	158	2	12	99%	1%	95%	100%
3	144	0	10	99%	1%	95%	100%
4	134	7	11	94%	2%	88%	97%
5	116	1	8	93%	2%	87%	96%
6	107	4	48	89%	3%	83%	94%
7	55	1	44	88%	3%	80%	93%
8	10	0	9	88%	3%	80%	93%
9	1	0	1	88%	3%	80%	93%
50+							
2	69	0	4	100%	.	.	.
3	65	0	5	100%	.	.	.
4	60	0	8	100%	.	.	.
5	52	0	4	100%	.	.	.
6	48	0	18	100%	.	.	.
7	30	0	24	100%	.	.	.
8	6	0	5	100%	.	.	.
9	1	0	1	100%	.	.	.

Table A1:4: Kaplan-Meier Survivor Function of firms, by size (turnover) (n=427)

Time	Beginning Total	Fail	Net Lost	Survivor Function	Std. Error	95% Conf. Interval	
0-499k							
1	179	1	2	99%	1%	96%	100%
2	176	3	29	98%	1%	94%	99%
3	144	4	20	95%	2%	90%	97%
4	120	5	8	91%	2%	85%	95%
5	107	5	9	87%	3%	80%	92%
6	93	4	33	83%	3%	75%	89%
7	56	1	41	82%	4%	73%	88%
8	14	0	12	82%	4%	73%	88%
9	2	0	2	82%	4%	73%	88%
500k-999k							
2	71	0	8	100%	.	.	.
3	63	1	10	98%	2%	89%	100%
4	52	1	1	97%	2%	87%	99%
5	50	1	2	95%	3%	84%	98%
6	47	0	26	95%	3%	84%	98%
7	21	0	17	95%	3%	84%	98%
8	4	1	2	71%	21%	16%	94%
9	1	0	1	71%	21%	16%	94%
1m-4.9m							
1	117	1	0	99%	1%	94%	100%
2	116	0	12	99%	1%	94%	100%
3	104	0	10	99%	1%	94%	100%
4	94	5	9	94%	2%	87%	97%
5	80	0	5	94%	2%	87%	97%
6	75	4	36	89%	3%	80%	94%
7	35	0	29	89%	3%	80%	94%
8	6	0	6	89%	3%	80%	94%
5m+							
2	60	0	2	100%	.	.	.
3	58	0	4	100%	.	.	.
4	54	1	9	98%	2%	88%	100%
5	44	0	3	98%	2%	88%	100%
6	41	0	12	98%	2%	88%	100%
7	29	0	23	98%	2%	88%	100%
8	6	0	4	98%	2%	88%	100%
9	2	0	2	98%	2%	88%	100%
2	60	0	2	100%	.	.	.
3	58	0	4	100%	.	.	.
4	54	1	9	98%	2%	88%	100%
5	44	0	3	98%	2%	88%	100%
6	41	0	12	98%	2%	88%	100%

Table A1:5: Kaplan-Meier Survivor Function of firm, by region (n=663)

Time	Beginning Total	Fail	Net Lost	Survivor Function	Std. Error	95% Conf. Interval	
East midlands							
2	4	0	1	100%	.	.	.
4	3	0	1	100%	.	.	.
7	2	0	1	100%	.	.	.
12	1	0	1	100%	.	.	.
East of England							
1	61	1	0	98%	2%	89%	100%
3	60	0	3	98%	2%	89%	100%
4	57	1	4	97%	2%	87%	99%
5	52	0	3	97%	2%	87%	99%
6	49	0	35	97%	2%	87%	99%
7	14	0	11	97%	2%	87%	99%
10	3	0	1	97%	2%	87%	99%
14	2	0	2	97%	2%	87%	99%
London							
2	54	1	6	98%	2%	88%	100%
3	47	1	5	96%	3%	85%	99%
4	41	2	3	91%	4%	79%	97%
5	36	0	4	91%	4%	79%	97%
6	32	1	11	89%	5%	74%	95%
7	20	1	16	84%	6%	67%	93%
8	3	0	1	84%	6%	67%	93%
9	2	0	1	84%	6%	67%	93%
10	1	0	1	84%	6%	67%	93%
North East							
1	62	2	0	97%	2%	88%	99%
2	60	0	4	97%	2%	88%	99%
3	56	1	9	95%	3%	85%	98%
4	46	3	0	89%	4%	77%	95%
5	43	2	1	85%	5%	72%	92%
6	40	2	9	80%	6%	67%	89%
7	29	3	12	72%	7%	56%	83%
8	14	1	13	67%	8%	49%	80%
North West							
1	62	0	3	100%	.	.	.
2	59	1	24	98%	2%	89%	100%
3	34	1	15	95%	3%	82%	99%
4	18	2	6	85%	8%	62%	95%
5	10	0	6	85%	8%	62%	95%
10	4	0	2	85%	8%	62%	95%
11	2	0	1	85%	8%	62%	95%
14	1	0	1	85%	8%	62%	95%
South East							
2	170	2	7	99%	1%	95%	100%
3	161	4	6	96%	1%	92%	98%
4	151	5	9	93%	2%	88%	96%
5	137	2	3	92%	2%	86%	95%
6	132	8	56	86%	3%	80%	91%

7	68	2	43	84%	3%	76%	89%
8	23	0	13	84%	3%	76%	89%
9	10	0	7	84%	3%	76%	89%
12	3	0	3	84%	3%	76%	89%
South West							
1	57	2	0	96%	2%	87%	99%
2	55	2	2	93%	3%	82%	97%
3	51	1	0	91%	4%	80%	96%
4	50	1	1	89%	4%	78%	95%
5	48	1	2	87%	4%	76%	94%
6	45	2	14	84%	5%	71%	91%
7	29	1	18	81%	6%	67%	89%
8	10	1	9	73%	9%	50%	86%
West Midlands							
1	61	1	0	98%	2%	89%	100%
2	60	1	8	97%	2%	88%	99%
3	51	0	7	97%	2%	88%	99%
4	44	2	3	92%	4%	81%	97%
5	39	0	5	92%	4%	81%	97%
6	34	1	14	90%	5%	76%	96%
7	19	1	4	85%	6%	67%	93%
8	14	0	2	85%	6%	67%	93%
9	12	0	1	85%	6%	67%	93%
11	11	0	5	85%	6%	67%	93%
12	6	0	4	85%	6%	67%	93%
14	2	1	1	42%	30%	1%	84%
Yorkshire and the Humber							
2	132	0	1	100%	.	.	.
3	131	1	1	99%	1%	95%	100%
4	129	1	1	98%	1%	94%	100%
5	127	8	0	92%	2%	86%	96%
6	119	1	23	91%	2%	85%	95%
7	95	2	36	90%	3%	83%	94%
8	57	1	0	88%	3%	80%	93%
9	56	0	9	88%	3%	80%	93%
10	47	0	44	88%	3%	80%	93%
11	3	1	0	59%	24%	9%	89%
12	2	0	1	59%	24%	9%	89%
14	1	0	1	59%	24%	9%	89%

Table A1:6: Kaplan-Meier Survivor Function of firms, by sector (n=641)

Time	Beginning Total	Fail	Net Lost	Survivor Function	Std. Error	95% Conf. Interval	
Manufacturing							
1	219	1	0	100%	0%	97%	100%
2	218	1	9	99%	1%	96%	100%
3	208	0	18	99%	1%	96%	100%
4	190	2	17	98%	1%	95%	99%
5	171	1	11	97%	1%	94%	99%
6	159	4	63	95%	2%	91%	97%
7	92	3	34	92%	2%	86%	95%
8	55	1	9	90%	3%	83%	95%
9	45	0	8	90%	3%	83%	95%
10	37	0	26	90%	3%	83%	95%
11	11	1	4	82%	8%	59%	93%
12	6	0	5	82%	8%	59%	93%
14	1	0	1	82%	8%	59%	93%
Wholesale & Retail							
2	72	0	7	100%	.	.	.
3	65	1	5	98%	2%	90%	100%
4	59	4	3	92%	4%	81%	97%
5	52	0	1	92%	4%	81%	97%
6	51	1	15	90%	4%	79%	95%
7	35	0	22	90%	4%	79%	95%
8	13	2	5	76%	10%	51%	90%
9	6	0	2	76%	10%	51%	90%
10	4	0	2	76%	10%	51%	90%
12	2	0	1	76%	10%	51%	90%
14	1	0	1	76%	10%	51%	90%
Information & Communication							
1	64	1	0	98%	2%	89%	100%
2	63	1	8	97%	2%	88%	99%
3	54	1	7	95%	3%	85%	98%
4	46	1	2	93%	3%	82%	97%
5	43	1	2	91%	4%	79%	96%
6	40	3	14	84%	5%	70%	92%
7	23	0	16	84%	5%	70%	92%
8	7	0	4	84%	5%	70%	92%
9	3	0	1	84%	5%	70%	92%
10	2	0	2	84%	5%	70%	92%
Professional Services/Business Support							
1	151	2	0	99%	1%	95%	100%
2	149	2	18	97%	1%	93%	99%
3	129	3	10	95%	2%	90%	98%
4	116	6	6	90%	3%	84%	94%
5	104	6	6	85%	3%	77%	90%
6	92	3	29	82%	3%	74%	88%
7	60	5	35	75%	4%	66%	83%
8	20	0	10	75%	4%	66%	83%
9	10	0	3	75%	4%	66%	83%
10	7	0	7	75%	4%	66%	83%

Other							
1	135	1	3	99%	1%	95%	100%
2	131	3	11	97%	1%	92%	99%
3	117	4	6	94%	2%	88%	97%
4	107	2	0	92%	2%	85%	96%
5	105	3	3	89%	3%	82%	94%
6	99	4	40	86%	3%	78%	91%
7	55	2	34	83%	4%	74%	89%
8	19	0	9	83%	4%	74%	89%
9	10	0	4	83%	4%	74%	89%
10	6	0	4	83%	4%	74%	89%
11	2	0	1	83%	4%	74%	89%
14	1	0	1	83%	4%	74%	89%

Table A1:7: Kaplan-Meier Survivor Function of firms by type of DC support received (n=313)

Time	Beginning Total	Fail	Net Lost	Survivor Function	Std. Error	95% Conf. Interval	
Multi-support							
1	171	2	0	99%	1%	95%	100%
2	169	1	0	98%	1%	95%	99%
3	168	5	2	95%	2%	91%	98%
4	161	6	3	92%	2%	87%	95%
5	152	2	11	91%	2%	85%	94%
6	139	6	56	87%	3%	80%	91%
7	77	7	51	79%	4%	70%	85%
8	19	1	13	75%	5%	62%	83%
9	5	0	4	75%	5%	62%	83%
10	1	0	1	75%	5%	62%	83%
Single support							
1	142	1	0	99%	1%	95%	100%
2	141	3	0	97%	1%	93%	99%
3	138	1	1	96%	2%	92%	99%
4	136	4	4	94%	2%	88%	97%
5	128	4	1	91%	2%	85%	95%
6	123	5	51	87%	3%	80%	92%
7	67	1	47	86%	3%	78%	91%
8	19	0	15	86%	3%	78%	91%
9	4	0	4	86%	3%	78%	91%

Appendix Two

Figure A2:1: Kaplan-Meier Survivor Function for Full Sample (n=663)

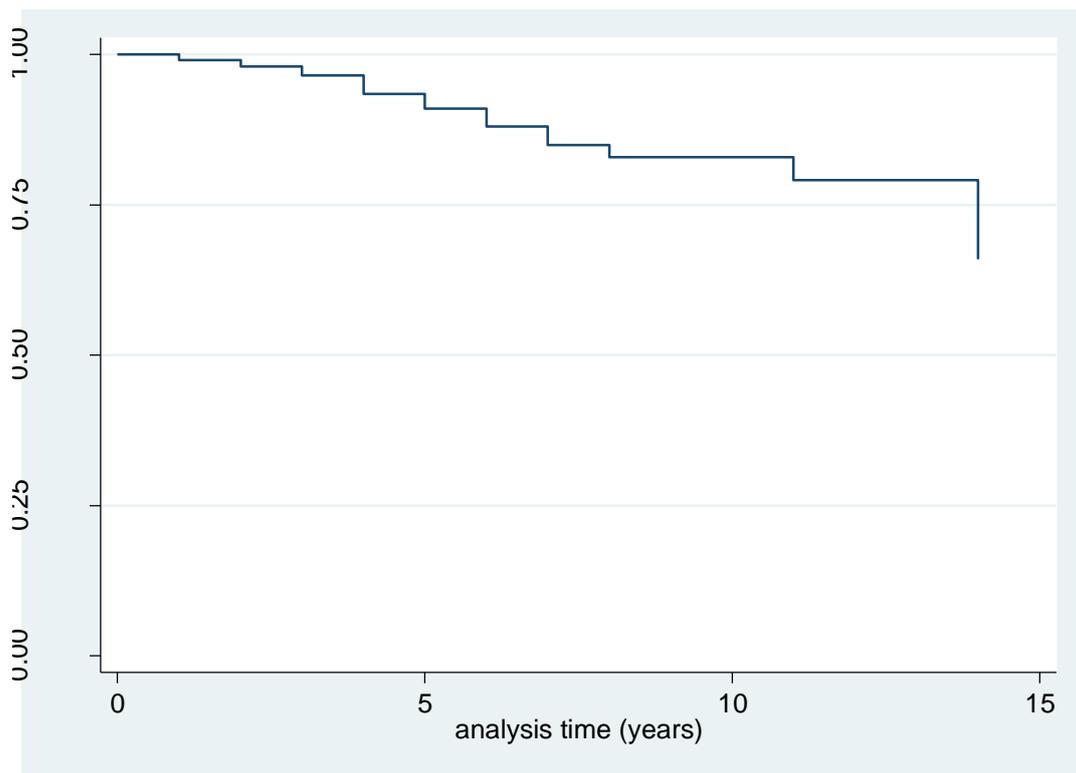


Figure A2:2: Kaplan-Meier Survivor Function of firms by age (years) at time of DC support (n=663)

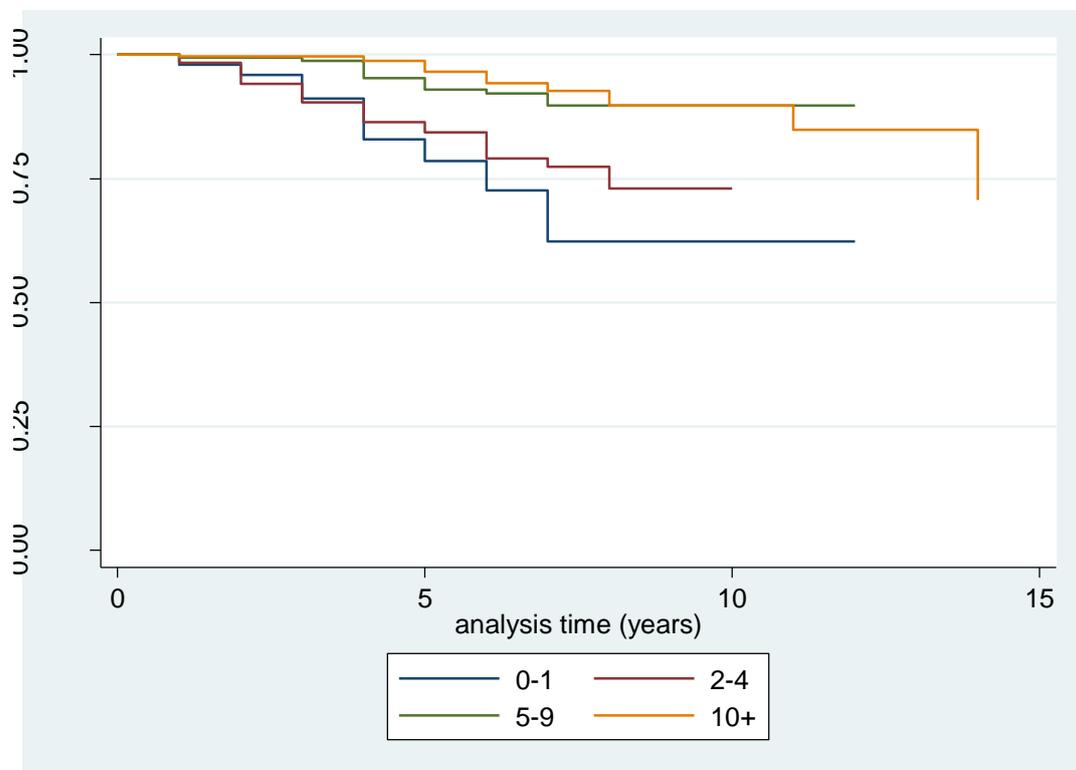


Figure A2:3: Kaplan-Meier Survivor Function of firms, by size (employees) (n=463)

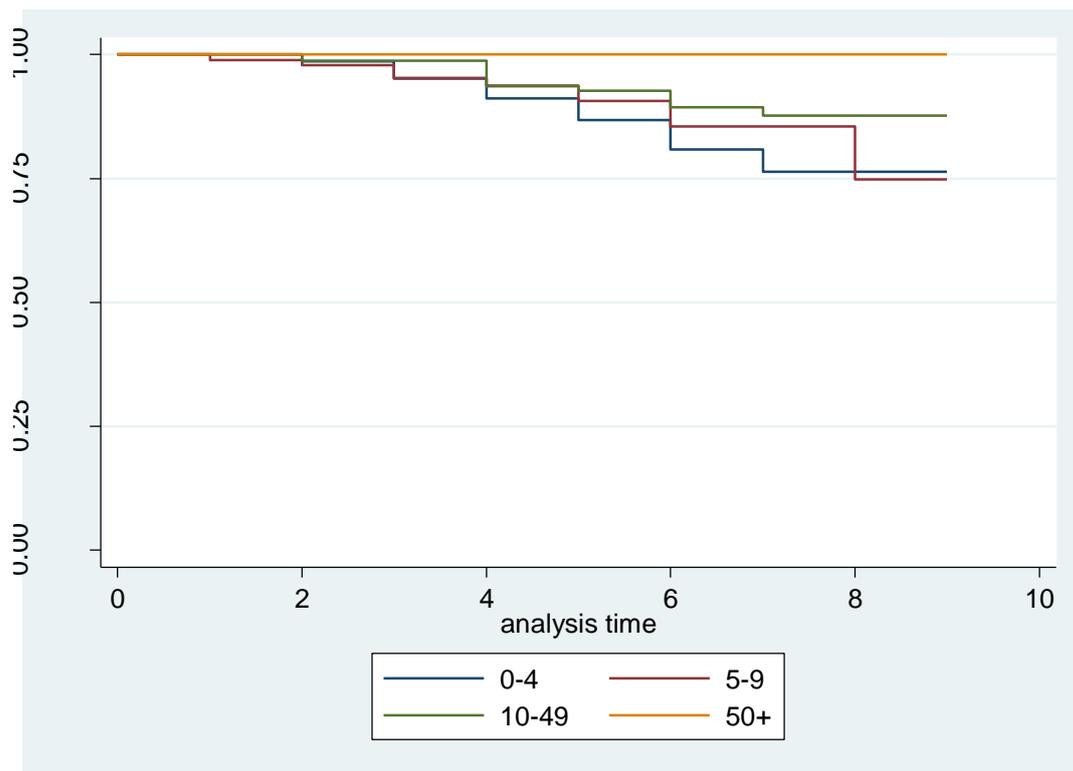


Figure A2:4: Kaplan-Meier Survivor Function of firms, by size (turnover) (n=427)

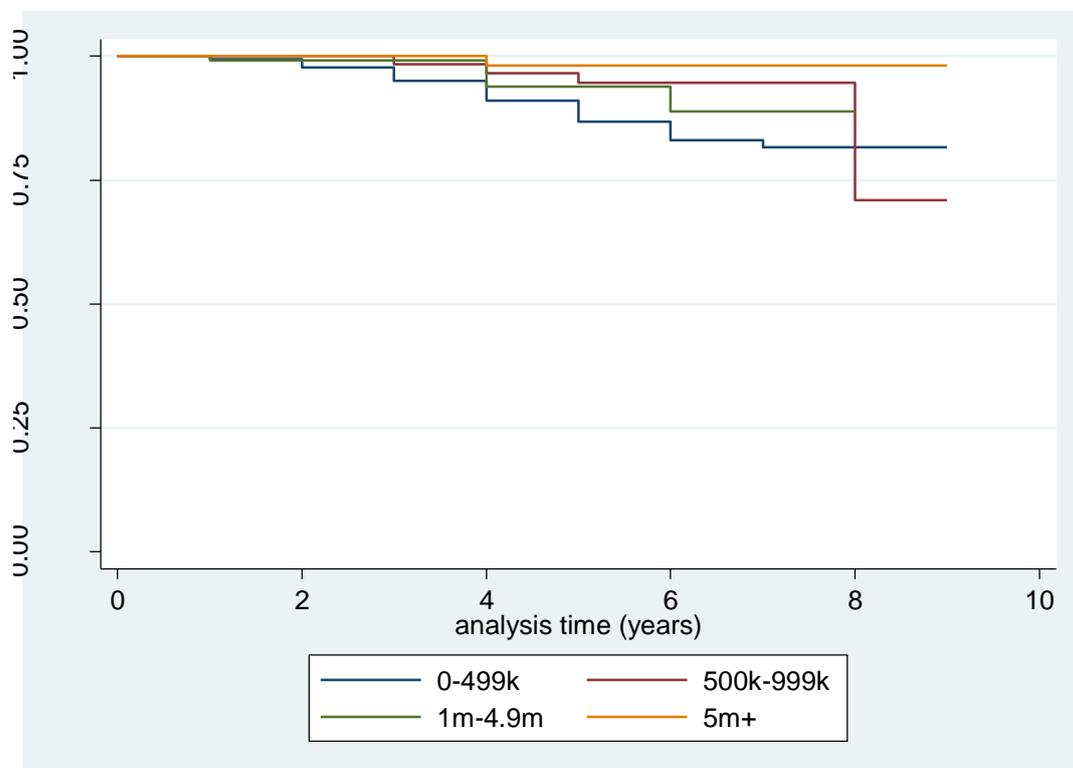


Figure A2:5: Kaplan-Meier Survivor Function of firms, by region (n=663)

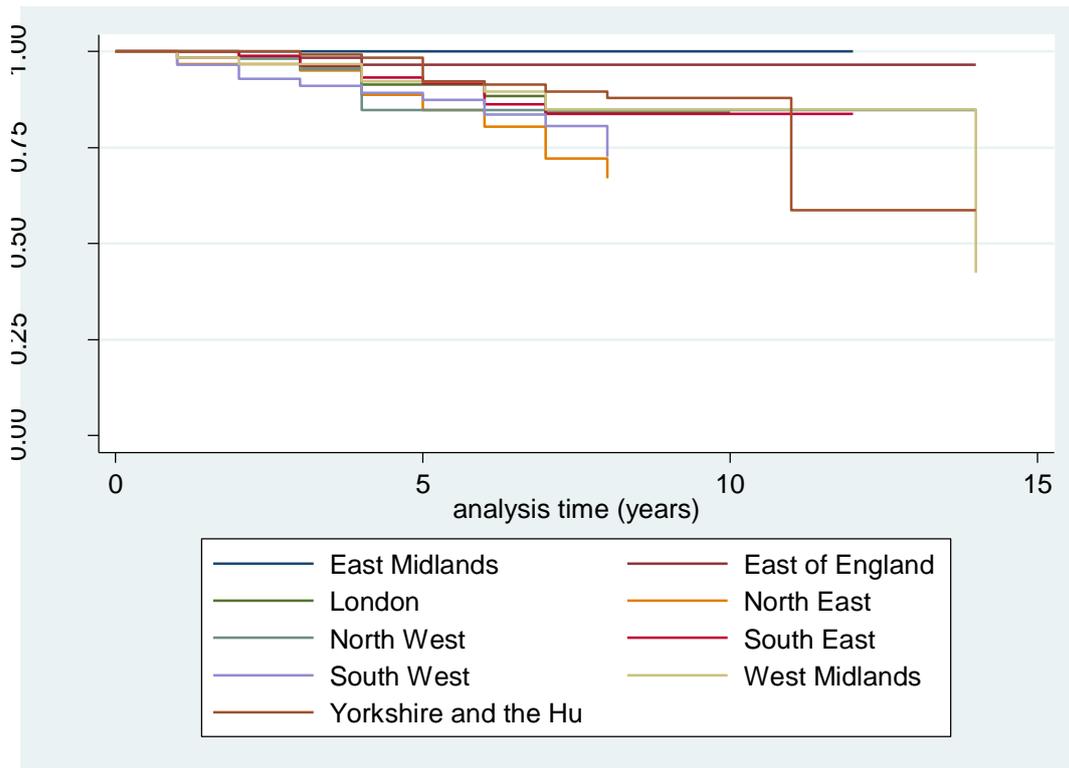


Figure A2:6: Kaplan-Meier Survivor Function of firms, by sector (n=641)

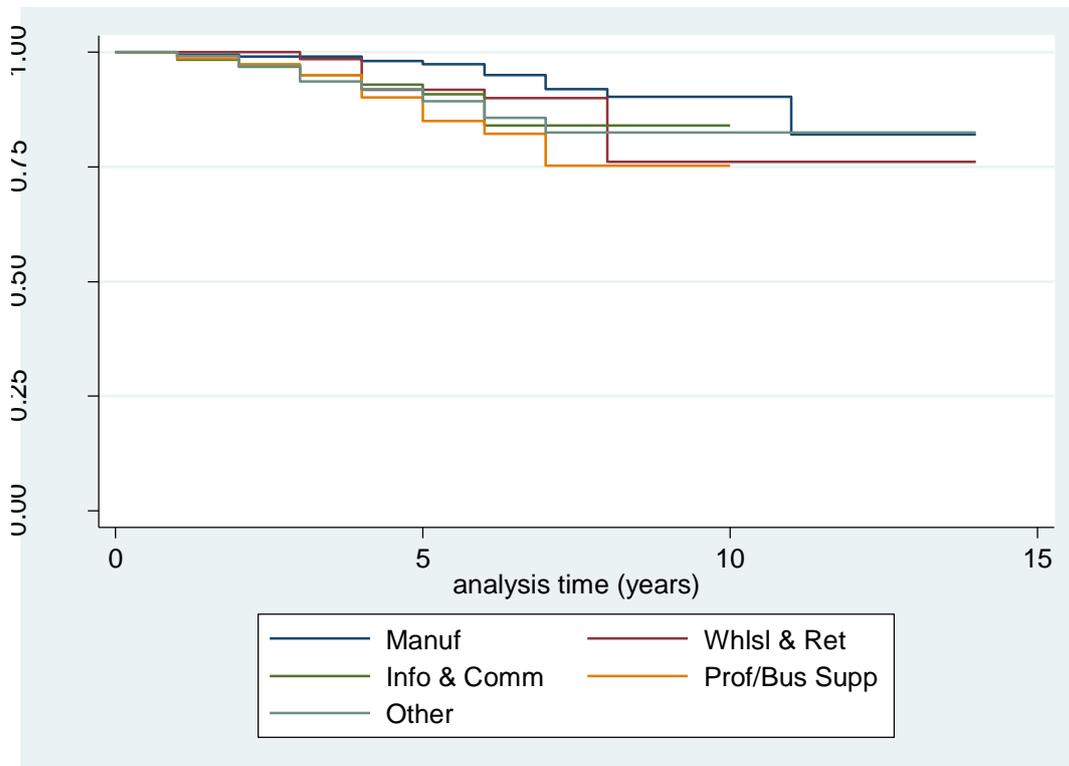
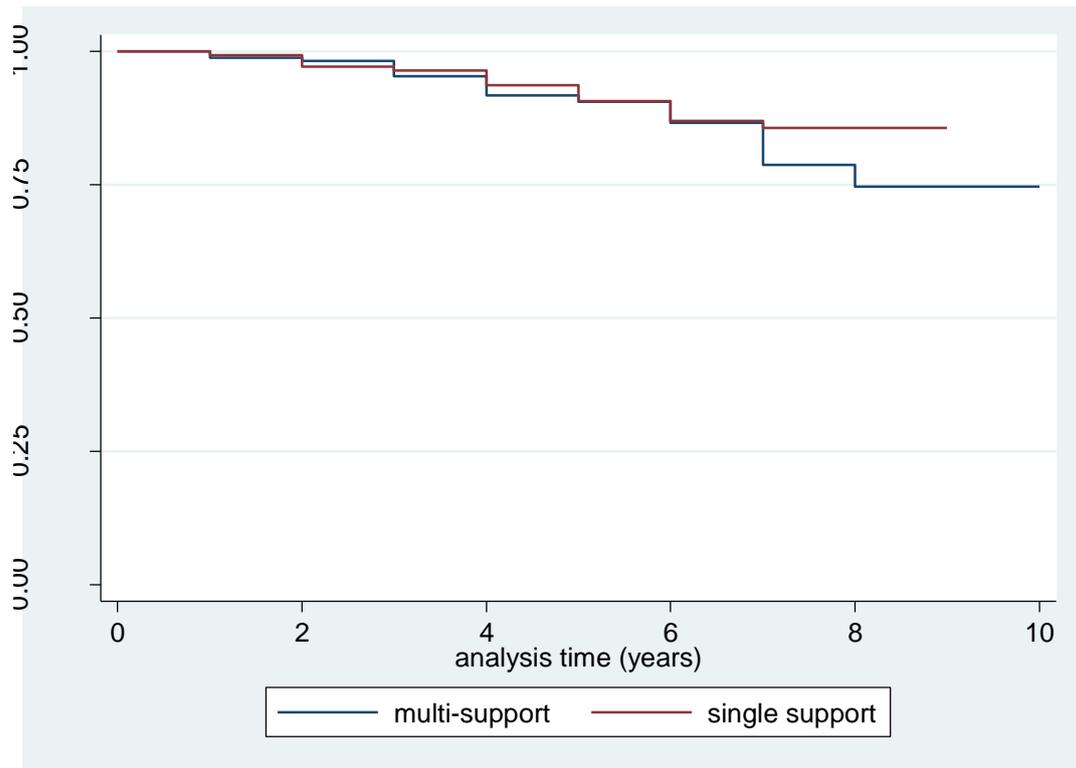


Figure A2:7: Kaplan-Meier Survivor Function of firms by type of DC support received (n=313)



Appendix Three

Table A3:1: Survivor Function of DC-Supported Firms versus Control Group 2

Time (years)	Beginning Total Firms	Survivor Function	Std. Error	95% CI lower	95% CI upper
Control Group 2 (without BEIS schemes)					
1	1000	82.9%	1.2%	80.4%	85.1%
3	689	58.7%	1.6%	55.6%	61.7%
5	489	45.3%	1.6%	42.2%	48.4%
10	244	30.7%	1.5%	27.7%	33.8%
20	83	18.7%	1.5%	15.9%	21.7%
DC Supported (with BEIS schemes)					
1	563	97.5%	0.7%	95.8%	98.5%
3	541	94.0%	1.0%	91.7%	95.7%
5	494	90.6%	1.2%	87.9%	92.8%
10	382	85.2%	1.5%	81.9%	88.0%
20	174	77.0%	2.1%	72.6%	80.9%
DC Supported (without BEIS schemes)					
1	297	97.0%	1.0%	94.3%	98.4%
3	280	90.6%	1.7%	86.6%	93.4%
5	247	85.3%	2.1%	80.7%	88.9%
10	183	77.1%	2.5%	71.7%	81.6%
20	72	65.7%	3.3%	58.7%	71.8%

Figure A3:1: Survivor Function of DC Supported Firms versus Control Group (BEIS Support included)

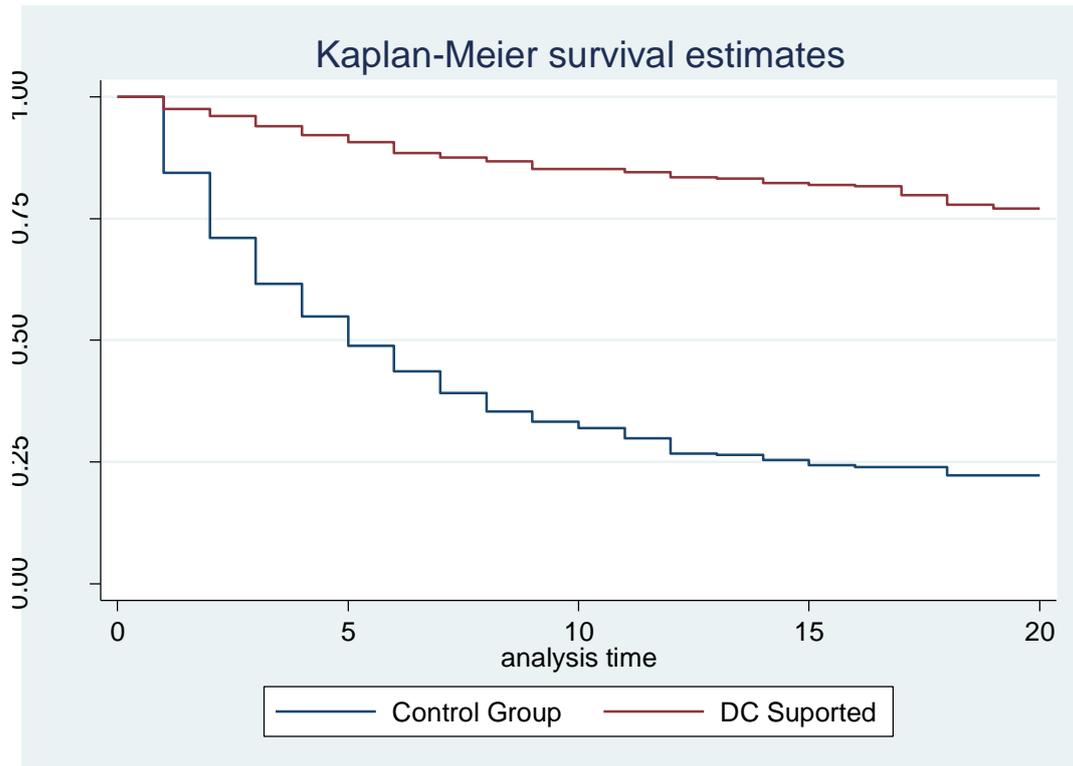


Figure A3:2: Survivor Function of DC Supported Firms versus Control Group (BEIS support excluded)

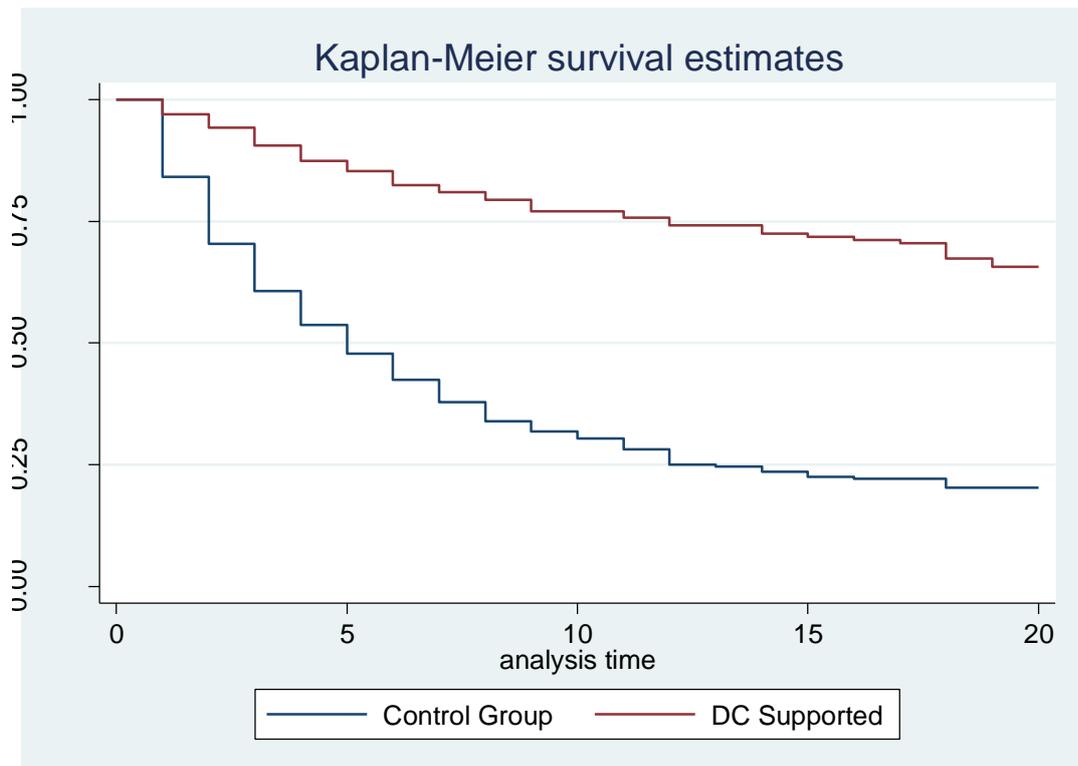


Figure A3:3: Survivor Function of DC Supported Firms versus Control Group by Manufacturing and Non-Manufacturing

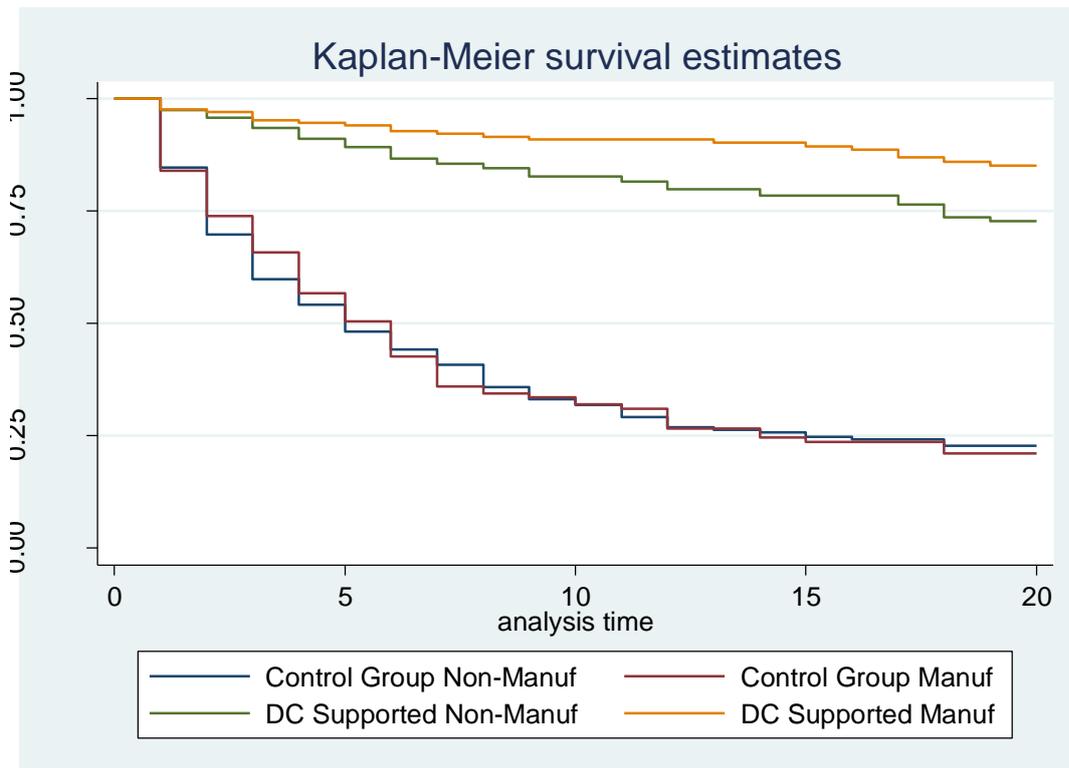


Figure A3:4: Survivor Function of DC Supported Firms versus Control Group by Size at Birth (Under 10 employees or over 10 employees)

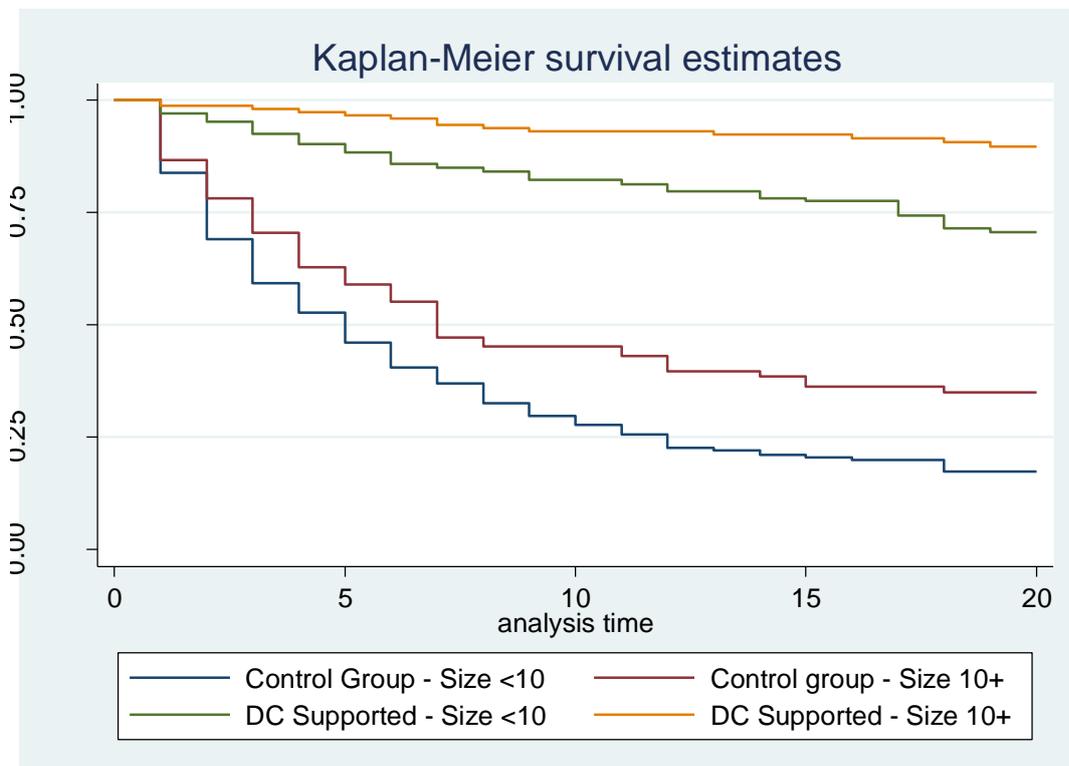


Figure A3:5: Survivor Function of DC Supported Firms versus Control Group by Period of Birth (Pre and post-2008)

