Q3 2020 Research Article: Analysing the Impact of COVID-19 on Wellbeing

In our previous research article, we suggested policy solutions for the recovery period that were consistent with our overarching goal: *increasing happiness and wellbeing in society in a sustainable and equal way*. We think that this should be the main goal of governments in developed countries. But of course, in order for this to be the main goal, we need to be able to measure and track our progress against this goal.

Fortunately, the Office for National Statistics (ONS) has been doing this in the United Kingdom (UK) since 2011. This means we have a highly valuable yardstick with which to measure how the UK is progressing. Huge amounts of attention have been paid to the financial impacts of COVID-19 and although they have been significant, this information only tells us part of the story. It is important to measure progress on a wider range of variables, with economic indicators just being one part of this. All these variables should feed through to the overarching goal of sustainably and equally increasing wellbeing.

This article is split into three sections: first, we look and discuss what observed high frequency wellbeing measures during the second quarter of this year have taught us about the initial impact of the pandemic. Second, we use external forecasts from financial variables to assess how wellbeing scores may change in the future, as a result of these forecasts. And lastly, we discuss what this all means for wellbeing inequality.

Section 1: The initial impact of COVID-19 using high frequency measures

In normal times the ONS produces survey results on a quarterly basis to answer the four main questions that make up the 'Measuring National Wellbeing Programme'. However, following the onset of the COVID-19 pandemic and once government lockdown policies had been put in place, the ONS decided to ask these questions on a weekly basis and this lasted for twelve weeks. The sample size of these estimates is quite considerably smaller than during normal times. For a quarterly estimate the typical sample size is approximately 30,000 people, whereas for these weekly estimates the sample size was usually around 1,500 people. Individually each of these weekly estimates are likely to have a much wider confidence interval as a result of this smaller sample. However, taking the average of the values across the period collectively changes little in the way of the key takeaways from this data. The averages of the weekly values are 7.0, 7.4, 6.9 and 4.1 reading across Charts 1-4[1], respectively. Charts 1-2 remain stable across the time period, close to these average values. Whilst for the shorter-term measures in Charts 3-4, there was a clear recovery in both measures as we proceeded through time. This matches well with what we would have expected too.

Looking across all four measures, there is a clear and significant negative step change, with the change being larger, but less persistent, in the shorter-term measures. This data helps to confirm that lockdown policies and the concerns related to the spread of the virus, play a significant role in influencing a countries wellbeing. This is hardly a surprising finding; lockdown restrictions reduce citizens personal freedom, provide a significant income shock to some (especially those on lower incomes where an income shock has a larger relative impact on a person's wellbeing, see Section 3) and a loss of purpose to others that are unable to work. There is potentially a greater probability that individuals personal relationships come under strain. For those able to work, the line between work and life becomes increasingly blurred with so many now working from home. For those where public opinion of the government's handling of the pandemic is low (e.g. the UK), trust in the government is likely to fall lower, potentially leading to lower compliance towards the government's rules, which could exacerbate this the extent of the pandemic. The health effects for citizens are negative too. There is the initial threat of catching the virus itself, and then there is the heightened anxiety attached to the potential of catching the virus or the concern for the health of loved ones. Then there is the impact on those who require healthcare treatment for an illness not related to the pandemic and receive less attention than would have otherwise been the case, due to the high level of

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[1] Questions in Charts 1-4: "Overall, how satisfied are you with your life nowadays?", "Overall, to what extent do you feel that the things you do in your life are worthwhile?", "Overall, how happy did you feel yesterday?", "Overall, how anxious did you feel yesterday?".

demand for (and a limited supply of) healthcare. Lastly, but perhaps most importantly this year, has been the increased spread of misinformation and scaremongering in the media and on social media. This increases anxiety for citizens within a country and is currently helping to drive an increased level of polarisation between citizens too.
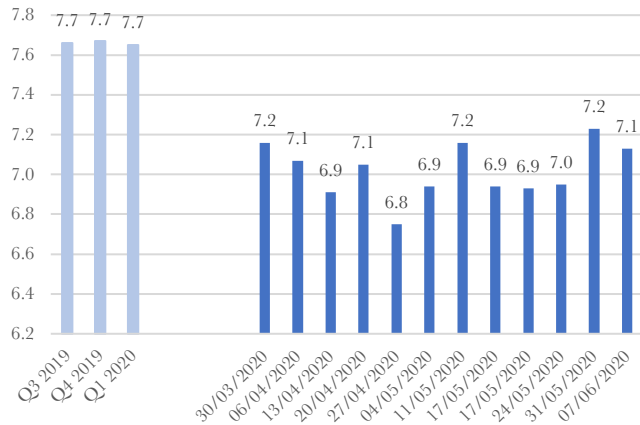
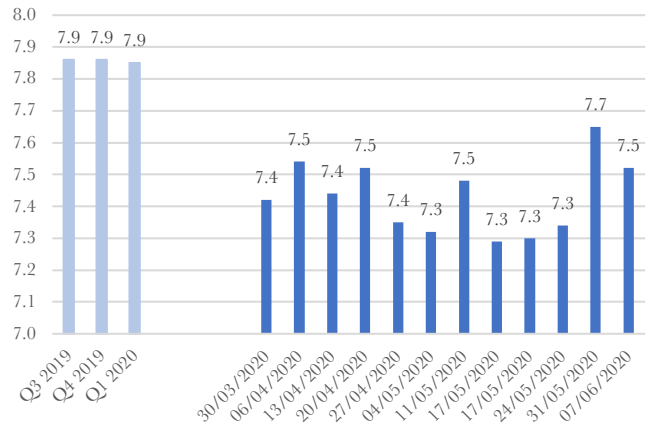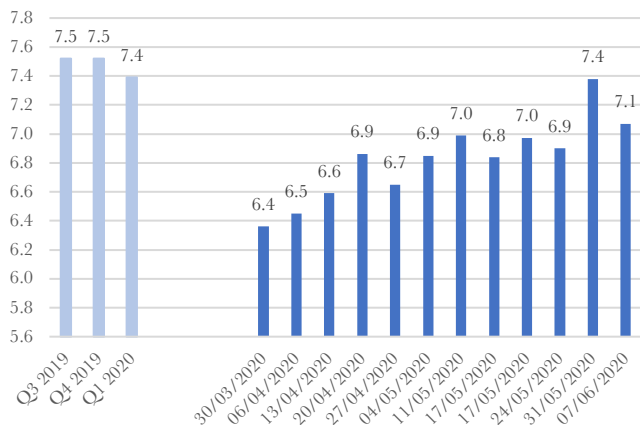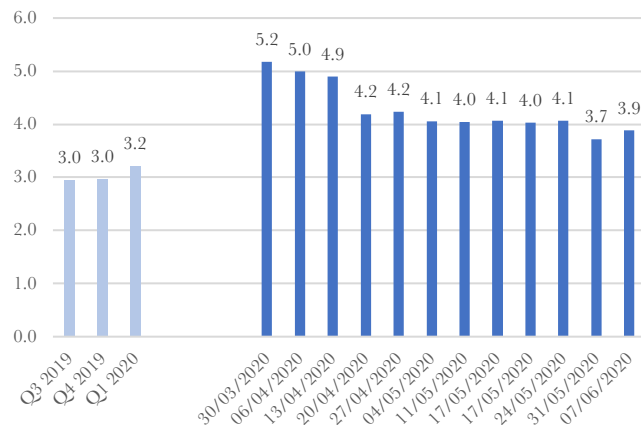Chart 1: Life Satisfaction

Chart 2: Worthwhile
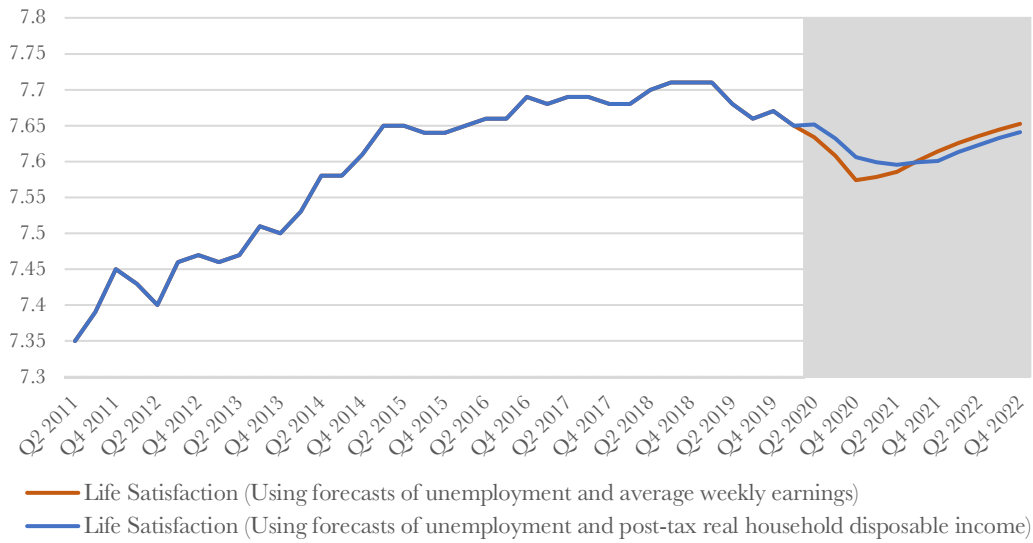
Chart 3: Happiness

Chart 4: Anxiety

Section 2: Forecasting life satisfaction using a representative agent approach

As stated in the introduction, huge amounts of attention and resources are focused towards forecasting economic variables, and little attention is paid towards how these economic forecasts will influence wellbeing. In this section we are using a representative agent approach to show how changes in economic variables may influence wellbeing.

In Chart 5, the data from Q2 2011 through to Q1 2020 is observed data from the ONS' life satisfaction survey question. The data starts at 7.35 and peaks at 7.71 in late 2018 before falling to 7.65 in Q1 2020. As discussed in Section 1, these data are based off responses from around 30,000 people each quarter and are an average of those responses. There is a wide distribution around these averages. Using a representative agent approach means that we are going to assume that we have one person that represents these averages. Then, based on empirical studies (see Layard (2011) and Helliwell (2003a)), which focus on the main determinants of individual wellbeing, we can attach various weights to parts of this measure. To be clear, this research highlights five main determinants that can be measured in some way, these include family relationships, financial situation, work, community and friends and health. We have then split these variables into financial variables (financial situation & work) and non-financial variables (family relationships, community and friends & health). Based on the findings in this research, it was found that for a reduction in family income by 1/3, this would lead to 0.2-point reduction in wellbeing on a scale of 1-10. The weights for
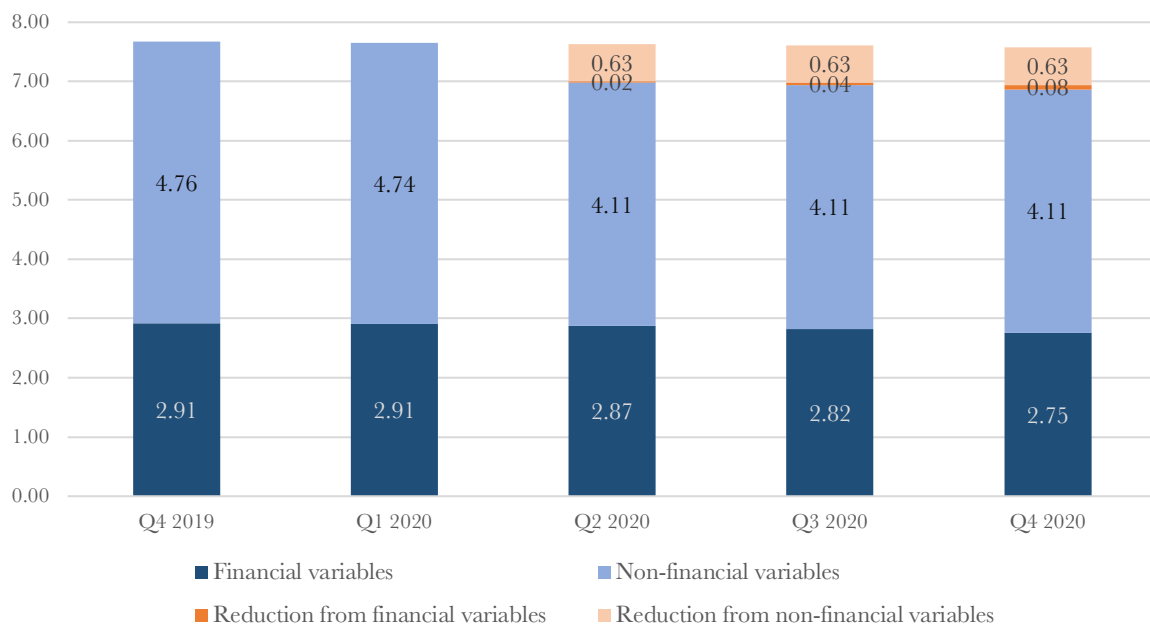
the variables that feed into the overall value are determined according to their relative influence that they have on life satisfaction. An illustration of this split is shown in Chart 6.

Chart 5: Forecasting life satisfaction using financial variables

— Life Satisfaction (Using forecasts of unemployment and average weekly earnings)
— Life Satisfaction (Using forecasts of unemployment and post-tax real household disposable income)

Once we have determined the weights, it is then a case of applying the known relationship between the financial variables and life satisfaction through the forecast to see how life satisfaction may change in response to this in the future. This is what is shown in the forecast period in Chart 5. We have applied the Bank of England August 2020 Monetary Policy Report unemployment rate path which peaks at 8% in Q4 2020 and steadily declines thereafter. For family income two variables have been used which highlight the difference of the government policy support: average weekly earnings and post-tax real household disposable income. The former declines more initially in the forecast as workers hours have been reduced and earnings have been directly influenced. However, in the latter, for those that had been furloughed, their disposable income has been largely supported by the government, meaning the decline in 2020 is quite small, followed by a larger decline in 2021 once this policy support has ended. As a note of caution, these forecasts are becoming increasingly optimistic, with more government restrictions coming place to manage the increases in COVID-19 cases during September. Therefore, it is reasonable to expect slightly steeper declines than the ones currently presented in Chart 5.

Chart 6: Ilustrative example of contributions to changes in life satisfaction

■ Financial variables   ■ Non-financial variables
■ Reduction from financial variables   ■ Reduction from non-financial variables

In Chart 6 we combine the analysis from Chart 5 with the data in Chart 1 to make an illustration of the potential contributions towards the reduction in life satisfaction from financial and non-financial variables. The data in Chart 1 shows that life satisfaction fell from 7.65 in Q1 2020 to 7.00 (this is an average across the 12 weeks) in Q2 2020. However, based on the forecast data in Chart 5 life satisfaction is expected to fall by just 0.02 in the same quarter, suggesting the remainder of the decline was due to non-financial variables. We have not made an attempt here to produce a forecast for the non-financial variables, so this remains constant at 0.63 across Q2-Q4 2020 in Chart 6. One could make a strong argument to suggest that the non-financial variables will have recovered in Q3 of this year as the government reduced lockdown restrictions and abated concerns with regards to the spread of the virus. Some of this potential recovery may be lost in Q4 as more government restrictions are put in place. For financial variables, as the forecast illustrates only a small amount of economic pain will have directly impacted UK citizens so far due to government policy support. Whilst some of this policy support is expected to be extended, once this eventually ends and unemployment starts increasing, this will be when we should expect the largest financial impact on wellbeing.

Section 3: How is wellbeing inequality likely to be impacted?

The analysis presented in Section 2 could lead you to conclude that the impact of the pandemic on wellbeing through financial channels has been (or is likely to be) small. This is clearly inconsistent with the rhetoric in both the media and from mainstream economists. Some of this will be due to the fact that despite such huge portions of the labour market being furloughed, only a certain proportion of these are expected to actually become unemployed. If we had used the percentage of people furloughed in the forecast, the decline in life satisfaction would have certainly been larger. However, it wouldn't have been appropriate to apply the same transmission mechanism based on the historical relationship between unemployment and life satisfaction. This is for two reasons. First, the relationship between being furloughed and life satisfaction is not well researched. Second, it is highly likely that the negative impact on life satisfaction is smaller for being furloughed than being made unemployed.

Chart 7: Relationship between average salaries for different occupations and life satisfaction
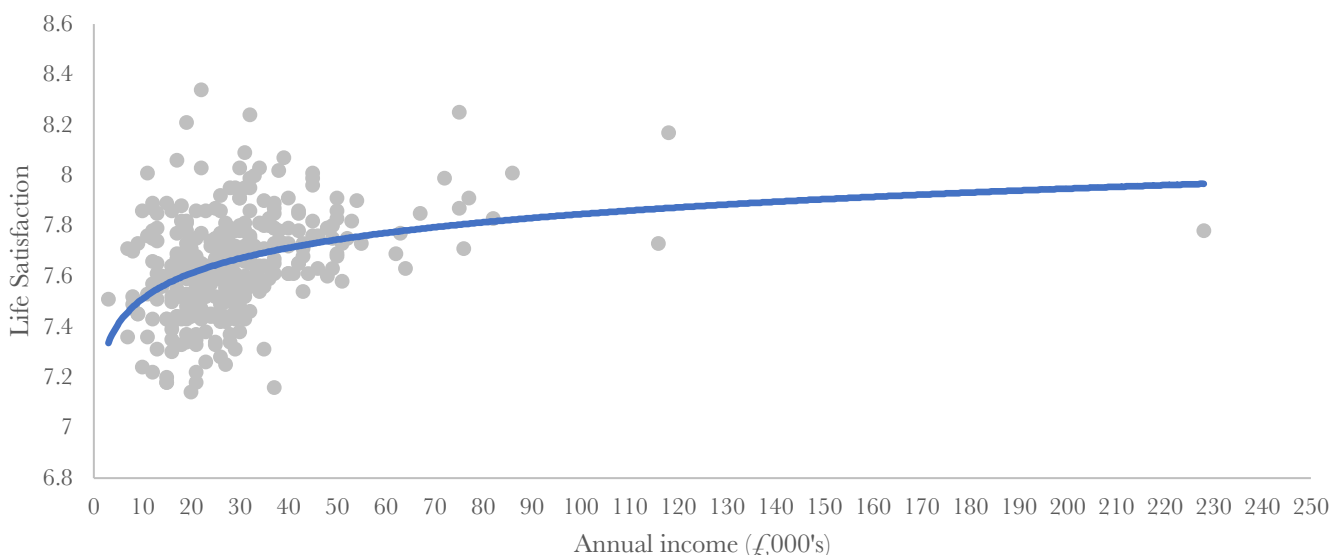
Another reason that the impact may seem small is because the weight applied for changes in income is relatively small. This is based upon the historical relationship between income and life satisfaction for a large sample of individuals, who would each have their own different reaction function in terms of how changes in income influence their wellbeing. Chart 7 shows the relationship between income and life satisfaction for 341 different occupations in the UK between 2012-15. This shows a clear marginal diminishing relationship between the two variables, which suggests that for those on lower incomes the added value of additional income for life satisfaction is greater than for those on higher incomes. This, matched with the data in Chart

8, suggests that the forecast provided in Chart 5 will have been an underestimate. The data in Chart 8 shows that those on lower incomes were much more likely to have their savings reduced as compared with those on higher incomes. This means that by taking a representative agent approach and applying the average changes in income we would not be picking up on these distributional effects.

This data also suggests that wellbeing inequality in the UK will worsen as a result of the pandemic and this should be a significant concern for UK policymakers. The majority of the UK population fall within the lower two income brackets in Chart 8, and reductions in their savings will lead to a large and significant impact on their wellbeing. The distribution of life satisfaction within the UK should be of at least equal concern for policymakers as the average level. Using a scale of 1-10 for life satisfaction, two individuals scores both equal to five should be preferable to two individuals scores of four and six. The average is the same in both, but the distribution is more equal in the former. It should be the goal of government policy therefore to increase the average level of life satisfaction within their country but also reduce the spread across the distribution. When policymakers are formulating their policy responses to the pandemic these policy objectives should be carefully considered.

Chart 8: Reported changes in savings due to COVID-19

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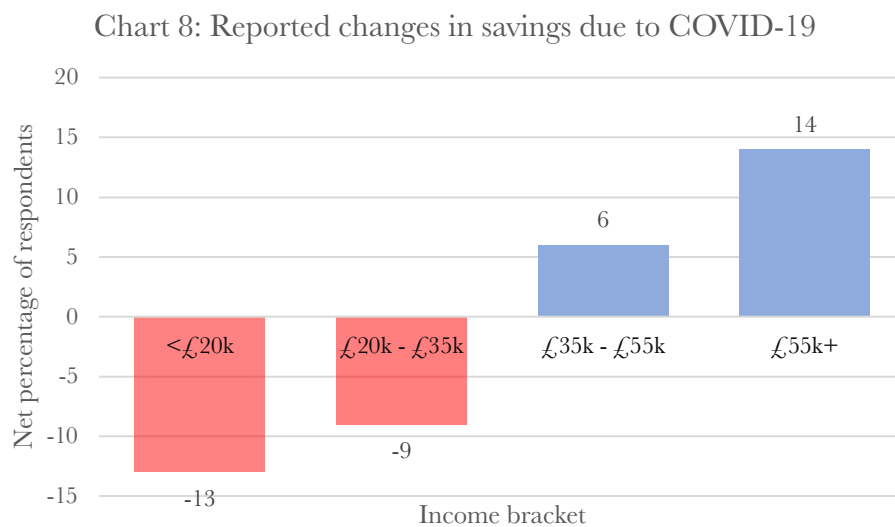
[2] Question: 'As a result of the measures taken around the coronavirus pandemic, would you say that your household savings have increased, decreased, or stayed the same?'. Data were collected 3 to 6 July 2020 and are not seasonally adjusted.