



Department for
Business & Trade

Evaluation of Help to Grow: Management Phase 1 (2021-2025)

Annex F - Econometric Analysis Technical Annex

June 2026

Introduction

This Annex sets out the results of a series of econometric analyses exploring the impacts of the Help to Grow: Management (HtGM) programme on participating businesses. The analysis used longitudinal data on turnover, employment, turnover per worker and an indicator of business' survival from the Business Structure Database (BSD), and hourly earnings from the Annual Survey of Hours and Earnings (ASHE). The findings are based on two complementary analytical approaches:

- 1) A pipeline design approach, which compared businesses that joined the programme in its earlier years to those that signed up at a later stage.
- 2) A comparison between businesses that fully completed the HtGM programme and those that withdrew or partially completed it.

This analysis builds upon preliminary analysis conducted in summer 2025, detailed in the following section.

1.1. Preliminary econometric analysis of administrative datasets

The preliminary analysis compared businesses that attended the HtGM programme (the treatment group) with an equivalent group of businesses not yet exposed to it (the counterfactual group). Taking advantage of the programme's staggered rollout, the analysis compared earlier cohorts of with later participants.¹ As comparisons were restricted to businesses that eventually chose to participate, it is reasonable to assume that they shared similar characteristics and motivations for seeking support. Provided there are no significant underlying differences between earlier and later cohorts, this approach effectively minimised selection bias.

Additionally, programme completers were compared with businesses that completed 70% of the modules (partial completers). This latter group shared the motivation to apply but did not complete the full programme.

The preliminary econometric modelling was designed to inform and refine the final evaluation. Key lessons learned from this initial stage were:

- **Non-response bias:** The preliminary round of analyses estimated key outcomes among a subgroup of programme participants who responded to the six-month follow-up evaluation survey. The results from the modelling highlighted a risk of non-response bias. Specifically, businesses that completed the survey were potentially more likely to have benefitted from the programme than those businesses that did not complete the survey, meaning the early impact estimates on key outcomes were not robust. To address this, the analysis estimated and applied non-response weights for the final analysis. These weights act as adjusting coefficients for each business in the sample: they assign less statistical weight to overrepresented groups (those highly likely to respond) and more weight to underrepresented groups, thereby reducing bias and ensuring the respondent sample accurately reflects the broader participant population.

¹ This is called a pipeline design or staggered treatment design.

- **Viability of alternative comparison groups²:** At the evaluation scoping stage, the lower than anticipated demand in the first year of the programme indicated that there would not be a viable group of 'declined' firms. However, as programme delivery continued, new potential comparison groups emerged, specifically participants who withdrew or dropped out of the programme (details of each group are provided in Section 1.3.2). In the final round of evaluation, we leveraged these groups and used them in the analysis, allowing us to further validate the main findings against the primary early versus later approach.

1.2 Outcomes of interest

The final econometric analysis explored the programme's impacts on five key outcomes: turnover, employment, turnover per worker, employees' hourly earnings and business survival. The analysis also examined whether these impacts differed across specific subgroups. Table 1 presents the main outcomes of interest and the corresponding subgroups used in the analysis.

Table 1: Outcomes of interest and related research questions

Core outcomes	Research question
Impact of HtGM on business performance	To what extent does participating in the HtGM programme have an impact on turnover, employment and productivity?
Impacts of HtGM by year of programme start	To what extent do impacts on business performance evolve over time? (i.e. change in the years following programme's completion)
Impacts on hourly earnings	To what extent does participating in HtGM programme have an impact on hourly earnings?
Impacts on business survival	Does HtGM impact on business survival?
Impacts by programme completion	To what extent do HtGM impacts differ between programme completers and those who have withdrawn / programme completers and partial completers?
Outcomes by subgroups	
Impacts by gender	To what extent do the impacts deriving from participation in HtGM vary by gender?
Impacts whether used bursary	To what extent do the impacts deriving from participation in HtGM programme vary if the business received a bursary?
Impacts by engagement with mentoring	To what extent do the impacts deriving from completing the HtGM programme vary by engagement with the mentoring element of the programme?
Impacts by ethnicity	To what extent do the impacts deriving from participation in HtGM programme vary by ethnicity?

² At scoping in 2021, it was not expected that there would be a sufficient pool of declined applicants or drop outs to form a counterfactual group. The primary approach was expected to be a pipeline design.

Core outcomes	Research question
Impacts by business size	To what extent do the impacts deriving from participation in HtGM vary by business size (defined using number of employees)?
Impacts by sector	To what extent do the impacts deriving from participation in HtGM programme vary by sector?
Impacts by business age	To what extent do the impacts deriving from participation in HtGM programme vary by business' age?
Impacts by engagement with HTGM alumni network³	To what extent do the impacts deriving from participation in HtGM programme vary if the course attendee engaged with the alumni network?
Impacts by engagement with peer learning groups	To what extent do the impacts deriving from participation in HtGM programme vary if the course attendee engaged with peer learning groups?
Impacts if completed a Growth Action Plan (GAP)	To what extent do the impacts deriving from participation in HtGM programme vary if the course attendee completed a Growth Action Plan?
Impacts by programme satisfaction	To what extent do the impacts deriving from participation in HtGM programme vary by the level of satisfaction with the scheme?
Impacts by self-reported business capabilities	To what extent do HtGM businesses that reported high or very high capabilities six months post-completion ⁴ , show better performance compared to the control group?
Impacts by business school	Are there any differences between Business Schools delivering the programme in relation to impacts for participating businesses?
Impacts by whether participant shared what they learned in the programme	To what extent do the impacts deriving from participation in HtGM programme vary if the course attendee shared the learnings from the programme?

Source: Ipsos UK and DBT

³ Analysis for this outcome and the six following in the table relates only to the subgroup of participants who completed the six-months post completion survey. DBT was interested in impacts among this subgroup of businesses to understand the role of the Growth Action Plan, mentoring and other variables on the outcomes of interest.

⁴ In the context of this analysis, businesses were defined as reporting high or very high business capabilities if they rated their capabilities as 'strong' or 'very strong' in 10 (high) or 14 (very high) of the capability areas in the six-month follow-up survey relating to implementing a business plan and strategy, digitalising systems and processes, developing and introducing new products or services, and entering new markets.

1.3 Methodology

1.3.1 Data

The sample for the final analysis comprised 8,310 businesses that enrolled on the HtGM programme between 28th June 2021 and 31st March 2025. The sample was drawn from programme monitoring information compiled by the Chartered Association of Business Schools (CABS), which oversees programme delivery on behalf of DBT. The data included businesses that completed the HtGM programme, as well as those that started but did not complete it.

The Office for National Statistics linked the HtGM participant data to the Business Structure Database (BSD) using Companies House Reference Numbers (CRNs). Of the total sample, 92% were successfully matched to the BSD, yielding 7,665 unique firms. The BSD provided longitudinal (annual) data on each firm's turnover and employment from 2017 to 2024.

It is important to note that BSD data involve significant time lags. The BSD is an annual snapshot of the Interdepartmental Business Register (IDBR) taken at the end of March each year. For example, BSD 2021 covers financial year 2019/2020.

Table 2 provides an overview of the data used in the analysis.

Table 2: Datasets used for the HtGM impact analysis

	Years covered	Description	Variables
HtGM Monitoring data	2021-2025	Aggregated list of all firms that registered for, completed or withdrew from the HtGM programme as of April 2025. This covered all firms that enrolled in HtGM between 28 June 2021 and 31 March 2025 – a total of 8,310 businesses.	CRN, onboarding date, completion date, withdrawn/dropped out flag, partial completion flag, gender, ethnicity, business age, sector, engagement with mentor and use of bursary flag.
Business Structure Database (BSD)	2017 – 2024	The Business Structure Database (BSD) provides an annual, statistical snapshot of the UK business population, offering yearly data on employment and turnover. Its coverage is extensive, including all firms registered for VAT or operating a PAYE scheme, which accounts for the vast majority of UK economic activity. A key exclusion, however, is very small businesses. Specifically, enterprises that fall below the mandatory VAT registration threshold and are	Turnover, employment, sector and region. Turnover was deflated to 2024 prices using the GDP deflator.

Years covered	Description	Variables
	not registered for PAYE will not appear in the dataset.	
Annual Survey of Hours and Earnings	2017 – 2024 The UK's official, comprehensive annual survey providing data on the levels, distribution, and make-up of earnings and hours worked for employees. Conducted by the ONS every April, it samples 1% of employee jobs from PAYE records	Hourly earnings.
HtGM Six months follow up survey	2021-2025 A telephone survey administered by Ipsos to all HtGM participants, six months after programme completion to detect early outcomes and business leaders' views of the programme. 1,955 firms enrolling between 28 June 2021 and 31 March 2025 completed the six-month follow-up survey (39% response rate).	<p>Question B2 Growth Action Plan: "Have you produced a Growth Action Plan (GAP) or GAP on a Page for your business as a result of your participation on the Help to Grow programme?"</p> <p>Question D1 Business Capabilities: "How would you rate your own firm's capabilities and experience in the following areas".</p> <p>Question E5A.Alumact: Which, if any, of the following HtGM alumni activities have you taken part in?</p> <p>Question B1. Proeng: Which of these statements best describes your level of engagement with the following programme elements? The elements of interest are "Alumni network" and "Peer network"</p> <p>Question A1. Satisfaction: Overall, how satisfied or dissatisfied are you with the Help to Grow: Management programme?</p> <p>Question D1. Business outcomes: How would you rate your own firm's capabilities and experience in the following areas?</p> <p>Question D8. Diffusepost: In the post completion survey, you said that you had not shared what you</p>

Years covered	Description	Variables
		<p>had learned or gained from participating in the programme with others within your business. To what extent have you shared what you learned or gained with others in your business since then?</p>

Source: Ipsos UK

1.3.2 Counterfactual group selection

Self-selection bias

A credible assessment of the impacts of HtGM requires comparisons between businesses that participated in the programme and an appropriate group of businesses that did not participate, to assess what might have occurred in the absence of the programme. This comparison group should ideally be equivalent to participating businesses in terms of characteristics associated with future performance – including aspects that are easier to measure (such as trends in turnover growth) and those that may be more difficult (such as growth aspirations or management capabilities).

However, there is a challenge in selecting an appropriate group of firms that did not participate in the HtGM programme from the wider population as those that enrolled in the scheme can be expected to differ in systematic ways from those that did not. These systematic differences may lead to self-selection bias, where participating firms may have sought support from the programme because they had a greater level of interest in growing their business. In this case, comparing participating firms to other SMEs in the wider population would likely overstate the impacts of the programme, as participants could be expected to achieve more rapid growth regardless of the support provided.

Approaches to mitigating self-selection bias

There are several ways in which self-selection bias can be mitigated. The approaches applied in the HTGM analysis are explained below:

- **Staggered entry into the programme (early versus late):** Participating firms enrolled in successive cohorts, creating the possibility of comparing firms that joined earlier cohorts with participants that had yet to enrol (a pipeline or staggered treatment design). As comparisons were only made between firms that eventually participated in the programme, it could be assumed that they all shared similar characteristics that motivated them to seek support, potentially mitigating the self-selection bias issues identified above.
- **Additional comparison groups:** In addition to the early versus late approach, HtGM firms that completed the programme, were also compared against firms that withdrew/dropped out from the scheme and partial completers. These are defined below:
 - **Withdrawn/dropped out firms:** Businesses that withdrew from the HtGM programme are companies that signed up for the scheme, participated in less than 50% of the modules and then communicated their decision to withdraw from the programme to their business school. Companies that dropped out are similar to

those that withdrew, but did not officially communicate their withdrawal to the school.

- **Partial completers:** Companies were classified as partial completers if they attended 75% of the HtGM modules.

Businesses in the two groups listed above were all motivated to apply to the scheme, which reduced selection bias. However, unlike the treatment group, they did not complete the programme, indicating the existence of residual differences. Table 3 provides an overview of the counterfactual groups used in the analysis alongside their strengths and limitations.

Table 3: Comparison groups used in analysis

	Treated group	Control group	Strengths	Limitations
1. Early versus late (pipeline design)	Completers (early cohorts)	Completers (later cohorts)	Minimises selection bias	Assumes no systematic differences between cohorts over time
2. Completers vs withdrawn/dropped out	Programme completers	Withdrawn / dropped out firms	Both groups showed similar motivations when applying to HtGM	Withdrawn / dropped out firms may differ systematically (e.g., firms may be struggling or, conversely, no longer need support)
3. Completers + Partial vs withdrawn/dropouts	Completers and partial completers	Withdrawn / dropped out firms	Increased sample size of the treatment group. This approach relies on the assumption that attending 75% of the programme (i.e. the definition of partial completion) constitutes a meaningful engagement with HtGM	The control group has the same limitations as presented in approach 2 above.
4. Completers vs All Others	Programme completers	Partial completers and withdrawn /	Largest within-programme control group	Mixes different non-completion reasons, potentially

Treated group	Control group	Strengths	Limitations
	dropped out firms		obscuring distinct patterns

Source: Ipsos UK

1.4 Descriptive statistics of HtGM firms over time

The analysis performed summary statistics on turnover, employment and turnover per worker across all identified groups between 2017 and 2020, the years prior to the intervention.

- **Turnover:** Among all firms, partial completers recorded the highest average turnover between 2017-2020 at £3.8m. Firms that withdrew /dropped out of the programme showed the lowest average turnover among HtGM groups at £3.3m.
- **Employment:** Average annual employment remained relatively stable across participating firms during the observation period. Partial completers averaged 23 employees, while withdrawn/dropped-out firms averaged 22 employees.
- **Productivity:** This indicator remained stable for all groups between 2017 and 2020.

Baseline comparability among groups was assessed through two-sample t-tests comparing the averages of programme completers with the equivalent means from the three comparison groups.⁵ Completers showed no statistically significant differences in baseline turnover, employment, or productivity when compared with either withdrawn/dropped-out firms or partial completers.

Table 4: Comparisons of average turnover, employment and turnover per worker across HtGM groups between 2017-2020

Outcome	Year	HtGM Completers (N)	HtGM Withdrawn / Dropped out (N)	Diff	HtGM Partial Completers (N)	Diff
Turnover (£000s)	2017	5,032	558	185.8	263	-448.6
	2018	5,032	558	122.1	263	-618.1
	2019	5,032	558	137.6	263	-272.0
	2020	5,032	558	106.3	263	-144.0

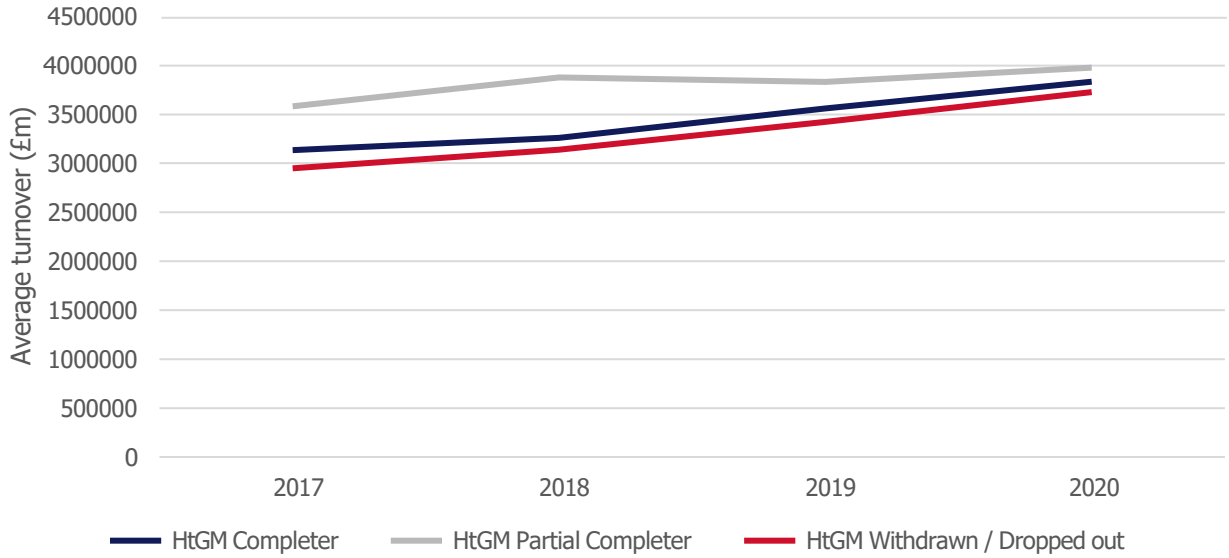
⁵ The summary statistics performed considers only firms that were in operation between 2017-2020. We excluded all that ceased trading.

Outcome	Year	HtGM Completers (N)	HtGM Withdrawn / Dropped out (N)	Diff	HtGM Partial Completers (N)	Diff
Employment	2017	5,032	558	-0.73	263	-2.44
	2018	5,032	558	-0.75	263	-1.45
	2019	5,032	558	-0.53	263	-0.40
	2020	5,032	558	-0.60	263	-0.89
Turnover per worker	2017	5,017	556	17.2	263	5.0
	2018	5,017	556	24.6	263	9.8
	2019	5,018	556	20.6	263	17.3
	2020	5,017	556	15.1	263	-8.2

Source: Ipsos calculations of BSD. "Diff" shows mean difference (Completers minus comparison group). *p<0.10, ** p<0.05, *** p<0.01. Sample sizes vary slightly for productivity due to missing values.

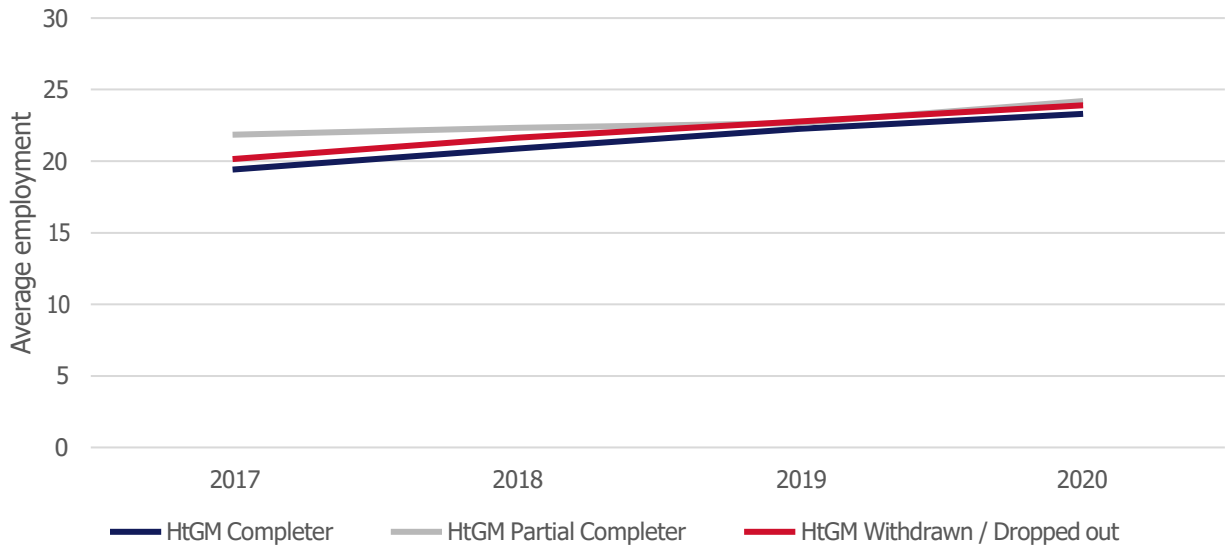
Figures 1 to 3 illustrate the trends in the three outcomes of interest (turnover, employment, and productivity) for the identified analysis groups.

Figure 1: Average turnover (£) for HtGM participants between 2017-2020



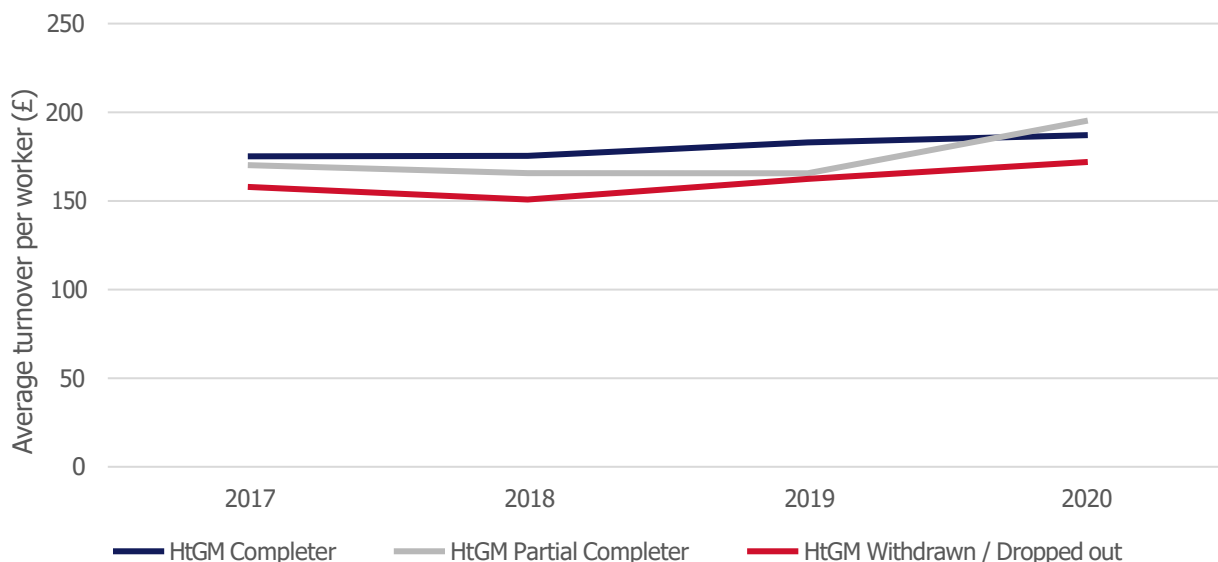
Source: Business Structure Database 8,310 firms. Ipsos' analysis

Figure 2: Average number employees for HtGM participants between 2017-2020



Source: Business Structure Database 8,310 firms. Ipsos' analysis

Figure 3: Average turnover per worker (£) for HtGM participants between 2017-2020



Source: Business Structure Database 8,310 firms. Ipsos' analysis

In addition, the analysis included a descriptive comparison between firms that completed the six-month follow-up survey and firms that did not. The purpose was to understand whether there were any observable differences between the subgroup of HtGM firms that responded to the survey and those that did not. Table 5 shows the difference in average turnover, employment and turnover per worker (recorded in the column labelled “Difference”) and the related significance test results. The results show that the two groups are broadly similar across the three outcomes, suggesting that any residual differences are likely to be unobservable.

Table 5: Comparisons of average turnover, employment and turnover per worker: survey respondents versus non-respondents between 2017-2020

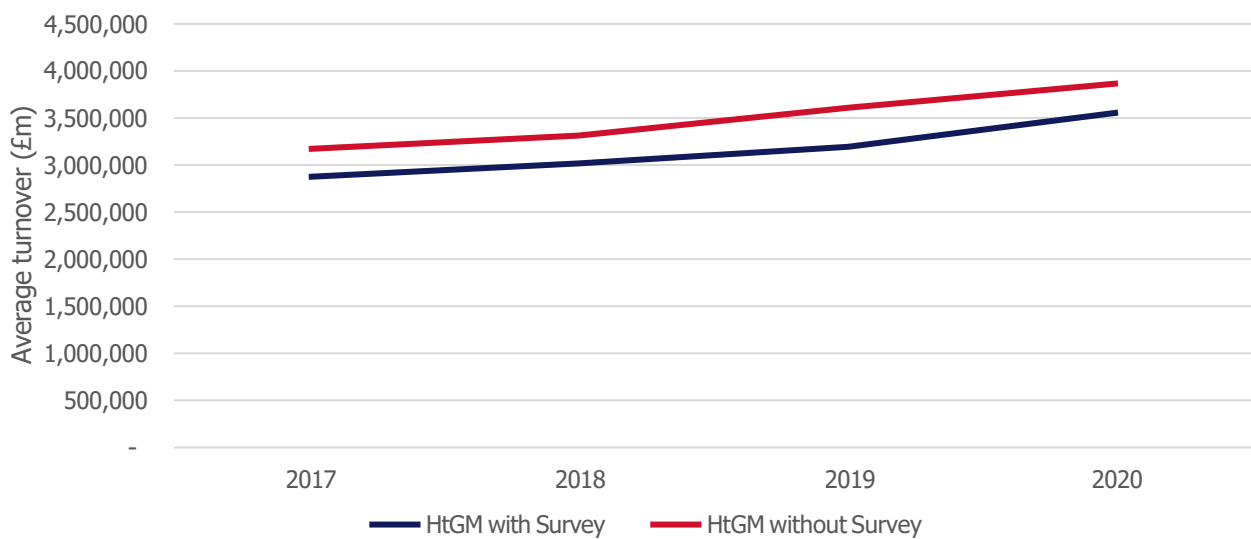
	Year	Survey respondents (N)	Non-respondents (N)	Differences	Significant (Y/N)
Turnover (£000s)	2017	700	5,153	-296.7	N
	2018	700	5,153	-296.5	N
	2019	700	5,153	-412.6	N
	2020	700	5,153	-309.7	N
Employment	2017	700	5,153	-1.14	N
	2018	700	5,153	-1.33	N
	2019	700	5,153	-1.05	N
	2020	700	5,153	-1.38	N

	Year	Survey respondents (N)	Non-respondents (N)	Differences	Significant (Y/N)
Turnover per worker	2017	700	5,136	-7.8	N
	2018	700	5,136	2.6	N
	2019	700	5,137	-13.8	N
	2020	700	5,136	-9.6	N

Source: Ipsos calculations of BSD. "Diff" shows mean difference (Respondents minus non-respondents). * p<0.10, ** p<0.05, *** p<0.01. Sample sizes vary slightly for productivity due to missing values.

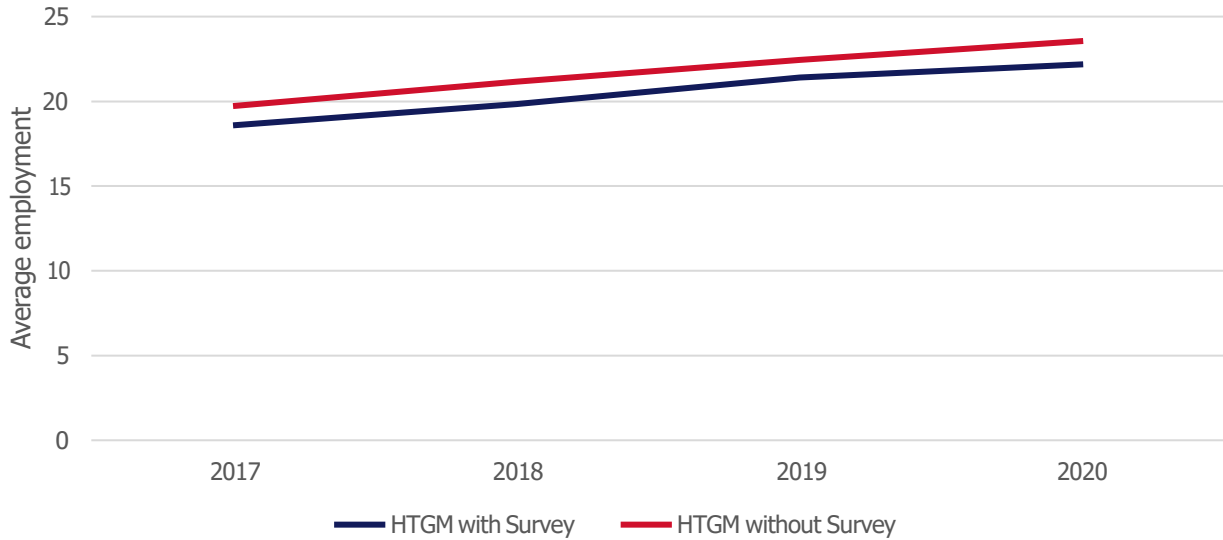
Figures 4 to 6 show the trends in mean turnover, employment and turnover per worker in the years prior to HtGM. Overall, survey non-respondents appear to outperform respondents slightly across all observed metrics.

Figure 4: Average turnover (£) survey respondents vs survey non respondents between 2017-2020



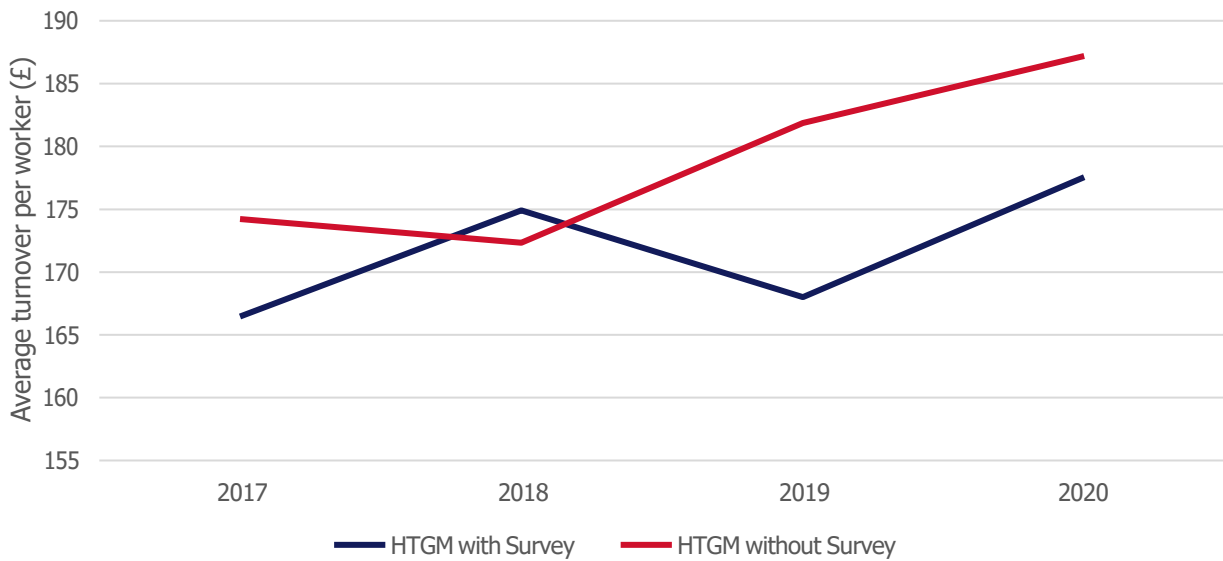
Source: HTGM CABS data and Six-months follow up survey data. Base 6,239. Ipsos' analysis

Figure 5: Average employment survey respondents vs survey non respondents between 2017-2020



Source: HTGM CABS data and Six-months follow up survey data. Base 6,239. Ipsos' analysis

Figure 6: Average turnover per worker – survey respondents vs survey non respondents



Source: HTGM CABS data and Six-months follow up survey data. Base 6,239. Ipsos' analysis

Finally, Table 6 and Table 7 present the regional and sector composition across the three groups. The regional distribution shows modest variation across groups. The greatest concentration of SMEs appears in London, followed by the South East across all three groups. The North East has the lowest representation of businesses.

Table 6: Regional breakdown

	HTGM Completed	HTGM Partial	HTGM Dropout	BSD Control
East Midlands	9.0% (558)	11.0% (37)	11.0% (87)	7.0% (4,527)
East of England	8.0% (470)	7.0% (23)	7.0% (56)	9.0% (6,119)
London	15.0% (896)	18.0% (62)	18.0% (138)	17.0% (10,978)
North East	2.0% (149)	4.0% (14)	3.0% (25)	3.0% (2,093)
North West	10.0% (612)	9.0% (31)	11.0% (87)	10.0% (6,792)
South East	15.0% (950)	15.0% (51)	16.0% (122)	14.0% (9,056)
South West	9.0% (557)	10.0% (33)	6.0% (43)	9.0% (5,662)
West Midlands	7.0% (456)	6.0% (20)	6.0% (50)	9.0% (5,792)
Yorkshire and the Humber	11.0% (648)	10.0% (33)	8.0% (61)	8.0% (4,937)
Unknown/Missing	14.0% (868)	10.0% (35)	13.0% (102)	14.0% (9,108)

Source: Business Structure Database 8,310 firms. Ipsos' analysis

The sectoral distribution reveals more pronounced differences. Programme completers and partial completers were disproportionately drawn from knowledge-intensive industries, particularly Professional, Scientific and Technical Services, compared to withdrawn/dropped-out firms. Similar patterns are observable in the Manufacturing and Information and Communications sectors.

Table 7: Sectoral breakdown

Sector	HtGM Completers	HtGM Partial Completers	HtGM Withdrawn / Dropped out
Professional/Scientific	23%	24%	16%
Manufacturing	13%	12%	10%

Sector	HtGM Completers	HtGM Partial Completers	HtGM Withdrawn / Dropped out
Information/Comms	10%	11%	9%
Accommodation/Food	4%	4%	6%
Wholesale/Retail	15%	12%	15%

Source: Business Structure Database 8,310 firms. Ipsos' analysis

1.5 Econometric model

While the selection of comparison groups described in Section 1.3.2 helps address some sources of possible bias, residual concerns remain about possible differences between programme participants that could distort comparisons. Businesses that completed the programme may differ systematically from those that dropped out or partially completed in ways that affect their outcomes. Further steps to minimise possible sources of bias were taken through the econometric specification and the application of Propensity Score Matching (PSM).

1.5.1 Staggered Difference-in-Differences Approach

The primary challenge in evaluating the HtGM programme is that treatment was staggered across time, with different cohorts of firms beginning the programme between 2021 and 2025. Standard two-way fixed effects (TWFE) models can produce biased estimates when treatment effects are heterogeneous across cohorts or over time, as they may use already-treated units as implicit controls.

To robustly estimate impacts with staggered treatment, the analysis adopted the non-parametric estimator developed by Callaway and Sant'Anna (2021). The intuition behind this estimator is to compute separate treatment effects for each cohort treated at different dates, which can then be aggregated to present an overall average treatment effect on the treated (ATT). The expression for the group specific treatment effects is:

$$ATT(g, t) = E \left[\left(\frac{G_g}{E[G_g]} - \frac{p_g(X)C}{E[1-p_g(X)]} \right) Y - Y_{g-1} \right]$$

Where the weights, p , are propensity scores, G is a binary variable that is equal to one for firms first treated in year g , and C is a binary variable equal to one for firms in the counterfactual group. The equation above gives the treatment effect at time t for the group of firms participating in HtGM at time g , and it is computed by comparing changes in outcomes for group g between periods $g - 1$ to that of a control group firms (C).

The validity of the difference-in-differences approach rests on the parallel trends assumption – that treated and comparison groups would have followed similar outcome trajectories in the absence of

treatment. The analysis assessed this assumption, with the results of the parallel trend tests⁶ reported in the tables of results, clearly indicating which parallel trends are satisfied.

The analysis implemented this approach in Stata using the user-written command `csdid`. For each outcome (turnover, employment, productivity and hourly earnings), the following specifications were estimated:

- **Unconditional models:** A specification where only the treatment variable (i.e. HtGM participation) was regressed against the outcomes of interest, without additional covariates
- **Conditional models:** A specification where, in addition to the treatment variable, the analysis controlled for pre-treatment characteristics such as average turnover and employment in 2020.
- **Conditional models and PSM weights:** A specification where, in addition to the treatment variable, the analysis controlled for pre-treatment characteristics (e.g., average turnover and employment in 2020) and applied propensity score weights (detailed in the next section), to ensure only highly similar cases from treatment and control groups were compared.

Among the models presented in Section 1.6, the key results to consider are:

- **Early versus late comparison:** The most robust coefficients are those from the conditional models (model 1b).
- **Cross-groups comparisons:** The most reliable coefficients are those calculated using additional covariates and PSM weighting (see Tables 13-17 in Section 1.6).

In addition, the parallel trends test condition must be satisfied for a coefficient to be considered robust.

1.5.2 Propensity Score Matching

To improve comparisons between HtGM completers and the other comparison groups and to minimise any observable differences among the HtGM groups (Figures 1, 2 and 3 show some minor differences across the outcomes of interest), the analysis also applied Propensity Score Matching. PSM aims to make treatment and comparison groups as similar as possible based on a set of observable characteristics. In this instance, the analysis matched the two groups on the following pre-treatment variables: turnover in 2020, employment in 2020, yearly turnover and employment growth between 2017 and 2020, sector, and region. This enabled comparison only between firms that were very similar with respect to the specified observable characteristics. In total, three sets of PSM weights were calculated, one for each comparison group.

- **First-stage Logit Model results:**
- Table 8 shows the results of the logit model undertaken as part of the PSM approach, where the coefficients demonstrate the impact of each variable on a firm's likelihood of participating in the HtGM programme. This provides an indication of the factors that drive

⁶ The parallel trend test performed by the `csdid` command is a Wald test. In large samples the statistic is distributed with a Chi-squared distribution.

differences between HtGM firms that completed the programme, firms that partially completed the programme, and firms that withdrew / dropped out. The analysis ran the logit model accounting for 78 sectors and 9 regions, due to the long list of sectors, only the results for the main variables are reported.

- **Quality of matching:** Tables 9 to 11 present the quality of the matching performed. They show the comparison of average values used in the matching between the treatment and control groups before and after matching. The columns titled “p-value” display the results of t-tests checking for differences between the average values in the treatment and control groups (i.e. testing the null hypothesis). The results indicate that the differences between treatment and control groups after matching were insignificant for the majority of variables, achieving a substantial reduction in bias.
- **Overall bias reduction from matching:** Table 12 shows the overall effect of PSM on the bias between the treatment and control groups. The matching reduced mean bias between firms in the treatment and control groups to 3.1% – 4.3% across the three models. This indicates that the PSM model was effective at generating comparable groups of firms from different HtGM participant categories.⁷

⁷ In PSM models an overall bias reduction below 5% is considered a good result. Above 5% it raises concerns on the quality of matching.

Table 8: First stage logit model results

Variable	HtGM Completers vs Withdrawn / Dropped out		HtGM Completers and Partial Completers vs Withdrawn / Dropped out		HtGM Completers vs all other groups	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Log real turnover 2020	0.158	0.005	0.157	0.005	0.106	0.027
Log real employment 2020	-0.061	0.453	-0.060	0.457	-0.036	0.601
Log real turnover growth (2017-2020)	-0.189	0.004	-0.177	0.007	-0.185	0.001
Log employment growth (2017-2020)	0.091	0.419	0.084	0.454	0.093	0.324
Sector						
Agriculture	-1.404	0.352	-1.533	0.309	-0.038	0.975
Mining	0.000		0.000		0.000	
Manufacturing	-1.298	0.250	-1.384	0.219	-0.084	0.904
Utilities	0.000		0.000		0.000	
Construction	-1.068	0.342	-1.146	0.307	-0.151	0.820
Wholesale/Retail	-1.244	0.253	-1.330	0.220	-0.189	0.764
Transport/Storage	-1.936	0.075	-1.982	0.068	-0.856	0.177
Accommodation/Food	-1.317	0.244	-1.430	0.205	0.026	0.971
Information/Comms	0.000		0.000		0.587	0.469
Financial/Insurance	-1.185	0.313	-1.304	0.266	0.022	0.977
Real Estate	-1.223	0.256	-1.224	0.254	-0.511	0.393
Professional/Scientific	-1.158	0.270	-1.203	0.251	-0.230	0.690
Administrative	-1.758	0.108	-1.789	0.101	-0.807	0.203
Education	-1.204	0.252	-1.238	0.238	-0.301	0.602
Health/Social	-1.437	0.175	-1.498	0.157	-0.338	0.572
Arts/Entertainment	-0.488	0.698	-0.577	0.646	0.456	0.575
Other Services	-0.637	0.591	-0.662	0.575	-0.134	0.843
Region						

Variable	HtGM Completers vs Withdrawn / Dropped out		HtGM Completers and Partial Completers vs Withdrawn / Dropped out		HtGM Completers vs all other groups	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
East of England	0.300	0.159	0.270	0.202	0.412	0.024
London	0.107	0.551	0.102	0.571	0.110	0.465
North East	-0.110	0.705	-0.085	0.770	-0.141	0.556
North West	0.166	0.380	0.152	0.419	0.208	0.195
South East	0.268	0.128	0.246	0.162	0.381	0.011
South West	0.887	0.000	0.873	0.000	0.688	0.000
West Midlands	0.281	0.187	0.254	0.230	0.349	0.055
Yorkshire and the Humber	0.584	0.005	0.568	0.006	0.534	0.002

Source: Business Structure Database, Ipsos' calculations. The symbol (*) indicates statistical significance at the 10% level, (**) significance at the 5% level and (***) represents significance at the 1% level.

Table 9: Propensity Score Matching – unmatched and matched samples (BSD) (completers vs withdrawn/dropped out)

Variable	Unmatched			Matched			Bias reduction (%)
	Treatment	Control	p-value	Treatment	Control	p-value	
Log real turnover 2020	7.102	6.890	0.005***	7.097	7.145	0.159	77.5
Log real employment 2020	2.594	2.489	0.038**	2.590	2.636	0.046**	55.7
Log turnover growth (2017-2020)	0.342	0.423	0.038**	0.344	0.376	0.053*	60.3
Log employment growth (2017-2020)	0.246	0.256	0.681	0.248	0.241	0.549	35.5

Source: Business Structure Database, Ipsos' calculations. The symbol (*) indicates statistical significance at the 10% level, (**) significance at the 5% level and (***) represents significance at the 1% level.

Table 10: Propensity Score Matching – unmatched and matched samples (BSD) (completers and partial completers vs withdrawn / dropped out)

Variable	Unmatched			Matched			Bias reduction (%)
	Treatment	Control	p-value	Treatment	Control	p-value	
Log real turnover 2020	7.102	6.890	0.005***	7.097	7.145	0.159	77.5
Log real employment 2020	2.594	2.489	0.038**	2.590	2.636	0.046**	55.7
Log turnover growth (2017-2020)	0.342	0.423	0.038**	0.344	0.376	0.053*	60.3
Log employment growth (2017-2020)	0.246	0.256	0.681	0.248	0.241	0.549	35.5

Source: The symbol (*) indicates statistical significance at the 10% level, (**) significance at the 5% level and (***) represents significance at the 1% level.

Table 11: Propensity score matching – unmatched and matched samples (BSD) – Completers vs all other groups

Variable	Unmatched			Matched			Bias reduction (%)
	Treatment	Control	p-value	Treatment	Control	p-value	
Log real turnover 2020	7.099	6.943	0.013**	7.095	7.168	0.038**	53.9
Log real employment 2020	2.594	2.514	0.061*	2.591	2.659	0.005**	15.3
Log turnover growth (2017-2020)	0.336	0.431	0.004**	0.337	0.343	0.708	93
Log employment growth (2017-2020)	0.245	0.259	0.498	0.246	0.252	0.536	51.8

Source: The symbol (*) indicates statistical significance at the 10% level, (**) significance at the 5% level and (***) represents significance at the 1% level.

Table 12: Effect of matching on bias reduction

	Sample	Mean Bias	Median Bias
Completers vs Dropped out	Unmatched	8.9	10
	Matched	4.3	4.4
Completers and Partial Completers vs Dropped out	Unmatched	8.6	9.6
	Matched	3.1	3.4
Completers vs all other groups	Unmatched	7.8	8.6
	Matched	3.2	2.9

Source: Business Structure Database Propensity Score Matching, Ipsos' calculations

1.6 Regression results

Between July and September 2025, 8,310 HtGM records of participating firms were linked to the Business Structure Database and the Annual Survey of Hours and Earnings held by the Office for National Statistics. The objective was to gauge the potential effect of the scheme on business performance, specifically measuring turnover, employment, productivity (using turnover per worker as a proxy measure), hourly earnings and business survival. Sub-group analysis found no statistically significant results, therefore have not been included within this report.

1.6.1 Turnover, employment, productivity and hourly earnings

The results of the econometric analysis are presented in Tables 13-16. As mentioned in section 1.5.1, the most robust results to consider are the conditional models (for model 1 early-versus late approach) and the PSM weighted for models 2-4. The analysis indicated that in the short term,⁸ the programme had no significant effect on the growth and productivity of participating firms. Specifically:

- **Turnover impacts:** Across all models, the analysis detected a small negative effect on turnover (-2.4% for model 1, -3.3% for model 2, -1.1% for model 3 and -2.6% for model 4), however this effect is not statistically significant across the most robust specifications. The negative associations observed in the other less robust comparisons appear driven by selection bias rather than treatment effects.
- **Employment impacts:** Similarly, the effect on employment is negligible with an estimated effect of 0.4% associated with model 1. PSM-weighted cross-group comparisons (models 2-4) also show insignificant results, suggesting that programme completion did not affect workforce size.
- **Productivity impacts:** The analysis showed that participation in the Help to Grow programme did not yield any measurable effects on turnover per worker within the 2-year evaluation timeframe. Across all models, the effect was very small and the p-value was not significant. Only model 4 appears to show an overall treatment effect on productivity of -3.4% that is significant at the 10% level. However, this seems to be driven mostly by residual differences across groups. Despite the corrections applied through the modelling, unobservable differences may still persist and appear in the results.
- **Hourly earnings:** The analysis did not highlight any measurable effect on hourly earnings for participant businesses, with models showing small and insignificant coefficients across all specifications.

It is important to note that productivity benefits typically require at least five years to materialise, so detected effects at this stage would be premature. This analysis should be continued in consequent years to assess the economic performance of firms the programme helps remain active, identify ways to better support business growth, and repeat econometric analysis as data become available to detect medium-term business growth and productivity improvements.

As discussed in the main report, these findings should be interpreted within the following context:

- Data have reporting lags, with measures of turnover and employment potentially being one year out of date. For example, data for the first year of the programme covering 2021/2022 became available in the BSD 2023. The Business Structure Database, is an annual snapshot of the Interdepartmental Business Register (IDBR) taken at the end of March each year, as such business' performance figures are reported twelve months later (i.e. turnover and employment for the FY 2024-2025 appear in the BSD in 2026) Whilst growth might reasonably be expected within the first few years of a business support intervention, outcomes may emerge later given the economic context (discussed in the next bullet).

⁸ The short term refers to the number of years post programme's start. Considering the data lags in the BSD, the latest available data for the outcomes of interest was FY 2022/2023, which is just 2 years after HtGM start.

- The programme launched during the COVID-19 pandemic in 2021 to support SMEs to recover and grow. Since launch, the UK economy has faced additional economic shocks (war in Ukraine, energy crisis, rising interest rates), creating further challenges for UK businesses.
- Process evaluation and self-reported evidence suggest the programme is well designed, relevant and drives improvements in management and leadership practices. However, the intervention's effect on business performance (e.g. turnover and employment) may be impacted by the business' absorptive capacity during a period of consecutive economic shocks.
- Furthermore, HtGM's impact on turnover and employment would need to be considerable to be detectable amongst these economic shocks.

Table 13: Estimated impact of HtGM participation on turnover

Source: Business Structure Database, staggered Difference in Difference regressions. The use of (*) in the table represents

	N	ATT	p-value	LCI	UCI	Parallel trend test	No. of pre-treatment coefficients different from 0
Model 1: Completers (Early versus late)							
a. Unconditional	49,119	-0.047**	0.031	-0.090	-0.004	Rejected	0 in 7
b. Conditional	46,932	-0.024	0.226	-0.062	0.015	Accepted	0 in 7
Model 2: Completers vs Withdrawn / Dropped out							
a. Unconditional	55,377	-0.089***	0.000	-0.134	-0.044	Rejected	2 in 7
b. Conditional	52,633	-0.041**	0.038	-0.080	-0.002	Rejected	3 in 7
c. PSM weighted	37,850	-0.033	0.158	-0.078	0.013	Accepted	0 in 7
Model 3: Completers + Partial vs Withdrawn / Dropped out							
a. Unconditional	58,094	-0.085***	0.000	-0.130	-0.040	Rejected	3 in 7
b. Conditional	55,194	-0.036*	0.067	-0.075	0.003	Rejected	2 in 7
c. PSM weighted	39,678	-0.010	0.642	-0.053	0.033	Accepted	0 in 7
Model 4: Completers vs All Others							
a. Unconditional	58,151	-0.071***	0.000	-0.110	-0.032	Rejected	4 in 7
b. Conditional	55,195	-0.031*	0.078	-0.067	0.004	Rejected	4 in 7
c. PSM weighted	39,674	-0.026	0.206	-0.067	0.015	Accepted	0 in 7

whether a coefficient is statistically significant. The number of stars represent the significance level with (*) indicating the coefficient is significant at the 10% level (**) at the 5% level and (***) at the 1% level.

Table 14: Estimated impact of HtGM participation on employment

Source: Business Structure Database, staggered Difference in Difference regressions. The use of (*) in the table represents

	N	ATT	p-value	LCI	UCI	Parallel trend test	No. of pre-treatment coefficients different from 0
Model 1: Completers (Early versus late)							
a. Unconditional	49,119	-0.002	0.827	-0.025	0.020	Accepted	0 in 6
b. Conditional	46,932	0.004	0.674	-0.016	0.025	Accepted	0 in 6
Model 2: Completers vs Withdrawn / Dropped out							
a. Unconditional	55,377	-0.030**	0.028	-0.056	-0.003	Accepted	3 in 7
b. Conditional	52,633	-0.004	0.741	-0.028	0.020	Accepted	1 in 7
c. PSM weighted	37,850	-0.017	0.292	-0.048	0.014	Accepted	0 in 7
Model 3: Completers + Partial vs Withdrawn / Dropped out							
a. Unconditional	58,094	-0.029**	0.032	-0.056	-0.003	Accepted	3 in 7
b. Conditional	55,194	-0.003	0.808	-0.027	0.021	Accepted	0 in 7
c. PSM weighted	39,678	-0.009	0.535	-0.039	0.020	Accepted	0 in 7
Model 4: Completers vs All Others							
a. Unconditional	58,151	-0.015	0.199	-0.038	0.008	Accepted	3 in 7
b. Conditional	55,195	0.004	0.716	-0.018	0.026	Accepted	2 in 7
c. PSM weighted	39,674	0.009	0.461	-0.015	0.034	Accepted	0 in 7

whether a coefficient is statistically significant. The number of stars represent the significance level with (*) indicating the coefficient is significant at the 10% level, (**) at the 5% level and (***) at the 1% level.

Table 15 Estimated impact of HtGM participation on turnover per worker

	N	ATT	p-value	LCI	UCI	Parallel trend test	No. of pre-treatment coefficients different from 0
Model 1: Completers (Early versus late)							
a. Unconditional	49,119	-0.039**	0.038	-0.076	-0.002	Satisfied	0 in 7
b. Conditional	46,932	-0.025	0.135	-0.058	-0.007	Satisfied	0 in 7
Model 2: Completers vs Withdrawn / Dropped out							
a. Unconditional	55,377	-0.044**	0.011	-0.078	-0.010	Satisfied	0 in 7

	N	ATT	p-value	LCI	UCI	Parallel trend test	No. of pre-treatment coefficients different from 0
b. Conditional	52,633	-0.033**	0.038	-0.064	-0.001	Satisfied	0 in 7
c. PSM weighted	37,850	-0.013	0.488	-0.050	0.024	Satisfied	0 in 7
Model 3: Completers + Partial vs Withdrawn / Dropped out							
a. Unconditional	58,094	-0.417**	0.017	-0.076	-0.007	Satisfied	0 in 7
b. Conditional	55,194	-0.029*	0.061	-0.060	-0.001	Satisfied	0 in 7
c. PSM weighted	39,678	-0.001	0.955	-0.036	0.034	Satisfied	0 in 7
Model 4: Completers vs All Others							
a. Unconditional	58,151	-0.045***	0.005	-0.076	-0.013	Satisfied	0 in 7
b. Conditional	55,195	-0.033**	0.026	-0.062	-0.003	Satisfied	0 in 7
c. PSM weighted	39,674	-0.034*	0.055	-0.070	0.000	Satisfied	0 in 7

Source: Business Structure Database, staggered Difference in Difference regressions. The use of (*) in the table represents whether a coefficient is statistically significant. The number of stars represent the significance level with (*) indicating the coefficient is significant at the 10% level, (**) at the 5% level and (***) at the 1% level.

Table 16: Estimated impact of HtGM participation on hourly earnings

	N	ATT	p-value	LCI	UCI	Parallel trend test	No. of pre-treatment coefficients different from 0
Model 1: Completers (Early versus late)							
b. Conditional	3,298	0.040	0.107	-0.008	0.088	Satisfied	0 in 7
Model 2: Completers vs Withdrawn / Dropped out							
b. Conditional	3,666	-0.013	0.604	-0.062	0.036	Satisfied	0 in 7

Source: Business Structure Database, staggered Difference in Difference regressions. The use of (*) in the table represents whether a coefficient is statistically significant. The number of stars represent the significance level with (*) indicating the coefficient is significant at the 10% level (**) at the 5% level and (***) at the 1% level.

1.6.2 Business survival

Business survival was a key programme outcome. The analysis estimated the probability of business survival from the programme launch to 2024 for three groups: HtGM completers, partial completers and firms that withdrew/dropped out. A business was considered 'active' if it appeared in the BSD in each year from programme start (2021) through to 2024 (the latest available year in the dataset).

The analysis of business survival revealed that completing the programme had a positive effect on business survival as shown in Table 17. The analysis examined two time periods:

- Likelihood of business survival between 2021 and 2024
- Likelihood of business survival between 2022 and 2024

In both models, the coefficients (reported in the 'marginal effects' column) show that HtGM firms that withdrew/dropped out from the programme had decreased probability of survival of 1.3% (model 1) and 1.2% (model 2) compared to those that instead completed the programme.⁹

Table 17: Estimated impact of HtGM participation on business survival

	N	Marginal effect	Standard Error	p-value
Model 1: Likelihood of business' survival (2021-2024)				
HtGM Partial Completers	4,201	0.007	0.005	0.200
HtGM Withdrawn / Dropped out	4,201	-0.013**	0.007	0.052
Model 2: likelihood of business' survival (2022-2024)				
HtGM Partial Completers	4,201	0.006	0.005	0.230
HtGM Withdrawn / Dropped out	4,201	-0.012*	0.006	0.068

Source: Business Structure Database, logistic regression on the likelihood of survival. The use of (*) in the table represents whether a coefficient is statistically significant. The number of stars represent the significance level with (*) indicating the coefficient is significant at the 10% level (***) at the 5% level and (***) at the 1% level.

⁹ The marginal effects displayed in Table 17 should be interpreted in comparison to a reference category, that in this instance, is represented by HtGM completers. The statistical software used for the survival analysis (STATA17), does not display the reference category, but only the groups that are compared to it, hence HtGM partial completers and HtGM withdrawn/dropped out. The results show clearly that the marginal effect of programme participation on this last group, is negative meaning that their chance of surviving is lower compared to HtGM participants. The coefficient associated to partial completers is very small and not significant, meaning that for this group, attending the programme, does not have a statistically significant effects on remaining in operation.

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