

TOWARDS AN INDEX OF COLLABORATIVE ACTIVITY

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Our research is concerned with what specific – and measurable – activities constitute the UK collaborative economy, in order to suggest an ongoing method for quantifying its value.

We start by discussing what should be included, and what not, in a precise definition of economic activity. We then explain a methodology we employed in order to capture the value of current economic activity using a bespoke quantitative poll.

We present the high level results of that poll, and then describe a mechanism that could work to use this raw data to construct the first data point in an index of the collaborative economy, that could be expanded in future to give a time series. We conclude with some brief recommendations for future work.

WHAT IS THE COLLABORATIVE ECONOMY?

The collaborative economy involves using internet technologies to connect distributed groups of people to make better use of goods, skills and other useful things.

Nesta has identified five defining traits of collaborative economic activity.* They are:

- Enabled by internet technologies.
- Connecting distributed networks of people and/or assets.
- Making use of the idling capacity of tangible and intangible assets.
- Encouraging meaningful interactions and trust.
- Embracing openness, inclusivity and the commons.

*Stokes, K., Clarence, E., Anderson, L. and Rinne, A. (2014) 'Making sense of the UK collaborative economy.' London: Nesta.

WHAT IS IN, AND WHAT IS OUT?

Much of what might be considered collaborative activity takes place in the business sector. This might be between existing businesses, such as a large firm using online methods to rent out desk space to a startup, or between individuals and established businesses, such as a commuter using Justpark.com to find a space in an NCP car park. Indeed there are many examples of an online platform that was originally designed to connect individuals realising its wider commercial potential by operating in the B2B space.

In order to isolate a quantifiable aspect of what is new about collaborative activity, we therefore focus on the household sector, and specifically households selling, giving or leasing assets they own independently using internet technologies. The reason for focusing on the sale of household assets is because it gets to the heart of what is 'new' in economic terms: it requires trust, not by corporate entities but by individuals, so embracing openness and 'the commons'. It is also of potential interest to researchers because, insofar as it leads to changes in behaviour amongst the general population, it has the potential to unleash a new economic force in the UK economy, working alongside long-understood forces of innovation and productivity improvements that drive private sector activity.

We focus on the selling, lending, giving and leasing out of household assets using internet technologies, rather than purchasing, borrowing, receiving or renting, in order to avoid the problem of having to explore whether people are purchasing from established commercial firms or other individuals when they engage with e-commerce.

The next question is which household assets should be considered in scope when defining collaborative activity. As a starting point we take the Office of National Statistics' definition of assets in the household *Wealth and Assets Survey* which chronicles the monetary value of household assets, broken down into:

- Financial assets (cash less consumer credit).
- Property assets (ownership of property).
- Pension assets.
- Physical possessions (cars, household goods, high value items etc.).

For our purposes and considering only the monetary value of assets we would wish to exclude financial assets, as almost by definition these cannot be sold, only used to purchase (including the purchase of other financial instruments). Pension assets similarly are illiquid until the point that they become financial assets. This leaves the categories of physical possessions and property assets, each of which can be broken down into various sub-categories.

However, economic activity is not limited to transactions involving goods and property, and neither does it necessarily involve a cash transaction. Hence we would want additionally to explore collaborative economic activity around the sale of softer skills, be it in professional services (such as using odresk.com to complete a web design task for a client through an open tender), different types of manual work (such as selling DIY services direct to the public through mybuilder.com) or driving (through uber.com). In addition, goods can be lent or leased and services, goods and money can also be given or gifted using collaborative means.

TURNING DEFINITIONS INTO POLLING QUESTIONS

Using these definitions as our starting point we worked with an established polling provider to design ten questions that could be used in the field to capture household collaborative activity, as follows:

- Have you sold any of your own personal items or possessions on the internet to someone who you did not already know?
- Have you given away for free any of your own personal items or possessions on the internet to someone who you did not already know?
- Have you rented out a room, your home, a property you own, or your land using the internet for up to six months to someone who you did not already know?
- Have you used the internet to arrange to drive or give a lift to someone who you did not already know to their destination for a fee?
- Have you used the internet to arrange to drive or give a lift to someone who you did not already know to their destination for free?
- Have you used the internet to lend a vehicle, a piece of equipment (such as a tool) or any other possession belonging to you to someone who you did not already know for a fee?
- Have you used the internet to lend a vehicle, a piece of equipment (such as a tool) or any other possession belonging to you to someone who you did not already know for free?
- Have you used the internet to offer your personal skills or undertake work directly to someone who you did not already know for a fee? This must not have involved an agency or third party.
- Have you used the internet to offer your personal skills or undertake work directly to someone who you did not already know for free? This must not have involved an agency or third party.
- Made a donation or provided funding using the internet to an organisation that you would not otherwise have donated to.

The key defining features of each question was that the activity should involve the internet, be additional – that is, that it should not be an extension of an existing personal relationship but rather involve trust with a stranger – and it should involve selling or giving something that was owned or controlled by the individual.

In each case we asked respondents to consider activity they had undertaken in the last six months.

In order to obtain value estimates corresponding to economic activity, the survey was designed so that if a person responded positively to any of these questions, they were routed through to additional questions designed to gather information around the monetary value of the activity, either to them personally or the value of the any gift or donation.

In order to broaden our understanding of the nature of the activity that is taking place we additionally asked questions around the types of goods that were sold and given away, whether income obtained was a person's main source of income, and also whether people felt that they might engage with this type of activity in future even if they weren't doing so now. The full list of questions is included as an annex.

The poll was conducted in February 2015 via a face-to-face omnibus survey of 2,010 people aged 15 and over designed to be representative of the population of the UK as a whole.

We present the results as follows: first, a high-level description of the headline results, then a discussion of indicative values for each activity, a proposed methodology to create an index and finally a discussion of the implications of the work.

HEADLINE RESULTS

The most popular types of collaborative economy that the public engages with are selling possessions on the internet and providing charitable donations or funding to an organisation that they would not otherwise have donated to. Over the six months leading up to the survey a total of 17 per cent and 15 per cent of the representative sample had engaged in this type of activity.

A smaller proportion had given away personal possessions in a way that could be described as being part of the collaborative economy (6 per cent) or had sold or given away their skills in a collaborative fashion (5 per cent and 4 per cent respectively). Responses to the other activities were either very small or negligible, as shown in Table 1 below.

Table 1 Headline results

Have you....	Yes in last six months (% of sample)	Yes ever (% of sample)
...sold any of your own personal items or possessions on the internet to someone who you did not already know	17%	29%
...given away for free any of your own personal items or possessions on the internet to someone who you did not already know	6%	10%
...rented out a room, your home, a property you own, or your land using the internet for up to six months to someone who you did not already know	1%	2%
...used the internet to arrange to drive or give a lift to someone who you did not already know to their destination for a fee	1%	1%
...used the internet to arrange to drive or give a lift to someone who you did not already know to their destination for free	1%	2%
...used the internet to lend a vehicle, a piece of equipment (such as a tool) or any other possession belonging to you to someone who you did not already know for a fee	1%	1%
...used the internet to lend a vehicle, a piece of equipment (such as a tool) or any other possession belonging to you to someone who you did not already know for free	*	1%
...used the internet to offer your personal skills or undertake work directly to someone who you did not already know for a fee? This must not have involved an agency or third party.	5%	7%
...used the internet to offer your personal skills or undertake work directly to someone who you did not already know for free? This must not have involved an agency or third party.	4%	6%
...made a donation or provided funding using the internet to an organisation that you would not otherwise have donated to	15%	22%

Note: * indicates negligible.

In the first category – selling personal items or possessions on the internet to someone you didn't already know – there was no difference in rates of activity between men and women or between geographical regions in the previous six months. The age groups that were most active were the 25–34 age bracket, 28 per cent of whom had engaged in this activity over the previous six months, followed closely by 35–44 year olds (26 per cent) and 15–24 year olds (25 per cent). Activity rates then declined with age, with only 15 per cent of those aged between 45 and 54 having engaged with this activity, and 6 per cent of people aged over 55.

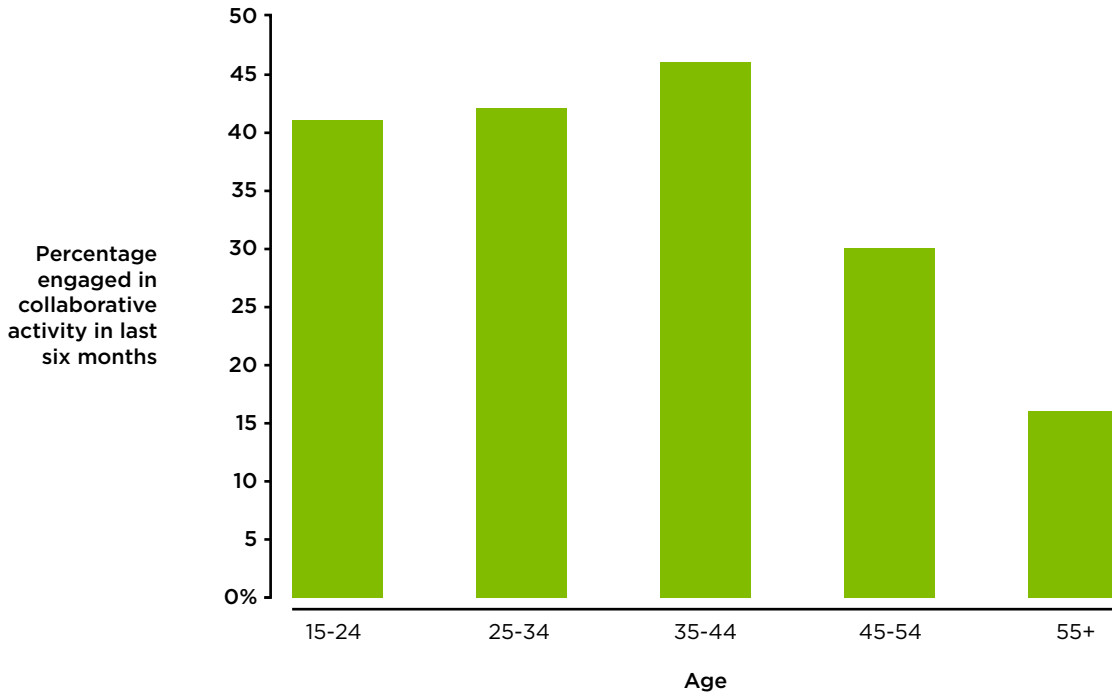
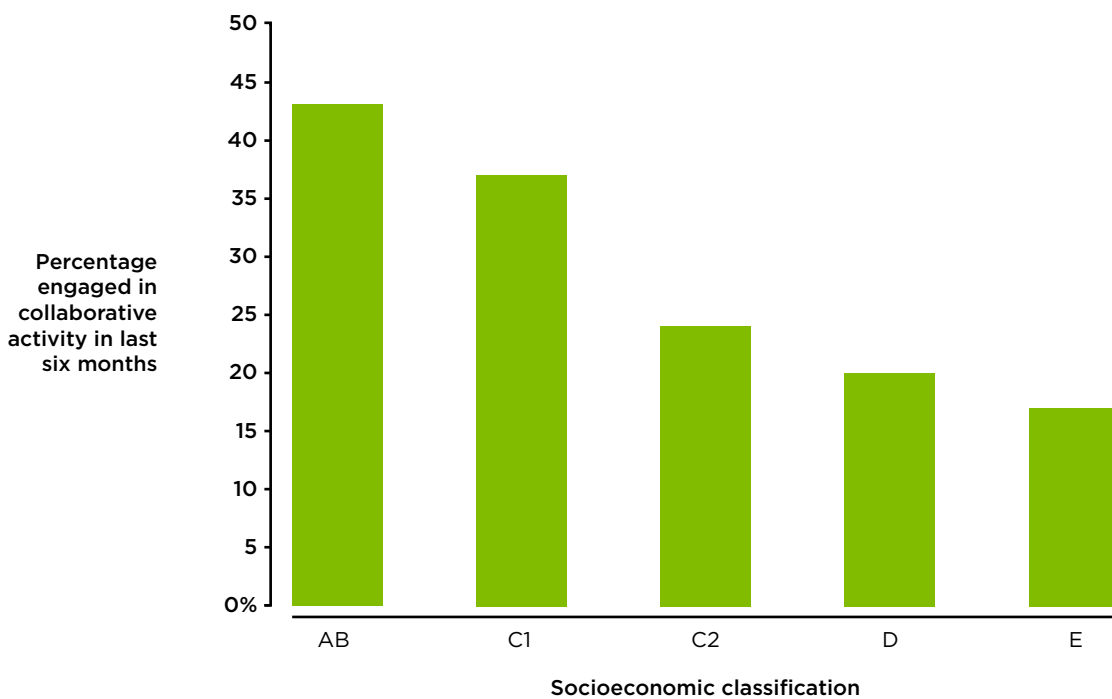
There was also a relationship by socioeconomic classification; around a fifth of those in the ABC1 grouping had engaged in selling possessions online in the past six months, compared to 15 per cent, 13 per cent and 10 per cent in groups C2, D and E respectively. Working people are more likely to have done so than those who didn't work (23 per cent compared to 11 per cent) and there is some indication that the self employed even more so (31 per cent), although the low sample size makes it hard to draw definitive conclusions for the self employed group.

In the next most popular category – making a donation or providing funding using the internet to an organisation you would not otherwise have donated to – a slightly different picture emerges perhaps because this form of activity is philanthropic rather than income-generating. In this category, for example, those aged 25–34 had slightly lower levels of activity (17 per cent) than younger groups (21 per cent) or people aged 35–44 (25 per cent). For ages above 44, the amount of activity again declines with age. Unlike the previous example, self-employed people were not more likely to have donated in this way, although people working full-time were a little more likely to have done so than people working part-time (20 per cent compared to 17 per cent) perhaps because they have more disposable income, and those not working were far less likely (10 per cent).

As with those selling their possessions online, people in a higher socioeconomic classification engaged more, with a sharp drop-off in activity for the C2 and lower groupings. There was no difference by gender and little variation by English region, although the proportion of people engaging in this activity in Scotland (19 per cent) was higher than the average (15 per cent) and the proportion in Wales was lower (12 per cent).

Taking all the categories as a whole, just under a third of the sample (31 per cent) had engaged in any type of activity listed in the previous six months, of which around two-thirds was undertaken for a fee, and a third for free. There was a slight gender difference here, with 33 per cent of men having undertaken any activity in the last six months, compared to 30 per cent of women. Of people who had engaged in any activity, a little over half (58 per cent) had only engaged in one type of activity with a quarter engaged in two types and around a sixth (16 per cent) in three or more types.

Younger people were more likely to engage than older people, with a peak at age 35–44, and there was a clear inverse relationship between socioeconomic classification and engaging in collaborative activity, as shown in Charts 1 and 2 below.

Chart 1 Age and collaborative activity**Chart 2 Socioeconomic classification and collaborative activity**

Towards an index of collaborative activity

Table 2 then gives information on the median value of the activity undertaken in the last six months, either reported by the respondent or estimated from responses of the respondents. Given the small sample size for many of the activities, and the fact that respondents were asked to choose a monetary band that best represented the value of their activity we felt that the median was a better representation than the mean. This prevented misleading results from a small number of higher value activities that could not be described with precision.

Where we have made additional calculations, the methodology is described in the Annex. These notes also include comments on the size and distribution of the relevant sample. There are considerable limitations to the data collected for this exercise due to the small number of people in an omnibus sample who are engaged in collaborative activity; the implications of this are discussed in the final section below.

Table 2 Estimated six-month median values

Have you....	median value in previous six months (£)
...sold any of your own personal items or possessions on the internet to someone who you did not already know	49 ¹
...given away for free any of your own personal items or possessions on the internet to someone who you did not already know	40 ²
...rented out a room, your home, a property you own, or your land using the internet for up to six months to someone who you did not already know	779 ³
...used the internet to arrange to drive or give a lift to someone who you did not already know to their destination for a fee	9 ⁴
...used the internet to arrange to drive or give a lift to someone who you did not already know to their destination for free	10 ⁵
...used the internet to lend a vehicle, a piece of equipment (such as a tool) or any other possession belonging to you to someone who you did not already know for a fee	17 ⁶
...used the internet to lend a vehicle, a piece of equipment (such as a tool) or any other possession belonging to you to someone who you did not already know for free	10 ⁷
...used the internet to offer your personal skills or undertake work directly to someone who you did not already know for a fee? This must not have involved an agency or third party.	192 ⁸
...used the internet to offer your personal skills or undertake work directly to someone who you did not already know for free? This must not have involved an agency or third party.	65 ⁹
...made a donation or provided funding using the internet to an organisation that you would not otherwise have donated to	24 ¹⁰

In order to be able to monitor the extent to which collaborative activity is taking place in the UK economy, we need to obtain a composite measure that can be re-calculated at a future date in order to explore whether the value of such activity is increasing (or not). Just as the retail price index is calculated using a weighted index of different categories of goods, we consider the best way to do this is through a weighted average of the different categories of collaborative activity.

That is, the value of the index at any time would be the sum of the proportion of the population engaged in such activity multiplied by a representation of its value, in this case obtained by the median values estimated in Table 2 above.

So, for each of the ten categories of collaborative activity we propose to calculate:

Proportion of population engaged in activity (middle column of Table 1) × Value of activity (second column of Table 2)

And then sum them together to obtain a composite measure.

For the data collected here, the composite value would therefore be:

$$(49 \times 0.17) + \dots + (24 \times 0.15) = 35$$

Going forward, it would be desirable to set this to 100, in order to baseline future activity against this first result.

So, for example if the equivalent number for a similar survey undertaken in February 2018 produced an equivalent value of 40, then the index values would be:

$$\begin{array}{l} 2015 \quad 100 \\ 2018 \quad 40/35 * 100 = 114 \end{array}$$

Consideration would need to be given to a suitable inflation deflator in order to capture real increases in the value of activity.

Discussion

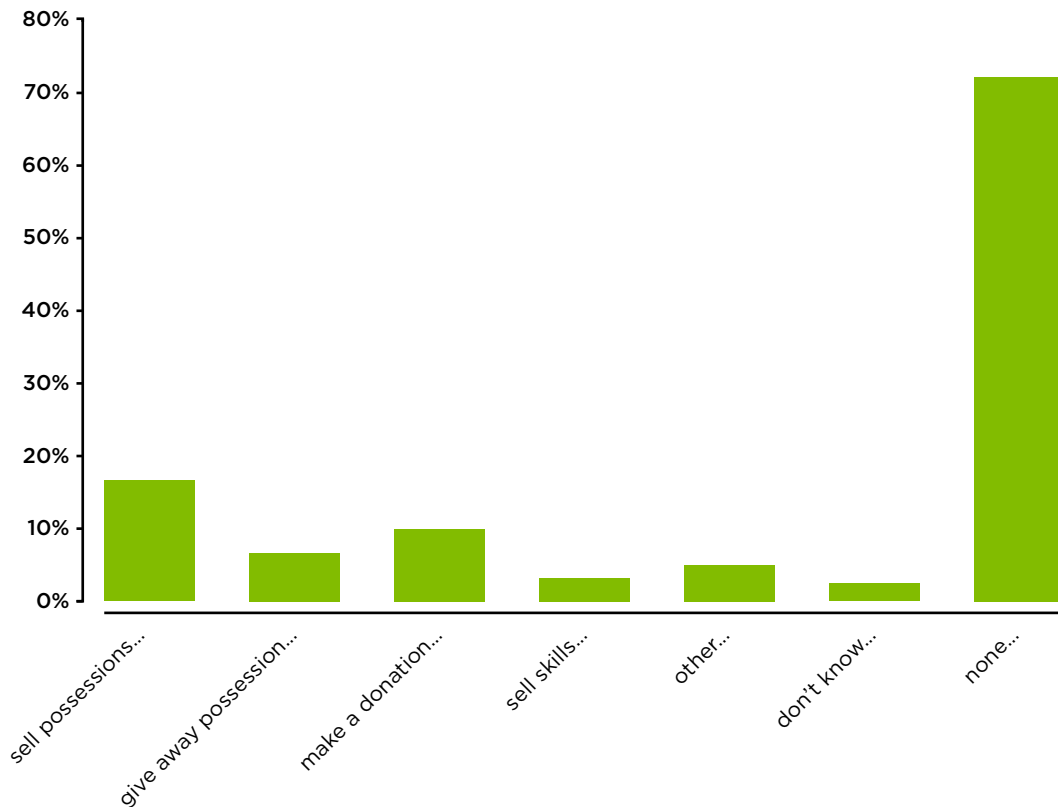
It should be noted from the outset that the value of collaborative activity as defined in this way is very small. As an example, a straight scaling-up from the sample size of this survey to population as a whole gives an estimate of the total value of collaborative activity of the order of around £1 million in a six month period.¹¹ Having said that, there is clearly something that can be measured, and this paper suggests one way in which that could be done. The key insights are:

- Having a strict definition of what entails economic activity, based on the household sector.
- Using a quantitative poll in order to bring together the proportion of the population who engage in different types of activity and the value of that type of activity.
- Using a weighted average to construct an index value.

In future, a two-stage approach could be considered where separate samples are constructed of people who do engage in certain types of activity in order to give a more robust estimate of the median values where the sample size in an omnibus survey is low, although to a certain extent this issue is already addressed by using weightings. Consideration may also be given to the separation of additional sub-categories, for example full-time professional online freelancers as compared to people who do a bit of additional work on the side.

Finally, it is worth considering the extent to which people self-reported that they may seek to undertake collaborative activity in future. We asked those who had not reported undertaking any collaborative activity whether they thought they might consider doing so in future. Of these, 26 per cent selected at least one possible way in which they would consider participating in the collaborative economy, with the most popular possibilities being selling possessions over the internet or donating over the internet (17 per cent and 10 per cent of those who have not engaged in any form of collaborative activity respectively).

Chart 3 Thinking of things that you might do using the internet, which do you think you might consider doing in future?



Base: All adults age 15+ in Great Britain who have not done or don't know if they have done any of the activities using the internet (1,117 people)

Overall therefore, we have 41 per cent of the population who engaged in collaborative activities of some sort in the past six months, and a further 17 per cent who might consider doing so. This in itself indicates that there is something changing in the way that the UK population considers the usefulness of collaborative economic activity that may be worth monitoring.

ANNEX FULL LIST OF POLLING QUESTIONS

1. Unweighted sample size 319. Although most activity was lower value, the mean value was higher – around £170 – due to a smaller number of significantly higher value sales (five sales were over £1,000).
2. Unweighted sample size 109. The mean value was around £94, again due to a small number of higher value donations of goods (12 over £200).
3. Unweighted sample size 18, a third of whom refused to answer the question, so this figure can be considered no more than an illustration.
4. Unweighted sample size 12, of which three did not know and three refused to answer so this figure can be considered no more than an illustration. Of those who did answer the question, one reported over £100 and four were under £10.
5. This is a round estimate based on a sample size of 24 reporting a median journey length of 20 minutes.
6. Unweighted sample size 15 so this figure can be considered no more than an illustration. Respondents were asked how much income they had received in the previous six months from this activity. There was one response over £100.
7. This is an estimate based on responses from an unweighted small sample size of six who were asked the replacement value of the item and how long it was lent for. The median of the replacement value was £20, and most people responded that the item had been lent for 'around a week'. Based on commercial tool hire rates we therefore estimated a median value of £10 for the items.
8. Unweighted sample size 94. Note that there were two different cohorts identifiable in the data. The earnings of younger people who engaged in this activity were significantly higher, suggesting that this was a main source of young professional self-employed income. Around a third said that this was their main source of income but a quarter reported earnings of under £100. The mean of the distribution which was a little under £3,000 and seven said that they had earned over £5,000.
9. Sample size 71. We asked questions around the type of work and the number of hours spent and then used the same methodology as the ONS in their 2013 report *Valuing Voluntary Activity in the UK* to assign hourly rates to broad categories of activity based on (updated) rates from the *Annual Survey of Hours and Earnings* to arrive at a median estimate of the value of activity of around £65 based on a median number of hours work of five.
10. Sample size 283.
11. This is estimated by taking the weighted average value of activity of £35 for around 2,000 people, or 1.7p per person, multiplied by 52 million for the 15+ population as a whole. In contrast, airbnb, for example, estimate that the value of economic activity in the UK through their site was \$824 million in 2013 but this may use a different definition of collaborative activity (<http://blog.airbnb.com/economic-impact-airbnb/#londonedinburgh>).


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