

The benefits of Gatsby Benchmark achievement for post-16 destinations

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About this report

This report presents quantitative analysis relating the level of Gatsby Benchmark achievement reported by English schools in 2017/18 to the education, employment, or training destinations sustained by their Year 11 leavers during 2018/19. It explores the relationship for schools across England as well as those with more disadvantaged students. The report considers the policy and financial implications of investing in good career guidance for all students.



Summary

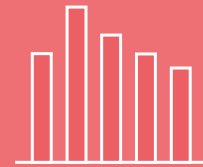
One of the target outcomes of improved school-level career provision is a greater proportion of students in sustained positive destinations in education, employment, or training (EET). As part of The Careers & Enterprise Company's ongoing work to develop and evidence its impact model, we investigated this outcome on about 2,400 schools with Key Stage 4 provision, analysing the link between their reported Gatsby Benchmark performance in Compass and their students' sustained destinations after Year 11.

Controlling for key factors such as level of disadvantage, academic grades, school type, and location, we found a statistically significant relationship (at the 5% level) for the 2017/18 Year 11 leavers, the most recent with data available. The analysis shows that a hypothetical school with Gatsby Benchmark completion of 100% would typically have a 9.7% decline in the proportion of students who do not go into confirmed, sustained, positive destinations post-16 compared to an otherwise similar school that did not achieve any of the benchmarks. Among the most disadvantaged quarter of schools, in terms of the free school meals eligibility of their intake cohort, the relationship is particularly strong, equivalent to a 20.1% decline in the non-EET rate.

If the relationship between benchmarks and post-16 destinations from the 2017/18 cohort is representative across all schools in England in 2020, then the level of career guidance reported in March 2020 is such that about 3,700 additional students per year enter confirmed, sustained EET destinations post-16, compared to if schools were unable to achieve any of the Gatsby Benchmarks. Using Government-commissioned fiscal estimates, such a level of career guidance is worth about £150m in annual fiscal savings from lifetime NEET costs alone, noting that good career guidance can secure many other benefits for society and for the economy.

The positive relationship between Gatsby Benchmarks and EET outcomes is particularly strong for more students choosing and sustaining apprenticeship routes, more students going into school sixth forms, and for fewer students being untraceable with unknown destinations (a risk factor for NEET outcomes).

Positive results were also identified on 2016/17 Year 11 leavers, providing an initial level of confidence that these findings replicate. Research in future years can continue to monitor and analyse this relationship, alongside ongoing efforts to improve the quality of career guidance across England's schools and colleges.



9.7%

decline in students not EET in schools with full Gatsby Benchmark provision compared to schools with no provision



3,700

more students per year in post-16 EET due to current levels of careers provision



£150m

per year saved by Exchequer due to current levels of careers provision in England

1 | Introduction

Since 2014, the Gatsby Benchmarks of good career guidance have framed the provision of careers programmes in England's schools and colleges.¹ The eight benchmarks specify activities aimed at providing students from 11-18 years with access to information and advice, experiences of engaging with employers and education providers, and personal guidance to prepare them for their next steps and future careers. Careers Leaders from schools and colleges are consistently positive about the value of the framework for improving their programmes.^{2,3}

The Compass tool was created by The Careers & Enterprise Company and Gatsby Charitable Foundation to enable schools and colleges to assess their provision as part of a self-improvement process. As of March 2021, over 4,100 schools and colleges (89%) have used the tool to track their provision. Analysis of the Compass data by The Careers & Enterprise Company demonstrates steady progress across the benchmarks with improvements more pronounced in the schools and colleges in Careers Hubs and the wider Enterprise Adviser Network.⁴

The measurement of Gatsby Benchmark provision provides valuable evidence on the systemic change in careers education, reflecting support from The Careers & Enterprise Company, input from employers, and the

contribution of many practitioners and organisations. Ultimately, however, the measure of success is whether the quality of provision translates into positive impacts on young people's career-related knowledge and skills, and education and employment outcomes.

Despite decades of international research that evidences the potential benefits of information and advice, employer engagement, and personal guidance for young people's outcomes, few studies have tested the combined benefits of an integrated careers programme that spans the years of secondary education.⁵ The recent evaluation of the North East Gatsby Benchmarks Pilot provided a step forward in demonstrating impacts of provision on student career readiness and GCSE attainment, but the scope of the research did not extend to the destinations of students after leaving school or college.⁶ Until recently, the time lag between students leaving education and the publication of destinations data has precluded analysis linking careers education with education and employment outcomes. The analysis reported in this paper takes advantage of the opportunity to explore Gatsby Benchmark data in relation to student destinations for the first time.

1. Gatsby Charitable Foundation. (2014). Good Career Guidance. London: Gatsby Charitable Foundation.

2. Tanner, E., Percy, C. and Andrews, D. (2019). Careers Leaders in Secondary Schools: The first year. London: The Careers & Enterprise Company.

3. Gibson, S., Tanner, E., and Webster, A. (forthcoming). Careers Leadership in Colleges: Supporting learners through a 'whole college' approach. London: The Careers & Enterprise Company.

4. The Careers & Enterprise Company (2020). Careers Education in England's schools and colleges: Working together for young people's futures. London: The Careers & Enterprise Company.

5. Hughes, D., Mann, A., Barnes, S-A, Baldauf, B and McKeown, R. (2016). Careers education: International literature review. Education Endowment Foundation.

6. Hanson, J., Moore, N., Neary, S., and Clark, L. (2021). An evaluation of the North East of England pilot of the Gatsby benchmarks of good career guidance. Derby: University of Derby.

2 | Aims

The aim of this analysis is to explore and quantify the relationship between career guidance in schools and young people's post-16 destinations.

There is already some quantitative evidence relating better career guidance to better destinations in an English setting, such as the Sutton Trust-funded analysis of careers quality standards.⁷ However, there is no large-scale quantitative evidence concerning careers provision in the current policy context in England, as defined by the Gatsby Benchmarks. This report contributes to addressing this weakness in the evidence base.



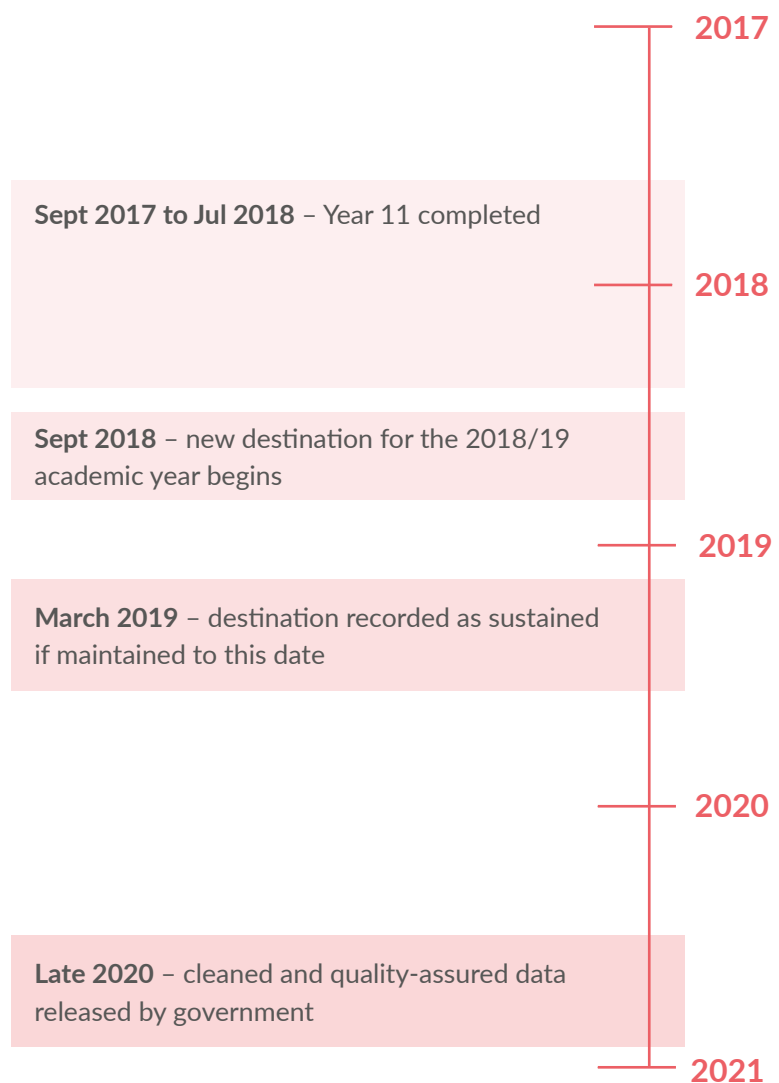
7. Hooley, T., Matheson, J., & Watts, A.G. (2014). *Advancing Ambitions: The role of career guidance in supporting social mobility*. London: Sutton Trust.

3 | Methodology

The core of the methodology lies in connecting Gatsby Benchmark data from The Careers & Enterprise Company's Compass database with public government data on school-level destinations.

The most recent year for which the government has released quality-assured, school-level destinations data refers to leavers from the 2017/18 academic year. The corresponding Compass database is the one used in our State of the Nation 2018 report. Across the 3,092 schools and colleges whose Compass data informs that report, 2,606 have Key Stage 4 provision and government data on the EET outcomes for those who were in Year 11 in 2017/18, for whom destinations data were released in late 2020.⁸

Data timeline for students leaving Year 11 in July 2018



8. Matching takes place on the contemporaneous URN or LA & school establishment number, considering also the previous URNs logged in the Compass datasets. A sample of school names are compared across the matched datasets to confirm the match.

Destinations are reported as a percentage figure for the proportion of each graduating cohort that sustains education, employment, or training.⁹ Schools with such small cohorts that percentages might be disclosive of individuals are excluded from the dataset by government.¹⁰ Since we are analysing a percentage outcome, an appropriate analytical technique is a generalised linear model.¹¹

The quality of careers provision is reported using the Gatsby completion score in schools' self-reported Compass returns. To allow for a granular understanding of provision, the percentage completion of each individual benchmark score is averaged across the eight benchmarks, to result in a percentage score that weights each of the benchmarks equally and incorporates the completion of all sub-benchmark scores.

Destination outcomes and career guidance have a range of possible confounding factors, such as academic achievement and cohort characteristics. For instance, schools with very high academic achievement, where the vast majority of students progress to higher education post-18, likely achieve very high post-16 EET

regardless of their careers provision. In such schools, careers provision may be more focused on other aspects, such as post-16 course choices, motivation, understanding future careers, and preparing for post-18 applications. Schools in highly disadvantaged areas, which often have high adult unemployment and low intergenerational participation in education, may invest more in careers provision specifically targeted around post-16 engagement. For these reasons, we include a range of control variables to increase confidence that we are identifying an average underlying relationship across schools similar in terms of factors such as level of disadvantage, academic grades, size/type, location, and Ofsted grade. The full set of control variables is listed in the Appendix.

2,382 eligible schools have the full set of control variable data available for the primary outcome variable, overall sustained EET, with some reductions in sample size for uncommon routes, such as apprenticeships, where the small percentage values for route uptake are potentially disclosive and suppressed by the Department for Education in their public statistics.

9. For more details on the school-level destinations data available in England, please see Percy, C., Tomlinson, M., & Huddleston, P. (2020). The end of the road? Critiquing the nascent trend of secondary education transition data. *Journal of Education and Work*, 33:4, 298-311, DOI: 10.1080/13639080.2020.1820966

10. Once we exclude private schools, those outside England, and those without a statutory age range that encompasses KS4, the data loss corresponding primarily to suppressed data is 135 schools. Such small cohort schools are less relevant for estimating the overall impact on the national cohort of students, so their exclusion is not material for the analysis.

11. Logit link function with a binomially distributed dependent variable, i.e. a percentage derived from a number of underlying yes/no outcomes for whether an individual student is in sustained EET or not. Note that core results remain positive and statistically significant at the 5% level if an OLS model is applied. Robust standard errors are applied to adjust for heteroskedasticity, allowing for some inconsistency in the underlying relationships and binomial family assumption. With outcomes as complex as student destinations and school characteristics, there is no exactly consistent mechanical relationship driving behaviour. Nonetheless, average patterns can still be derived descriptively from the data and used to inform decision-making at similar aggregate levels.

4 | Results

4.1 How do Gatsby Benchmarks relate to post-16 pathways?

The results from 2017/18 Year 11 leavers, shown in Table 1, show a positive relationship between Gatsby Benchmarks and student destinations, comparing schools only against otherwise approximately similar schools (see control variables listed in the Appendix). Specifically, an increase of one full benchmark being completed out of eight, i.e. 12.5%pts higher on the overall benchmark completion percentage, equates to a typical increase in the odds of any given student being in confirmed, sustained EET of 1.5%.¹²

If all eight benchmarks were achieved, among 2017/18 leavers we would see an average increase in odds of sustained EET of 13% compared to zero benchmarks. However, the odds of being EET are high to start with, so it is hard to interpret this increase in odds. It is more intuitive to identify the implications for the percentage of the cohort that is expected to be non-NEET, i.e. not in confirmed, sustained six-month positive destinations, averaging over the other values of school characteristics that influence outcomes (see Appendix for the available characteristics). Such analysis shows that typical schools with benchmark completion scores of 0%, 50%, and 100% would, on average, have sustained non-EET rates of 7.2%, 6.8%, and 6.5% respectively. In other words, there is a reduction of 0.7%pts of the cohort going onto non-EET outcomes, or a 9.7% decline on the initial non-EET level.



12. 1.5% can be derived from the odds ratio of 1.13 in Table 1 raised to the power of 12.5%, creating the multiplier change on the odds relative to having one fewer benchmarks achieved (odds of a school having 100% EET across a cohort, being equivalent to a typical student's probability of being EET from that cohort). Odds reflects the probability of being EET divided by the probability of being non-EET.

This relationship is statistically significant at the 5% level. This level of significance indicates that, given the sample size and level of variation in the relationship across individual schools, we are approximately 95% confident that the observed relationship being positive is not due to chance variation in the data alone. In this dataset, we can be 95% confident there is a positive, non-zero benefit from career provision for EET outcomes. Odds reflects the probability of being EET divided by the probability of being non-EET.

Table 1: 2017/18 Year 11 Cohort Destinations

Outcome variable for type of route students sustain post-16	Gatsby BM score (%) odds ratios	P-value	N (Schools)
Overall EET	1.13**	0.048	2,382
Overall EET (without controls)	1.35**	0.016	2,606
Apprenticeships	1.19**	0.013	2,355
FE College	0.98	0.724	2,381
A School Sixth Form	1.12	0.104	2,372
A Sixth Form College (not FE)	0.95	0.744	2,325
NEET (confirmed)	0.92	0.206	2,379
Unknown destination	0.74*	0.095	2,218

(control variables included but not reported; ** significant at 5% level or better; * at 10% level or better)

Examining individual routes, we identify that the positive relationships with EET outcomes are driven most by more students doing apprenticeships and entering school sixth forms (as opposed to FE or sixth form colleges), and by a reduction in untraced students with unknown destinations, a category often considered to be at high risk of NEET. Indeed, schools with higher proportions of post-16 students on unknown destinations were also typically schools with higher proportions of students who were confirmed NEET: for each percentage point of the cohort going onto unknown destinations, on average the confirmed NEET rate was 1.2 percentage points higher.¹³

It is possible to investigate further the relationship with apprenticeship-related career provision and uptake. One of the questions schools respond to as part of Benchmark 7 is “By the time they leave school, approximately what proportion of students have had the following experience: Information about the full range of apprenticeships, including higher level apprenticeships?” Uptake of apprenticeship pathways is about 16% higher in the 39% of schools who provided information on apprenticeships to all students compared to the 6% of schools who provide the information to just a few students (1-25% of students), modelled with the same control variables and methodology as Table 1.¹⁴ Average apprenticeship take-up in the former set of schools was 4.3% compared to 3.7% in the latter set of schools, comparing schools that are similar in terms of student intake, academic performance and structure.



13. Linear regression, no controls: robust p-value 0.000, R2 9.6%.; n=2,443.

14. Estimation results: Coefficient 0.158, p-value 0.007, n 2,330 (without controls: 0.598, p-value, 0.000, n 2,551).

4.2. What are the outcomes for disadvantaged schools?

The positive relationship between reported Gatsby Benchmark provision and EET outcomes is stronger in schools with more disadvantaged intakes (Table 2). For instance, considering the most disadvantaged quarter of schools¹⁵, each extra full benchmark achieved is the equivalent of a 3.5% increase in odds of any given student being EET, statistically significant at the 5% level, as opposed to the 1.5% increase in odds observed above when the relationship is averaged over all schools.

If all eight benchmarks were achieved, among 2017/18 leavers in the most disadvantaged quarter of schools we would see an average increase in odds of sustained EET of 31% compared to zero benchmarks. Focusing again on how this translates into average cohorts for otherwise similar schools, typical schools with deprived intakes with benchmark completion scores of 0%, 50%, and 100% would, on average, have sustained non-EET rates of 13.4%, 11.9%, and 10.7% respectively. In other words, there is a reduction of 2.7%pts in the cohort going onto non-EET outcomes, or a 20.1% decline on the initial non-EET level.

Table 2: 2017/18 Year 11 Cohort Destinations (high FSM schools)

Outcome variable for type of route students sustain post-16	Gatsby BM score (%) odds ratios	P-value	N (Schools)
Overall EET	1.31**	0.035	571
Overall EET (without controls)	0.94	0.727	652
<hr/>			
Apprenticeships	0.92	0.661	558
FE College	1.11	0.457	571
A School Sixth Form	1.35*	0.079	570
A Sixth Form College (not FE)	0.67	0.103	568
NEET (confirmed)	0.79*	0.086	571
Unknown destination	0.64	0.181	558

(control variables included but not reported; ** significant at 5% level or better; * at 10% level or better)

15. In this sample: 40% or more of the intake eligible for free school meals

4.3. How consistent is this relationship over time?

A smaller sample of schools completed Compass returns in 2016/17, with an eligible sample size matched to EET outcome data in 2017/18 of 456. The same methodology as 2017/18 leavers is applied, but using number of benchmarks achieved out of 8 rather than the percentage completion score, since sub-benchmark completion was calculated differently in 2016/17 from 2017/18. The results are presented in Table 3 and show a positive, 5% level statistically significant relation between EET and number of Gatsby Benchmarks achieved, with controls in place to compare schools with otherwise similar schools.

Table 3: 2016/17 Year 11 Cohort Destinations

Outcome variable for type of route students sustain post-16	Gatsby BM score (%) odds ratios	P-value	N (Schools)
Overall EET	1.04**	0.045	435
Overall EET (without controls)	1.03	0.223	456
Apprenticeships	1.02	0.151	432
FE College	1.01	0.774	434
A School Sixth Form	1.02	0.210	433
A Sixth Form College (not FE)	0.94	0.194	414
NEET (confirmed)	0.98	0.298	434
Unknown destination	0.91**	0.017	400

(control variables included but not reported; ** significant at 5% level or better; * at 10% level or better)

The results indicate that an increase of one full benchmark being completed equates to a typical increase in the odds of any given student being in sustained EET of 3.6% across all schools in the sample, statistically significant at the 5% level. For instance, the expected non-EET rate for a school with zero benchmarks would be 6.3% on this dataset, compared to 4.9% for an otherwise similar school with 8 benchmarks.

The point estimate of the effect size is larger in the 2016/17 cohort of schools than the 2017/18 cohort of schools. While this may reflect the small sample size in 2016/17, it also raises the possibility that the positive relationship between reported benchmark scores and EET outcomes declined over time. However, the analysis cannot conclusively demonstrate any

such decline, as it is based on only two datapoints, as there may be other structural differences between the calendar years, and as the level of variation in datasets is too large to draw strong conclusions from the change.

The relationship between reported Gatsby provision and EET outcomes should continue to be monitored in future years, alongside ongoing operational activity to ensure that Gatsby Benchmarks remain effective measures of underlying career provision and continue to serve as a catalytic tool for school improvement. Nonetheless, at this point, there are material, statistically significant positive findings identified in two subsequent years, pointing strongly to the probable value of career provision.



5 | Implications

These results, replicated across two annual cohorts of Year 11 leavers, suggest there is a positive association between careers provision, as reported in Gatsby Benchmarks, and sustained destinations post-16. The positive relationship continues to be identified when we compare only across similar schools, in terms of having similar levels of intake deprivation, academic outcomes, and school structure. The associated impact of Gatsby Benchmarks on destinations is around twice as large in the most disadvantaged quarter of schools, suggesting that expanding careers provision across the board can contribute to narrowing the gap in outcomes between disadvantaged and advantaged cohorts.

These positive associations lend credibility to a theory of change in which good career guidance, among other benefits, helps students understand and choose appropriate post-16 options, feel motivated about their choice, are supported in applying early enough and well enough to access their preferred choice or backup, and are more diligently tracked from Year 11 to Year 12 to understand their outcomes. The presence of such a theory of change and a broader literature on the benefits of career guidance¹⁶ in turn increases the likelihood that this association, or at least a significant component of it, is causal in nature, such that ongoing policy, sectoral and practitioner efforts to improve career guidance provision can be expected to improve average EET outcomes.¹⁷

Such positive findings are important. Post-16 NEET outcomes are hard to prevent through school-level interventions alone, often being driven by structural factors at home and in communities, and have proved hard to reduce. Since the participation age in education or training was raised to 18 from summer 2013, participation rates in England for 16 year olds have remained effectively flat at 94%¹⁸ and 16-18 year old NEET rates have been stable at c. 6.6% from 2016 to 2019. Youth NEET outcomes are often highly costly, with lifetime consequences for individuals, for society, and for the Exchequer. For instance, previous analysis for The Careers & Enterprise Company, peer reviewed by professional economists, used a £42k lifetime saving to the Exchequer of a single person prevented from being NEET aged 16-18 due to improved guidance.¹⁹

Using this lifetime saving estimate, it is possible to calculate the fiscal value of different levels of career provision (Table 4), beginning with the sample that was analysed in this report (being the most reliable sample to use) and extending the insights to other scenarios of possible interests, with gradually declining levels of confidence in the accuracy of the estimate – in that they may be higher as well as lower than presented.

16. Hughes, D., Mann, A., Barnes, S.-A., Baldauf, B., & McKeown, R. (2016). Careers education: International literature review. London: Education Endowment Foundation.

17. Association analyses like these cannot on their own demonstrate a causal pathway, but can be combined with other evidence to inform such estimations. Indeed, even were we to have data from randomised control trials, results from limited circumstances in the past cannot be guaranteed to extrapolate to an ever-changing future.

18. 2014 to 2019 (provisional) figures, available from the June 2020 DfE publication available via: <https://www.gov.uk/government/statistics/participation-in-education-training-and-employment-2019>

19. <https://www.careersandenterprise.co.uk/our-research/personal-guidance-english-secondary-education-initial-return-investment-estimate>. Higher estimates of the value of NEET prevention are available, but more conservative estimates are preferred given that the type of individual for whom careers support is likely to prevent NEET is also likely to be someone for whom a NEET outcome incurs lifetime costs at the low end of the range (i.e. compared to those facing structural barriers to participation that careers support as described in the Gatsby Benchmarks is typically less able to overcome).

Table 4: Estimating the fiscal value of different levels of career guidance provision in England

Scenario <i>(all scenarios are relative to scores of zero Gatsby Benchmarks in all schools)</i>	Average benchmark achievement ²⁰	Sample of schools in-scope	Increased post-16 EET students p.a. vs. zero benchmarks	Lifetime fiscal savings p.a.
1. Provision in the 2017/18 Schools Analysed in this Paper <i>(using the EET-GBM relationship derived from the same cohort of schools)</i>	53% <i>(corresponds to 2.2/8 benchmarks on this dataset)</i>	2017/18 schools in scope for this paper (2,382 with c.345k Year 11s)	c. 1,400	c. £60m
2. Provision in the Schools with Compass Scores for March 2020 <i>(using the EET-GBM relationship derived from the 2017/18 cohort of schools studied in this paper)</i>	81% <i>(corresponds to 3.75/8 benchmarks on this dataset²¹)</i>	March 2020 Compass completers (2,857 with c. 415k Year 11s)	c. 2,600	c. £110m
3. Applying March 2020 Compass Scores to all Schools <i>(using the EET-GBM relationship derived from the 2017/18 cohort of schools studied in this paper)</i>	81% <i>(3.75/8 benchmarks)</i>	All schools (c. 600k Year 11 students)	c. 3,700	c. £150m
4. If All Schools Achieved 8 Benchmarks <i>(using the EET-GBM relationship derived from the 2017/18 cohort of schools studied in this paper)</i>	100% <i>(8/8 benchmarks)</i>	All schools (c. 600k Year 11 students)	c. 4,500	c. £190m

(In these scenarios, all increases in sustained EET outcomes are treated as generating an average lifetime fiscal value of £42k, including increases due to reductions in untraced students and in confirmed NEET students).

20. Scenarios should be treated as an indicative approximation, using the average Gatsby performance within the relevant cohort of schools, rather than accounting for distributional effects of schools around that average value.

21. Applied only to schools who completed Compass between 1 Aug 2019 and 31 Mar 2020 who also specified at least one student being in their Year 11 cohort (i.e. a subset of the schools included in the March 2020 data report in The Careers & Enterprise Company (2020) report on careers education in England's schools and colleges).

The identified relationship based on 2017/18 data suggests that the average additional number of students entering confirmed, sustained EET destinations post-16 is about 3,700 per year, given the level of career guidance provision schools reported in March 2020, compared to if schools provided no career guidance as measured by the Gatsby Benchmarks (Scenario 3 from Table 4). These collective efforts across the sector would be worth approximately £150m in annual fiscal savings from lifetime NEET costs alone, noting that good career guidance can secure many other benefits for society and for the economy.

An alternative comparison point is to examine the expected improvement in EET outcomes from the reported Gatsby Benchmark performance of schools in 2016/17, compared to schools' reported performance in March 2020. This perspective identifies an estimated equivalent of c.1,400 additional students in post-16 EET per year, the result of improved career guidance over the last three years, following enormous effort in individual schools and their local employer communities, supported by the Department for Education, The Careers & Enterprise Company, and other sector stakeholders.

A tentative note of caution is raised in the analysis so far, in that the relationship between Gatsby Benchmarks and EET outcomes is weaker in 2017/18 than in 2016/17. This could point to a proportion of schools seeking to drive up their Compass scores without a corresponding focus on the overall quality

of their careers provision, recognising that Compass questions only address a pragmatic, more measurable subset of all the elements that make up good career guidance. Nonetheless, the relationship with EET outcomes remains positive in both years analysed to date, being all years for which data are currently available to drive the analysis. A suitable response to these emerging findings is to continue monitoring the data over time and to continue investing in operational mechanisms for ensuring that Compass usage remains an indicator of strong, effective careers provision that drives student outcomes even as Compass becomes more widely used.

There are many avenues for extending the research with this type of dataset, including replication analyses in future years, understanding interactions between career provision and school circumstances, and considering a broader set of desirable outcomes for which administrative data are available and drawing on other datasets such as the Future Skills Questionnaire²², Compass+²³, and national longitudinal datasets.

This research should increase confidence that good careers provision, as captured in the Gatsby Benchmarks, can improve student destinations. While there is no certainty that statistical patterns from pre-pandemic cohorts will replicate as society and schooling rebuild from the social and economic upheaval of Covid-19, it is likely that the impact of personalised, constructive, and holistic career provision will only grow as the 21st century unfolds.

22. Tanner, E., and I. Finlay (2021). Future Skills Questionnaire: The development of a tool to measure young people's career-related learning and skills. London: The Careers & Enterprise Company. <https://www.careersandenterprise.co.uk/our-research/future-skills-questionnaire>

23. <https://www.careersandenterprise.co.uk/schools-colleges/compass-plus>

Appendix: Descriptive statistics

The core set of control variables for the 2017/18 leaver analysis²⁴, mostly drawn from www.compare-school-performance.service.gov.uk, were:

- (i) level of disadvantage, via local area levels of employment (job density in LA and unemployment rate in LA district) and school-level disadvantage measured by proportion of pupils eligible for free school meals, as areas with greater deprivation may find it harder to engage employers in support of career provision or may choose to prioritise employment-focused activity in schools;
- (ii) school structure, which may influence the common and expected pathways for students, via CEC measure of school type (mainstream, special schools, alternative provision, or other), school size (number of pupils), whether the school has selective admissions, whether the school has its own sixth form, and whether the school is boys-only, girls-only, or mixed;
- (iii) variables to capture possible variation by geographic circumstances, dummy variables for the nine government regions of England and dummy variables for level of rurality;
- (iv) measures of school performance and academic results, which may influence overall school priorities and the relative emphasis on careers provision, via average GCSE results and progress scores from 2017/18 (Attainment 8 and Progress 8 measures) and the latest Ofsted score as of July 2018 (entered as a categorical value, allowing Missing to be a value as schools without an Ofsted score may have different structural characteristics);
- (v) whether the school falls into a government-designated Opportunity Area, being neighbourhoods of high deprivation in receipt of additional state support.

Table 5: Key variables descriptive statistics

Variable	Mean	St. deviation	Min	Max
2017/18 Leaver sample (n=2,382)				
EET Outcomes	93.2%	6.7%	20%	100%
Gatsby Completion Score	53.4%	21.6%	0%	100%
2017/18 Leaver sample (high FSM, >=40%) (n=571)				
EET Outcomes	88.2%	10.8%	73.5%	100%
Gatsby Completion Score	53.9%	22.3%	20%	100%

24. The 2016/17 Leaver analysis uses the same variables, adjusting one year backwards as applicable.

Table 6: Control variables descriptive statistics (core 2017/18 leaver sample, n= 2,382)

Variable	Mean	St. deviation	Min	Max
Number of pupils completing KS4 in 2017/18	156	70	6	578
LA Job Density (number of jobs per person aged 16-64)	0.83	0.24	0.39	4.41
LA District Unemployment Rate	4.3%	1.3%	1.8%	8.7%
Percentage eligible for free school meals at end of KS4	29.2%	17.9%	0.0%	100.0%
Average Attainment 8 (ATT8SCR)	44.16	13.36	0.00	84.80
Progress 8 (P8MEA)	-0.14	0.64	-3.71	1.90
Boys only intake (y/n)	4.6%			
Girls only intake (y/n)	6.1%			
Has own sixth form (y/n)	67.0%			
Selective admissions (y/n)	4.9%			
In Opportunity Area (y/n)	6.1%			

Table 6 (continued): Control variables descriptive statistics (core 2017/18 leaver sample, n= 2,382)

<i>Region</i>		<i>Level of rurality around school</i>	
East Midlands	8.9%	Rural hamlet and isolated dwellings in a sparse setting	0.1%
East of England	12.6%	Rural hamlet and isolated dwellings	1.5%
London	10.3%	Rural town and fringe in a sparse setting	0.8%
North East	4.1%	Rural town and fringe	9.1%
North West	15.4%	Rural village in a sparse setting	0.2%
South East	16.0%	Rural village	1.3%
South West	10.2%	Urban city and town in a sparse setting	0.3%
West Midlands	12.0%	Urban city and town	50.7%
Yorkshire and the Humber	10.5%	Urban minor conurbation	3.4%
<i>School type (CEC coding)</i>		Urban major conurbation	32.5%
Further Education College	0.4%	<i>Ofsted grading</i>	
Mainstream school	93.2%	Serious Weaknesses	1.2%
Special school (SEND)	6.3%	Special Measures	3.4%
Other	0.1%	Requires improvement	13.2%
		Good	50.3%
		Outstanding	15.6%
		Not available / completed	16.3%

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