



# Impact of COVID-19 on the professional mountaineering community

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## 1 Abstract

The ongoing coronavirus pandemic of 2019-20 has had a profound impact upon the outdoor sector in Europe from late February 2020. In this study we measured the impact of containment measures on the UK's four main mountaineering associations and have attempted to forecast its financial implications as we progress into summer 2020. The memberships of the four main mountaineering associations (Association of Mountaineering Instructors, AMI; British Association of International Mountain Leaders, BAIML; Mountain Training Association, MTA; and British association of Mountain Guides, BMG), comprising of 7,184 members, were contacted with an impact survey. Given the scenario of major disruption between the 14<sup>th</sup> of March and 14<sup>th</sup> of August 2020 to the non-essential work that members of these four associations carry out, the estimated loss of gross earnings is £58.8 million, a 63.3% loss of earnings when compared with the 2018-19 tax year when an estimated £92.5 million of gross income was earned by members of these four associations. The worst affected individuals are owners of limited companies who are also self-employed; they see a 68% loss of earnings, and the self-employed, who see a 66% loss of earnings. The MTA sees the largest proportional loss of median income at 67%, whilst members of the BMG have seen the biggest loss of earnings, at a median loss of £20,000. This study does not take into account the recently announced government measures for self-employment grants, business grants and furloughed workers, of which some association members will benefit. There is, however, a large number of association members who will not qualify for any grants, due to their recent move to self-employment, the company structure of limited companies, and lack of bricks and mortar for business grants. With uncertainty of the timeline and impact of this pandemic, it is estimated that losses will continue to be incurred throughout the remainder of 2020 into spring 2021, with potential for long term international travel disruption and a lack of available spare funds for customers to make outdoor tourism related travel.

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## 2 Summary of Findings

- Members of the four main mountaineering associations contributed £92.5 million gross in the 2018-19 tax year.
- We forecast a loss of earnings to members of £58.8 million in the five months from the 14<sup>th</sup> of March to the 14<sup>th</sup> of August due to COVID-19.
- This loss of earnings over a five-month period would be a 63.6% loss compared with the 2018-19 tax year as a result of the seasonality of work.
- £17.1 million of non-refundable work expenses are likely to be spent by members over this five-month period.
- The worst affected individuals are owners of limited companies who are also self-employed, who see a 68% loss of earnings, and the self-employed who see a 66% loss of earnings.
- Members who are owners of limited companies will be unlikely to benefit from business grants or the furloughing of staff in this sector due to their company structure.
- Many members who are self-employed will be ineligible for the self-employment grant due to joining the industry too recently and/or having over 50% of work as an employee.
- Members of the BMG have seen the biggest loss of earnings at a median of £20,000 per member.

### 3 Introduction

The 2019-20 coronavirus pandemic has had far-reaching effects across the outdoor sector. With the seasonality of outdoor tourism and as a non-essential industry, its timing hitting Europe severely from March 2020, has already had devastating effects on the winter sports sector. The pandemic's ongoing impact on the spring season has shut down all outdoor work for the professional mountaineering community, with operational uncertainty leading into summer 2020 and knock-on effects for activity bookings as well as value-added spending on outdoor tourism.

A high level of uncertainty remains over the length of time containment measures will be in place. The UK government has previously announced that restrictions on movement and non-essential work will continue for between 3-6 months, with one Public Health England document (Campbell, 2020) warning of a rise in cases again in the autumn of 2020, perhaps running over until spring 2021. On the 29/02/2020, the deputy chief medical officer Dr Jenny Harries, speaking in the government's daily coronavirus briefing said that it could be "up to six months before life in the UK returns to normal." (BBC News, 2020). What seems relatively certain is that the UK will remain, at the very least, in partial lock down for a minimum of three months with fiscal measures to protect employee and sole-trader salaries up to June 2020.

In most of Europe, lock down measures have been severe, with Spain, Italy and France policing a stay at home policy with a very limited number of essential workers announced. Italy went into lock down on the 9<sup>th</sup> of March, restrictions were in place in France and Austria from the 13<sup>th</sup> of March, with a state wide lock down enforced from the 16<sup>th</sup>, Spain from the 14<sup>th</sup> of March, Switzerland on the 16<sup>th</sup> of March, Norway the 12<sup>th</sup> of March and the UK from the 23<sup>rd</sup> of March (Imperial College, 2020). British mountaineering instructors and guides live and work in all of the locked down countries noted above. Bans on mountain-based activities have been announced by governing bodies, representative bodies and professional guiding associations such as the French, Swiss, Italian and Austrian. Operational guiding companies have had to cancel work at short term notice from early March onwards with no certainty of when they will be able to begin working again. With the containment policies currently in place, it is likely the pandemic will have a major impact for up to 6 months on the professional mountaineering community and, due to the seasonality of work, this is likely to have a more significant impact on loss of earnings than the fifty percent of the year that physical distancing and travel measures may entail.

In this study, we contacted the four main British mountaineering associations, which comprises of 7,184 professionally qualified members, from the lowest outdoor qualifications all the way through to the highest. The four associations contacted were the Mountain Training Association (MTA), the British Association of International Mountain Leaders (BAIML), the Association of Mountain Instructors (AMI) and the British Association of Mountain Guides (BMG).

The memberships cover a diverse population group with individual employees, limited companies, sole-traders and a combination of the three worker types. At an early stage, it should be noted that this study is non-exhaustive, it is instead an attempt to understand the financial implications to individual members of the four associations of the current situation and forecast what the impact may be further into the year. The study focused on individuals rather than organisations and the third sector. Further research will need to be conducted to measure the impact upon the larger outdoor centres and climbing walls, from the national mountain centres of UK and Ireland, through to local education authority outdoor centres.

As an addition to loss of earnings, members also face non-refundable expenses such as professional insurance, equipment purchases, accommodation and travel. Further, some of the larger limited companies also rent accommodation and chefs for all or parts of the season. With no customers and high overhead running costs, companies are attempting to retrieve costs, or make early decisions on whether the European/UK summer seasons may be financially viable, with cancellations of accommodation possible now but not closer to the season. For some companies, a partial summer season is not financially viable due to the high overhead costs required for a full summer of facilities hire.

The last-minute nature of work cancellations have also provided, for many, cash flow issues and there are increasing reports of limited companies becoming insolvent. With the rapid on-set of measures to contain the virus in Europe and slow response of FCO travel advice changes and warnings, many sole traders and limited companies were left with the difficult decision of when to cancel work. Cancelling before official government advice for both clients and companies meant a breach of contract and no insurance pay-out. This left customers and companies in a difficult position with regards to 'social responsibility' versus economic viability. Once trips had been cancelled, sole traders, in line with terms and conditions, were able to retain full payment for work planned two to four weeks in advance due to insurance companies covering clients pandemic related cancellations. Some of the larger operators had to face the consequences of the 'Package and Linked Travel Regulations

2018', which meant a full refund to clients was required, as well as honouring contracts for staff who required paying for last minute work termination. Not only did this mean a loss of earnings, but a very significant financial pay out to staff in peak season. For some operators this would lead to insolvency whilst others refused to pay staff for last minute cancellations to avoid insolvency – the laws being relatively untested in this area of contract termination due to a pandemic.

In this study we measured the self-reported gross income of members of the four main mountaineering associations for the 2018-19 tax year and forecast the loss of earnings for each association, different employment types as well as the individual and overall financial impact on the professional mountaineering community as a result of the global coronavirus pandemic 2019-2020. It is hoped that results will be found to be useful for the government and policy makers in understanding the impacts and the at-risk groups as a result of the containment process.



## 4 Method

### 4.1 Participants

Participants for this study were professional mountaineers and were members of four separate mountaineering associations. Some would have been members of multiple associations. Demographic information is available in tables 1-4 in the results section. The four mountaineering associations cover a large range of qualifications and members and are as follows:

The Mountain Training Association (MTA) covers all Mountain Training leadership, coaching and instructing qualifications from the accessible, entry level schemes, which would yield a relatively low day rate and are often used by part time workers or volunteers, up to higher level qualifications that enable a broader range of professional work to be carried out. Many members of the MTA will also hold outdoor qualifications outside of mountaineering and work as multi-discipline outdoor instructors. Work carried out by qualification holders is seasonal to a certain extent but can also be carried out in indoor climbing centres or throughout the year working for centres, schools and delivering the Duke of Edinburgh award.

Members of the Association of Mountaineering Instructors (AMI) hold the two highest Mountain Training qualifications – the Mountaineering and Climbing Instructor (MCI) and the Winter Mountaineering and Climbing Instructor (WMCI). With the larger commitment of time and preparation to hold these qualifications, it is thought that members of this association are more likely to use the qualification as a main source of income. Prime season for working is January through to early autumn across the UK.

The British Association of International Mountain Leaders (BAIML) are qualified to work internationally and main work seasons are predominantly summer, but also in winter for some snowshoeing activities. The membership age range is diverse from some young members to a large older population.

The British Association of Mountain Guides (BMG) is the association for members holding the highest internationally recognised mountaineering qualification. Its membership is relatively small compared to the other associations but active and yielding the highest day rate. Work is very seasonal, predominantly based in the European Alps and operates between late December and mid-April on skis and June to September for alpine mountaineering.

### 4.2 Measures

An online survey was used to gather data for analysis (see Appendix B). This was felt to be the best method for a rapid response time. Due to concerns over confidentiality, the only

demographic data collected was that of biological sex and age. Respondents were asked to note which qualifications they held and which association(s) they were a member of. Respondents were also asked about employment status; were they a sole trader, an employee, and owner or shareholder of a limited company, or a combination of the above. Checkboxes were randomised for each individual response. Depending on which checkboxes were completed with relation to employment status, different gross income and loss of earnings questions would appear.

Respondents were then asked to consider the scenario “where all of your work as a professional mountaineer was cancelled from 14<sup>th</sup> March 2020 until 14<sup>th</sup> August 2020”. This five-month period was used with regards to the starting date of work cancellations and takes into account epidemiological and governmental predictions of how long travel restrictions and restrictions on non-essential work may remain in place. This has been used as a forecasting timeframe and is likely to need adjusting up or down relating to what happens in the real world.

Respondents were asked what their gross income was for the previous ‘clean’ tax year, 2018-19 and whether they thought they would earn more, less or the same in the 2020-21 tax year and by how much. The next question asked what the projected loss of earnings would be taking into account the above scenario. Questions were then asked in relation to expenses and whether or not individuals had another career that would be able to fully support them financially.

Finally, questions were asked on average daily rates individuals worked at with their highest qualification as an employee, sole trader and privately, as well as what they considered to be the lowest daily rate they would accept for work with their qualification.

### **4.3 Procedures**

The management committees of all four mountaineering associations were contacted with regards to a financial impact study of COVID-19 on the professional mountaineering community. All management committees approved the research process and agreed to distribute the Qualtrics survey to all 7,184 members using their candidate management systems on the 25<sup>th</sup> of March 2020. This survey was left active until midnight on the 31<sup>st</sup> of March. In that time, we received 873 responses giving us an overall response rate of 12.2%. The highest response rate by association was from the AMI 37% and BMG 32%. We received a higher proportion of responses from the three professional mountaineering associations (BMG, BAIML and AMI) where the data should be most reliable and a lower response from the MTA which covers a large number of voluntary workers who will have

been less likely to respond to the survey. Response by biological sex was not significantly different from overall memberships and the mean age of the respondent was 1.88 years greater than that of the overall membership. All analyses were conducted using R (R Core Team, 2020), the packages used are listed in the Appendix A, and analysis scripts can be accessed at [https://github.com/w-hardy/prof-mtnrs-covid-19/tree/master/r\\_scripts](https://github.com/w-hardy/prof-mtnrs-covid-19/tree/master/r_scripts).

## 5 Results

### 5.1 Survey respondents

As of 31<sup>st</sup> March 2020, there were 7,184 association members and 873 complete responses to a survey sent to all association members (i.e., a response rate of 12.2%). Responses for AMI, BAIML, and BMG were much higher than the response rate for MTA members (see Table 1).

Table 1. Summary of responses by association

Association	Members	Responses	Response rate
AMI	620	229	36.9
BAIML	546	142	26.0
BMG	185	60	32.4
MTA	6312	671	10.6

### 5.2 Demographics

Due to concerns surrounding confidentiality, we only asked for limited demographic data (i.e., age and sex). Table 2 presents a summary of demographic variables for all survey responses, Table 3 presents demographic variables for each association, and Table 4 presents demographic variables for each unique combination of employment statuses.

- The proportion of female and male candidates who responded to the survey were not significantly different to the proportion of female and male candidates in the population, nor for any of the individual association populations.
- The mean age of respondents to the survey was 1.88 years greater than the mean age of association members.

As of 31<sup>st</sup> March 2020, there were 7,184 association members and 873 complete responses to a survey sent to all association members (i.e., a response rate of 12.2%). Responses for AMI, BAIML, and BMG were much higher than the response rate for MTA members (see Table 3).

### 5.2.1 Summary

Table 2. Survey respondents' demographics.

Sex	No.	Median Age	Mean Age	SD Age
Female	177	43	42.8	12.1
Prefer not to say	5	49	46.6	15.9
Male	691	49	47.3	12.0

### 5.2.2 By association

These are not independent observations as a candidate may be a member of multiple associations.

Table 3. Demographics for each association.

Association	No.	% Female	% Male	Median Age	Mean Age	SD Age
AMI	229	10.0	90.0	44.0	44.7	11.5
BAIML	142	27.5	72.5	51.0	49.7	11.0
BMG	60	6.7	93.3	50.5	48.9	11.4
MTA	671	22.7	76.6	48.0	46.3	12.4

### 5.2.3 *By employment type*

Respondents were asked to select each of the employment statuses that applied to them from the following: self-employed/sole trader, owner or shareholder of a limited company, and employee of a company that someone else owns.

Table 4. Demographics for each employment status.

Employment Status	No.	% Female	% Male	Median Age	Mean Age	SD Age
Employee	85	28.2	71.8	39.0	40.9	11.8
Employee & owner	3	33.3	66.7	37.0	38.7	13.6
Owner	72	8.3	91.7	50.0	50.0	9.8
Self-employed	574	19.5	80.0	49.0	47.6	12.1
Self-employed & employee	114	26.3	72.8	43.0	43.2	12.3
Self-employed & owner	23	17.4	78.3	48.0	44.3	11.1
Self-employed, employee & owner	2	0	100	35.5	35.5	7.8

### 5.3 Qualifications held

These are not independent observations as a candidate may hold multiple qualifications. It is also possible that some candidates have not reported all of the qualifications that they hold and only reported their “highest” qualification (e.g., a WMCI who has not reported having their ML, there are 15 cases where this specific example is true).

Table 5. Survey responses per qualification.

Qualification	Count
British Mountain Guide	58
Winter Mountaineering and Climbing Instructor	107
Mountaineering and Climbing Instructor	203
International Mountain Leader	146
Winter Mountain Leader	271
Mountain Leader	707
Rock Climbing Instructor	445
Rock Climbing Development Instructor	9
Hill and Moorland Leader	43
Lowland Leader	26
Climbing Wall Instructor	114
Climbing Wall Development Instructor	63

### 5.4 Financial impact on individuals

Table 8 presents descriptive statistics for each employment type. It is important to note that the loss of earnings is based on the hypothetical scenario of all work from 14/03/2020 to 14/08/2020 being cancelled. This is important for two main reasons, firstly, the summer period is often busier for professional mountaineers and may account for more than half of their potential “working year.” Secondly, it is possible that professional mountaineers may still be able to complete some work (e.g., as technical advisors) or begin working before 14/08/2020.

### 5.5 Summary

Table 6. Individual finances.

No.	Income 2018-19 (£)		Expected normal income 2020-21 (£)		Expected Loss (£)		Loss of earnings as % of 18-19 income	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
873	16745	15000	18750	17000	10064	8500	60	57

### 5.6 By association

Table 7. Individual finances by association.

Association	No.	Income 2018-2019 (£)		Expected income 2020-2021 (£)		Expected loss (£)		Loss of earnings as % of 18-19 income	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
AMI	229	21269	19000	24434	21598	11248	10000	53	53
BAIML	142	19468	18000	19876	20000	10696	10000	55	56
BMG	60	34253	32300	35295	33500	21006	20000	61	62
MTA	671	14788	12000	16405	15000	9292	8000	63	67



## 5.7 By employment status

Table 8. Individual finances by employment status.

Employment Status	No	Income 2018-2019 (£)		Expected income 2020-2021 (£)		Expected loss (£)		Loss of earnings as % of 18-19 income		Alternate career (%)
		Mean	Median	Mean	Median	Mean	Median	Mean	Median	
Employee	85	19317	18000	19430	20000	5992	4000	31	22	18
Employee & owner	3	9485	10000	13333	10000	7000	5000	74	50	33
Self-employed	574	15516	12900	17414	15000	10039	8500	65	66	14
Self-employed & employee	114	20137	20000	23287	23734	12046	10000	60	50	17
Self-employed, & owner	23	22783	19000	22391	22000	16752	13000	74	68	4
Self-employed, employee & owner	2	8250	8250	8750	8750	5000	5000	61	61	50

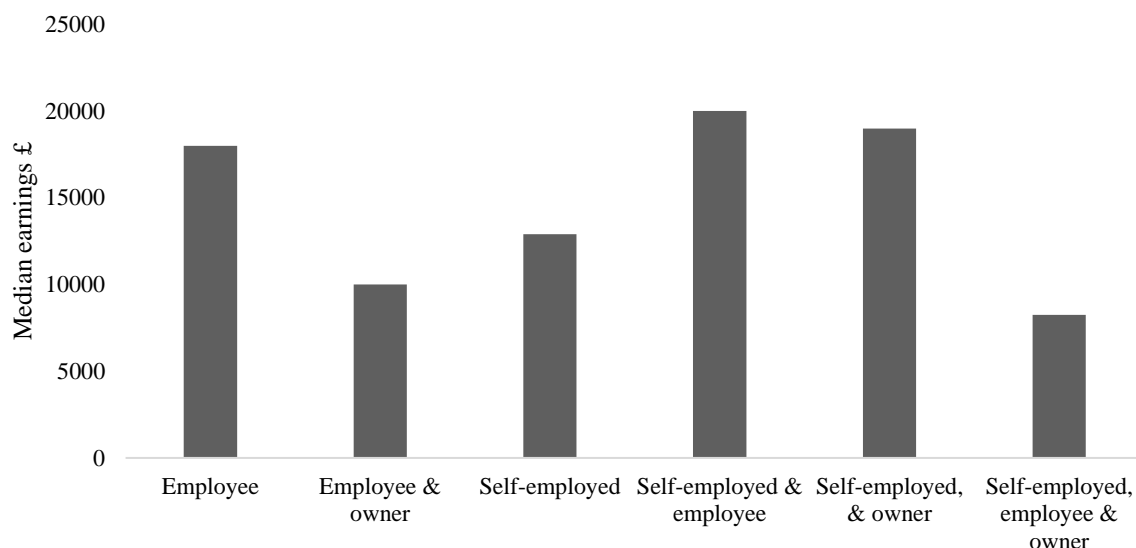


Figure 1 Median earnings by employment status (£).

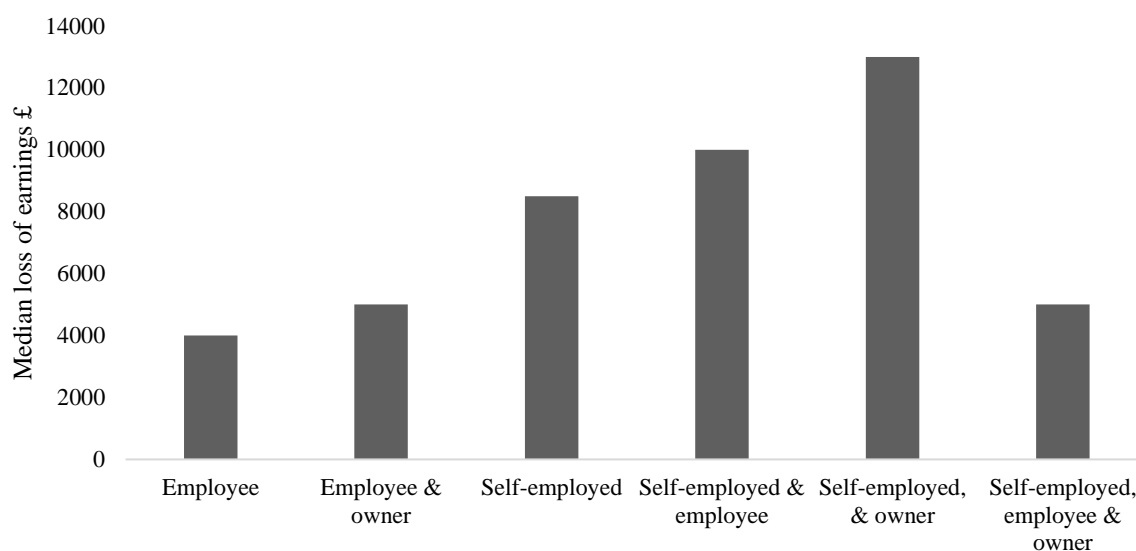


Figure 2 Median loss of earnings by employment status

## 5.8 Estimated total financial impact

There are two important considerations for estimating the population totals. Firstly, the representativeness of the sample data and secondly, the distributions of the data. Association membership is not mutually exclusive, thus there are 16 possible unique combinations, in the survey data there are 12 combinations represented. All combinations in the population are represented to a certain extent, however, some combinations are likely to be overrepresented, such as self-employed workers, in the survey sample, whilst others are likely to be under-represented, such as volunteers or retirees.

Table 9 presents three estimates for several population statistics. A simple estimation of the population statistics can be obtained by multiplying the sample mean by the population size (“Unweighted means”). A slightly more sophisticated estimation can be made by weighting the mean for each association membership group by the proportion of the population that belong to it (“Weighted means”), however, this still does not account for any non-normality in the data. The final method, and our preferred, was using Monte Carlo simulations. For each association membership group, we simulated 10,000 population data sets by resampling the survey data, we then took the mean for the sum of each population as the estimated total. This is likely to give us more reliable data for the three professional associations where the response rate was higher and perhaps less reliable for the MTA where the response rate was lower and also has a greater potential to be less representative.

Table 9. Estimated totals.

Estimation method	£ million			Loss of income as % of 18-19 income
	Income 18-19	Loss of income	Expenses	
Unweighted means	120.3	72.3	25.7	60.1
Weighted means	60.9	40.6	18.2	66.6
Monte Carlo simulation	92.5	58.8	17.1	63.6

### 5.9 By association

Table 10. Estimated individual expected loss of earnings by association (£).

Association	Mean loss of earnings	Mean loss of earnings as % of 18-19 income
AMI	11248.4	52.9
BAIML	10696.0	54.9

Table 10. Estimated individual expected loss of earnings by association (£).

Association	Mean loss of earnings	Mean loss of earnings as % of 18-19 income
BMG	21006.2	61.3
MTA	9291.6	62.8

The totals for each association in Table 11 are not mutually exclusive as respondents may be members of multiple associations.

Table 11. Estimated totals by associations

Estimation method	Association	£ million			Loss of income as % of 18-19 income
		Income 18-19	Loss of income	Expenses	
Weighted means	AMI	13.2	7.0	2.1	52.9
	BAIML	10.6	5.8	1.2	54.9
	BMG	6.3	3.9	1.0	61.3
	MTA	93.3	58.6	20.0	62.8
Monte Carlo simulation	AMI	12.2	6.5	1.6	52.9
	BAIML	9.4	5.1	0.8	54.9
	BMG	5.6	3.4	0.7	61.4
	MTA	86.2	54.2	13.3	62.8

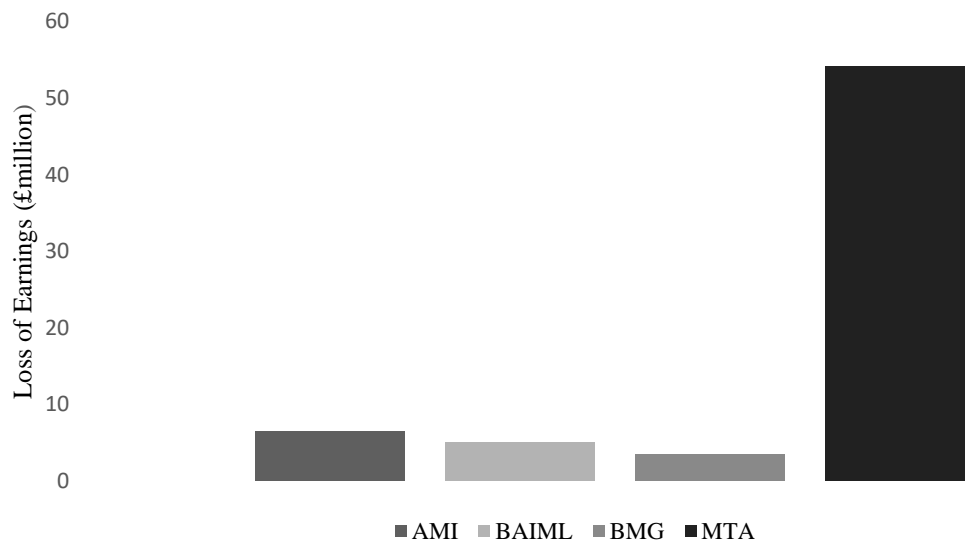


Figure 3 Loss of earnings by association

### 5.10 Day rates

Professional mountaineers will work with a variety of clients and for a variety of employers; the rates of pay they receive for a day’s work will vary accordingly. In the survey we asked respondents to estimate their average daily rate when working with their highest qualification privately, and as an employee.

Table 12. Daily rates of pay by association

Association	Private	Employee
AMI	200	157.5
BAIML	200	150.0
BMG	380	300.0
MTA	150	130.0

## **6 Interpretation of Findings**

### **6.1 BMG**

Sixty members of the BMG responded to this survey giving us a 32% response rate, four of which were female and fifty-six male, which is not significantly different from the overall membership. The median age was 50.5 and mean age 48.9, again not significantly different from the overall membership.

In the 2018-19 tax year members earned a mean gross income of £34,253 and a median gross income of £32,300. Members expected a slight rise in income for the 2020-2021 tax year to £35,295 and £33,500 respectively. In the absence of COVID, members of the BMG face the largest monetary drop in income across the four associations with a mean estimated loss of earnings of £21,006.20 which is a 61% loss compared with gross income in the 2018-19 tax year. The median estimated loss of earnings was £20,000 which is a 62% loss compared with the 2018-19 tax year.

To calculate the best estimate of overall financial impact for the BMG we used the Monte Carlo simulation. This showed that the total gross income of members of the association was £5.6 million in the 2018-19 tax year. Given the scenario of five months of cancelled work from the 14<sup>th</sup> of March to the 14<sup>th</sup> of August 2020, we can expect to see a £3.4 million loss of earnings compared to the 2018-19 tax year which is a 61.4% loss of annual income. Further, members of the BMG would have spent an additional £0.7 million in non-refundable expenses over this period.

Qualified British Mountain Guides earn a median rate of £380 a day working privately and £300 a day working as an employee.

### **6.2 AMI**

There were 229 members of the AMI who responded to this survey giving us a 36.9% response rate, of whom, 30 were female and 199 were male. The median age of respondents was 44 and mean age 44.7. In the 2018-19 tax year members earned a mean gross income of £21,269 and a median gross income of £19,000. In the absence of COVID, members expected a slight rise in income for the 2020-2021 tax year to £24,434 and £21,598 respectively. Members of the AMI face an estimated mean loss of earnings of £11,248 which is a 53% loss compared with gross income in the 2018-19 tax year. This also comes in at a median loss of earnings at £10,000 which is a 53% loss compared with the 2018-19 tax year. We have not measured the differences in gross income or losses between MCI's and WMCI's.

To calculate the best estimate of overall financial impact for the AMI we used the Monte Carlo simulation. This showed that the total gross income of members of the association was £12.2 million in the 2018-19 tax year. Given the scenario of five months of cancelled work from the 14<sup>th</sup> of March to the 14<sup>th</sup> of August 2020, we can expect to see a £6.5 million loss of earnings compared to the 2018-19 tax year which is a 53% loss of annual income. Further, members of the AMI would have spent an additional £1.6 million in non-refundable expenses over this period.

Qualified MCI and WMCI instructors earn a median day rate of £200 a day working privately and £157.50 a day working as an employee. We have not measured the difference in day rates between MCI's and WMCI's.

### **6.3 BAIML**

There were 142 members of BAIML responded to this survey giving us a 26% response rate, of whom 39 were female and 103 were male. The median age was 51 and mean age 49.7. In the 2018-19 tax year members earned a mean gross income of £19,468 and a median gross income of £18,000. In the absence of COVID, members expected a slight rise in income for the 2020-2021 tax year to £19,876 and £20,000 respectively. Members of the BAIML face an estimated mean loss of earnings of £10,696 which is a 55% loss compared with gross income in the 2018-19 tax year. This also comes in at a median loss of earnings at £10,000 which is a 56% loss compared with the 2018-19 tax year.

To calculate the best estimate of overall financial impact for the BAIML we used the Monte Carlo simulation. This showed that the total gross income of members of the association was £9.4 million in the 2018-19 tax year. Given the scenario of five months of cancelled work from the 14<sup>th</sup> of March to the 14<sup>th</sup> of August 2020, we can expect to see a £5.1 million loss of earnings compared to the 2018-19 tax year which is a 55% loss of annual income. Further, members of the BAIML would have spent an additional £0.8 million in non-refundable expenses over this period.

Qualified International Mountain Leaders earn a median day rate of £200 a day working privately and £150 a day working as an employee.

### **6.4 MTA**

Six hundred and seventy-one members of the Mountain Training Association responded to this survey giving us a 10.6% response rate, of which one hundred and fifty-two were female and five hundred and nineteen were male. The median age was 48 and the mean age was 46.3. In the 2018-19 tax year members earned a mean gross income of £14,788 and a median gross income of £12,000. Members expected a slight rise in income for the 2020-

2021 tax year to £16,405 and £15,000 respectively. In the absence of COVID, members of the MTA have the highest proportionate loss of income of any of the associations, they face an estimated mean loss of earnings of £9,292 which is a 63% loss compared with gross income in the 2018-19 tax year. This also comes in at a median loss of earnings at £8,000 which is a 67% loss compared with the 2018-19 tax year. We have not measured the differences between the diverse range of qualification holders in this group and there are likely to be high individual differences with regards to gross income and loss of earnings in this association.

To calculate the best estimate of overall financial impact for the MTA we used the Monte Carlo simulation. This showed that the total gross income of members of the association was £86.2 million in the 2018-19 tax year. Given the scenario of five months of cancelled work from the 14<sup>th</sup> of March to the 14<sup>th</sup> of August 2020, we can expect to see a £54.2 million loss of earnings compared to the 2018-19 tax year which is a 63% loss of annual income. Further, members of the MTA would have spent an additional £13.3 million in non-refundable expenses over this period.

Members of the MTA earn a median day rate of £150 a day working privately and £130 a day working as an employee. We have not measured the difference in day rates between the diverse rate of qualification holders in this association.

## **6.5 Overall impact across all four associations**

To calculate the best estimate of overall financial impact we used the Monte Carlo simulation. This showed that the total gross income of members of all four associations was £92.5 million in the 2018-19 tax year. Given the scenario of five months of cancelled work from the 14<sup>th</sup> of March to the 14<sup>th</sup> of August 2020, we can expect to see a £58.8 million loss of earnings compared to the 2018-19 tax year which is a 63.6% loss of annual income. Further, members of the four associations would have spent an additional £17.1 million in non-refundable expenses over this period.

The worst affected groups by employment status are those who are self-employed and also owners of limited companies, who proportionately see a mean loss of 74% of income and a median loss of 68%. They also see the highest financial loss of earnings with a median loss of income at £13,000. The self-employed are the next worst affected group with a mean loss of earnings at 65% and a median at 66%. The median loss for self-employed workers is £8,500. It is noteworthy that owners of limited companies who are also self-employed, whilst seeing the highest financial loss, are also least likely to benefit from UK government aid as of announcements up to the 01/04/2020. The second worst affected group are self-employed



workers, whilst proportionately seeing a large drop in income when compared to 2018-19, will be more likely to benefit from government aid in terms of self-employed benefits.

The worst affected groups by association are the MTA who see the biggest proportional loss of income at 67% whilst also having the smallest median income at £12,000 in the 2018-19 tax year. Members of the BMG have seen the biggest financial impact with a median loss of income of £20,000 which is a 62% loss of earnings when compared with the 2018-19 tax year.

## **6.6 Summary**

With an estimated £58.8 million, or 63.6% loss of earnings forecasted for the five-month period between the 14<sup>th</sup> of March and 14<sup>th</sup> of August, it is clear that members of all four associations will be hugely affected by the containment measures currently in place. The industry will be disproportionately affected by the timing of this pandemic, as reflected by the proportion of annual income lost, due to the nature of seasonal work in the industry. Further, an estimated £17.1 million in non-refundable expenses are likely to be spent over this period to maintain insurance policies, pay for accommodation and travel not used, pay staff to honour terminated work contracts and other miscellaneous expenses. Whilst some insurers and associations are allowing for a break in contract whilst work is untenable, many are not, and limited companies that have refunded clients due to the 'Package and Linked Travel Regulations 2018' and also honoured guiding contracts have faced a huge financial hit due to a lack of contingency planning for a pandemic in the industry.

With 66% of respondents self-employed and only 10% of all respondents having an alternative career that will fully support them during this crisis, many members will be duly waiting for the HMRC to contact them with regards to taxable grants worth up to 80% of their average monthly profits. These 80% grants, due to the seasonality of work, will likely fall far short of the income the professional mountaineering community would otherwise earn during this period. Association members who did not submit a tax return in the 2018-19 tax year, or who earned over 50% of income through employed or PAYE work, will not meet eligibility criteria and owners of limited companies, who may employ themselves at the minimum rate as an employee, will also receive no financial support from the government other than through the Universal Credit system. Limited companies that are not bricks and mortar will also fail to qualify for the government's £10,000 business grant.

The picture across the professional mountaineering community is currently bleak. Whilst employees and many sole traders will be eligible for government grants, a large proportion of the membership will find that they do not qualify for any income support other

than Universal Credit. The current crisis is likely to be the hardest financial hit to individuals working in the outdoor industry since the Second World War, surpassing that of the Foot and Mouth epidemic of 2001 and the global financial recession of 2007-8. It is, unfortunately, very likely that many outdoor businesses will be bankrupt by the end of 2020 and sooner.

## **7 Acknowledgements**

I would like to thank Will Hardy for conducting the analyses for this study and for his comments and feedback on survey design and drafts of this paper.

## 8 References

- Allaire, JJ, Yihui Xie, Jonathan McPherson, Javier Luraschi, Kevin Ushey, Aron Atkins, Hadley Wickham, Joe Cheng, Winston Chang, and Richard Iannone. 2020. Rmarkdown: Dynamic Documents for R. <https://CRAN.R-project.org/package=rmarkdown>.
- Analytics, Revolution, and Steve Weston. 2019. Iterators: Provides Iterator Construct. <https://CRAN.R-project.org/package=iterators>.
- BBC News, no author, 29/03/2020. <https://www.bbc.co.uk/news/uk-52084517>
- Campbell, Denis, Guardian, “UK coronavirus crisis 'to last until spring 2021 and could see 7.9m hospitalised” <https://www.theguardian.com/world/2020/mar/15/uk-coronavirus-crisis-to-last-until-spring-2021-and-could-see-79m-hospitalised>
- Corporation, Microsoft, and Steve Weston. 2019. DoParallel: Foreach Parallel Adaptor for the 'Parallel' Package. <https://CRAN.R-project.org/package=doParallel>.
- Henry, Lionel, and Hadley Wickham. 2019. Purrr: Functional Programming Tools. <https://CRAN.R-project.org/package=purrr>.
- Imperial College COVID 19 Response Team, “Estimating the number of infections and the impact of nonpharmaceutical interventions on COVID-19 in 11 European countries” 30/03/2020
- Müller, Kirill, and Hadley Wickham. 2019. Tibble: Simple Data Frames. <https://CRAN.R-project.org/package=tibble>.
- R Core Team. 2019. R: A Language and Environment for Statistical Computing. Vienna, Austria: R Foundation for Statistical Computing. <https://www.R-project.org/>.
- Revolution Analytics, and Steve Weston. n.d. Foreach: Provides Foreach Looping Construct.
- Spinu, Vitalie, Garrett Grolemund, and Hadley Wickham. 2018. Lubridate: Make Dealing with Dates a Little Easier. <https://CRAN.R-project.org/package=lubridate>.
- Wickham, Hadley. 2019a. Stringr: Simple, Consistent Wrappers for Common String Operations. <https://CRAN.R-project.org/package=stringr>.
- . 2019b. Tidyverse: Easily Install and Load the 'Tidyverse'. <https://CRAN.R-project.org/package=tidyverse>.
- . 2020. Forcats: Tools for Working with Categorical Variables (Factors). <https://CRAN.R-project.org/package=forcats>.
- Wickham, Hadley, Winston Chang, Lionel Henry, Thomas Lin Pedersen, Kohske Takahashi, Claus Wilke, Kara Woo, Hiroaki Yutani, and Dewey Dunnington. 2020. Ggplot2:

Create Elegant Data Visualisations Using the Grammar of Graphics. <https://CRAN.R-project.org/package=ggplot2>.

Wickham, Hadley, Romain François, Lionel Henry, and Kirill Müller. 2020. Dplyr: A Grammar of Data Manipulation. <https://CRAN.R-project.org/package=dplyr>.

Wickham, Hadley, and Lionel Henry. 2020. Tidy: Tidy Messy Data. <https://CRAN.R-project.org/package=tidyr>.

Wickham, Hadley, Jim Hester, and Romain Francois. 2018. Readr: Read Rectangular Text Data. <https://CRAN.R-project.org/package=readr>.

Wikipedia. 2020. "Monte Carlo method."  
[https://en.wikipedia.org/wiki/Monte\\_Carlo\\_method](https://en.wikipedia.org/wiki/Monte_Carlo_method).

Xie, Yihui. 2020. Knitr: A General-Purpose Package for Dynamic Report Generation in R. <https://CRAN.R-project.org/package=knitr>.

Zhu, Hao. 2019. KableExtra: Construct Complex Table with 'Kable' and Pipe Syntax. <https://CRAN.R-project.org/package=kableExtra>.

## 9 Appendix A – Software Packages

All analyses were conducted using R (Version 3.6.2; R Core Team 2019) and the R-packages `data.table` (Version 1.12.8; n.d.), `DataExplorer` (Version 0.8.1; n.d.), `doParallel` (Version 1.0.15; Corporation and Weston 2019), `dplyr` (Version 0.8.5; Wickham, François, et al. 2020), `forcats` (Version 0.5.0; Wickham 2020), `foreach` (Version 1.4.8; Revolution Analytics and Weston, n.d.), `ggplot2` (Version 3.3.0; Wickham, Chang, et al. 2020), `haven` (Version 2.2.0; n.d.), `iterators` (Version 1.0.12; Analytics and Weston 2019), `kableExtra` (Version 1.1.0; Zhu 2019), `knitr` (Version 1.28; Xie 2020), `lubridate` (Version 1.7.4; Spinu, Grolemund, and Wickham 2018), `psych` (Version 1.9.12.31; n.d.), `purrr` (Version 0.3.3; Henry and Wickham 2019), `readr` (Version 1.3.1; Wickham, Hester, and Francois 2018), `rmarkdown` (Version 2.1; Allaire et al. 2020), `stringr` (Version 1.4.0; Wickham 2019a), `tibble` (Version 2.1.3; Müller and Wickham 2019), `tidyr` (Version 1.0.2; Wickham and Henry 2020), and `tidyverse` (Version 1.3.0; Wickham 2019b).

## 10 Appendix B – Impact of COVID-19 on the professional mountaineering community survey

This survey is being conducted on behalf of The Mountain Training Association (MTA), The Association of Mountaineering Instructors (AMI), The British Association of International Mountain Leaders (BAIML), and The British Mountain Guides (BMG) to help them understand the potential financial impact of the COVID-19 pandemic on their members. All responses to this survey are anonymous and the data collected will be used to create press releases and reports that will be sent to local and national governments that aim to ensure you are supported through these difficult and uncertain times.

There are two sections to this survey:

Information about you, your qualifications, and the potential financial impact on you.

Information about the normal financial situation of your professional sector.

If you have any questions about this survey please email:

Calum Muskett - calum\_muskett@hotmail.co.uk

Will Hardy – will\_hardy@hotmail.co.uk

Please feel free to contact your association if you have any concerns about this survey.

Q2

It is important that we understand how well the responses to this survey represent the full membership of the associations. Below are some questions that will help us to understand this.

Q3

How old are you?

Q4

At birth you were described as...

Female

Male

Intersex

I prefer not to say

Page Break

Q5

It is important that we understand how, if at all, the potential impact of COVID-19 varies across the professional mountaineering community. The following questions will help us to understand the potential impact across the community.

Q6

Which of the following qualifications do you hold? (Tick all that apply)

British Mountain Guide

Rock Climbing Instructor

Winter Mountaineering and Climbing Instructor

Rock Climbing

Development Instructor

Mountaineering and Climbing Instructor

Hill and Moorland Leader

International Mountain Leader

Lowland Leader

Winter Mountain Leader

Climbing Wall Instructor

Mountain Leader

Climbing Wall Development Instructor

Q7

Which of the following are you a member of? (Tick all that apply)

Mountain Training Association (MTA)

Association of Mountaineering Instructors (AMI)

British Mountain Guides (BMG)

British Association of International Mountain Leaders (BAIML)

Q47

Which of the following apply to you as a professional mountaineer? (Tick all that apply)

Sole trader/self-employed

Owner or shareholder of a limited company (we will ask questions about you and your business separately)

Employee of a company that someone else owns

Display This Question:

If Which of the following apply to you as a professional mountaineer? (Tick all that apply)

Owner or shareholder of a <strong>limited company</strong> (we will ask questions about you and your business separately) Is Selected

Q43

What percentage of the limited company do you own?

Q4

Which of the following best describes you?

Sole trader/self-employed

Owner or shareholder of a Limited Company (we will ask questions about you and your business separately)

Employee of a company that someone else owns

Show Discussion (0)

Q9

Is the majority of your work carried out within the UK?

Yes

No

Q48

To help us understand the potential financial impact, it is important that the questions we ask cover a specific scenario. In the following sections we will ask you to consider the scenario where all of your work as a professional mountaineer was cancelled from the 14th March 2020 until 14th August 2020.

I understand

Q10

This section contains questions about your estimated personal losses as a self-employed professional mountaineer and not those as an employee or of any businesses you may own. First, we would like to understand what a normal financial year would look like for you and if you had expected this year to be the same.

Q11

What was your gross income (i.e., before deductions) for the previous tax year (2018-2019) from working as a self-employed professional mountaineer?

£

Q46

How did you expect your 2020-2021 gross income as a professional mountaineer to compare with your 2018-2019 gross income?

More than

About the same

Less than

Display This Question:

If How did you expect your 2020-2021 gross income as a professional mountaineer to compare with your... More than Is Selected

Or How did you expect your 2020-2021 gross income as a professional mountaineer to compare with your... Less than Is Selected

Q52

How much did you expect to earn this year?



£

Q23

For many people the financial impact will not be limited to loss of earnings as some expenses may still need to be paid (e.g., insurance) and others may not (e.g., fuel). The questions in the following section are to help us understand the financial impact on you as a sole trader.

Business losses and losses as an employee are covered in separate sections of this survey.

When answering the following questions, we would like you to consider the scenario where you were unable to work as a self-employed professional mountaineer from the 14th March 2020 to the 14th August 2020.

Q20

If all your work as a professional mountaineer was cancelled from the 14th of March to the 14th August 2020, what would your loss of earnings be?

£

Q17

Do you have any professional expenses that will still need to be paid for in this period for your work as a self-employed professional mountaineer?

Yes

No

Display This Question:

If Do you have any professional expenses that will still need to be paid for in this period for your... Yes Is Selected

Q18

Please list as many of these as you can (e.g., professional insurance, vehicle insurance, accounting fees)

Display This Question:

If Do you have any professional expenses that will still need to be paid for in this period for your... Yes Is Selected

Q19

Please provide your best estimate of your total professional expenses that will still need to be paid for in this period.

£

Q13

Do you have an alternate career you can turn to?

Yes

No

Display This Question:

If Do you have an alternate career you can turn to? Yes Is Selected

Q14

If yes, what is it?

Display This Question:

If Do you have an alternate career you can turn to? Yes Is Selected

Q15

Do you expect your alternate career to fully support you financially?

Yes

Maybe

No

Q53

This section contains questions about your estimated personal losses as a professional mountaineer employed by a company (someone else's or your own) and not those of any businesses you may own or as a self-employed professional mountaineer.

First, we would like to understand what a normal financial year would look like for you and if you had expected this year to be the same.

Q54

What was your gross income (i.e., before deductions) for the previous tax year (2018-2019) from working as a employed professional mountaineer?

£

Q55

How did you expect you 2020-2021 gross income as a professional mountaineer to compare with your 2018-2019 gross income?

More than

About the same

Less than

In Page Display Logic may behave unexpectedly with Validation Options

Display This Question:

If How did you expect you 2020-2021 gross income as a professional mountaineer to compare with your... More than Is Selected

Or How did you expect you 2020-2021 gross income as a professional mountaineer to compare with your... Less than Is Selected

Q56

How much did you expect to earn this year?

£

Q57

For many people the financial impact will not be limited to loss of earnings as some expenses may still need to be paid (e.g., insurance) and others may not (e.g., fuel). The questions in the following section are to help us understand the financial impact on you as an employee.

Business losses and losses as a self-employed professional mountaineer are covered in separate sections of this survey.

When answering the following questions, we would like you to consider the scenario where you were unable to work as a employed professional mountaineer from the 14th March 2020 to the 14th August 2020.

Q58

If all your work as a professional mountaineer was cancelled from the 14th of March to the 14th August 2020, what would your loss of earnings be?

£

Q59

Do you have any professional expenses that will still need to be paid for in this period for your work as an employed professional mountaineer?

Yes

No

Display This Question:

If Do you have any professional expenses that will still need to be paid for in this period for your... Yes Is Selected

Q60

Please list as many of these as you can (e.g., professional insurance, vehicle insurance, accounting fees)

Display This Question:

If Do you have any professional expenses that will still need to be paid for in this period for your... Yes Is Selected

Q61

Please provide your best estimate of your total professional expenses that will still need to be paid for in this period.

£

Q62

Do you have an alternate career you can turn to?

Yes

No

Display This Question:

If Do you have an alternate career you can turn to? Yes Is Selected

Q63

If yes, what is it?

Display This Question:

If Do you have an alternate career you can turn to? Yes Is Selected

Q64

Do you expect your alternate career to fully support you financially?

Yes

Maybe

No

Q27

For businesses the losses incurred may be greater due to higher insurance costs, accommodation hire, paying staff for last minute work cancellations and vehicle and equipment losses. It is important to us that these losses are also considered.

When answering the following questions, we would like you to consider the scenario of all work between 14th March 2020 to the 14th August 2020 being cancelled.

Q49

What was your company's gross profit from the previous tax year (2018-2019)?

£

Q50

What would be your businesses loss of gross profit if all work was cancelled from the 14th of March to the 14th August 2020?

£

Q24

Do you have any business expenses that will still need to be paid for in this period?

Yes

No

Display This Question:

If Do you have any business expenses that will still need to be paid for in this period? Yes Is Selected

Q25

Please list as many of these as you can.

Display This Question:

If Do you have any business expenses that will still need to be paid for in this period? Yes Is Selected

Q26

Please provide your best estimate of the total business expenses that you will still need to pay in this period.

£

Q27

This section contains questions that aim to help us understand the general financial situation of the professional mountaineering sector.

Q28

What is your standard daily rate for working with private clients under your highest qualification?

£

Q29

What is the average daily rate you work for under your highest qualification for outdoor activity providers?

£

Q30

What is the lowest daily rate you are willing to accept work opportunities for working for another provider with your highest qualification?

£