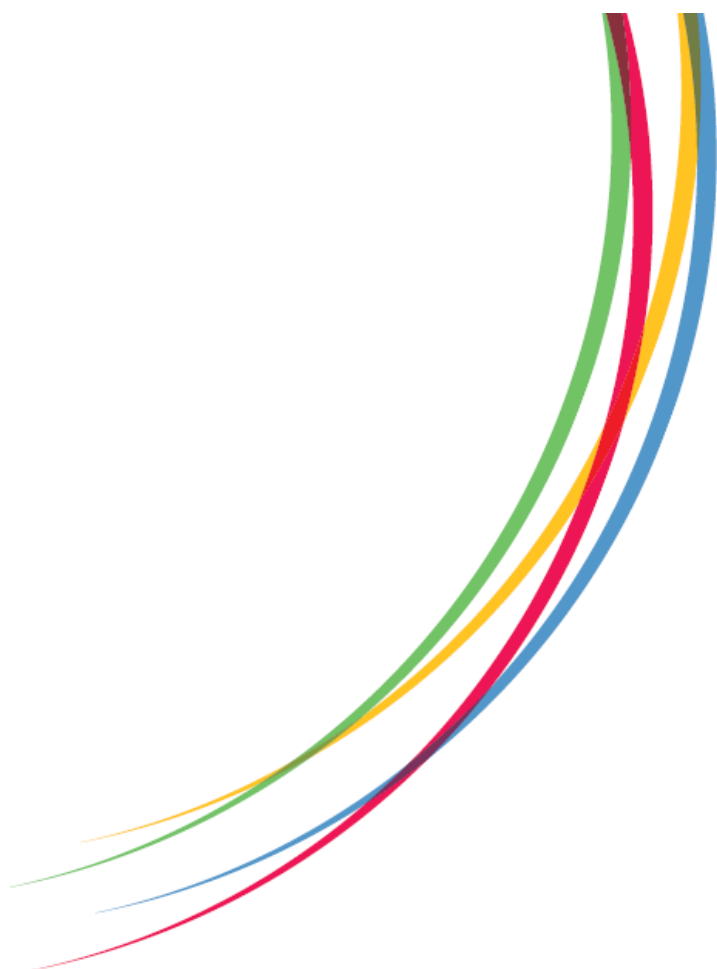




Understanding Society
Working Paper Series

No. 2014 – 07

August 2014

CAWI in a Mixed Mode Longitudinal Design

Martin Wood & Sarah Kunz

NatCen Social Research



Non-technical Summary

The sixth wave of data collection for the Understanding Society Innovation Panel (IP6) continued an experiment started in IP5 in which a sub-sample were invited to complete the survey on-line. For those who did not complete on-line, interviewers attempted to contact and interview the sample face-to-face. The remaining sub-sample were directly issued to face-to-face interviewers. The aim of the mixed mode design was to reduce fieldwork costs whilst maintaining high response rates and data quality. This report provides an overview of how the mixed-mode design worked and how sample members reacted to it.

Only 30% of sample members who were sent an email invitation to the web survey actually received and opened the email. And less than half of those clicked through to the survey. The vast majority of those who completed the web survey did so in response to receiving a letter and keying in the URL. 25% of sample members who opened the initial email did so on a smartphone and 8% used a tablet.

A large proportion of those who completed the web survey did so within a few days of receiving the initial invitation, but for many reminders were necessary, and 14% completed the web survey only after the first interviewer visit to their household. Saturday was the most popular day of the week for completing the web survey.

Overall, 45% of individuals completed the survey online, with a further 29% completing an interview with an interviewer. The overall response rate was higher with an unconditional incentive of £30 (78%) than £10 (68%). A third treatment in which the £10 unconditional incentive was supplemented with an additional £20 if all adults in the households completed the survey online within two weeks achieved a 76% response rate. However, this third treatment obtained faster responses: after two weeks 41% in this group had completed the survey online, compared to 35% in the £30 group and 29% in the £10 group. Controlling for other characteristics, those who were more likely to complete the on-line interview were regular web users, those who had provided an email address, home owners, married or living as married and receiving either the £30 or £10+£20 incentive.

The average number of visits that interviewers made to households that had been issued to web first was higher than for those issued straight to face-to-face interviewers (3.85 visits compared to 3.63). However, when controlling for household characteristics there was no association of number of visits with mode of allocation.

The on-line survey enabled participants to break off and come back to it at the point where they left off. However, 88.6% of those who started the web survey only had a single session. Only 2.1% of cases had more than two sessions. None had more than four. Looking across the questions that could be easily compared, questions on-line took on average 2.1 seconds longer than when asked by a face-to-face interviewer.

We conclude that there are positive signs for the longer-term introduction of a mixed mode design, though several challenges remain to be overcome.

CAWI in a mixed mode longitudinal design

Martin Wood and Sarah Kunz
NatCen Social Research

Abstract:

This working paper draws on paradata from a range of sources to describe the operation of the Computer Assisted Web Interviewing (CAWI) element of the sequential mixed mode experiment implemented on the Innovation Panel from Wave 5. It extends the technical reports for Waves 5 and 6 and aims to identify features of the approach that could be taken forward in future mixed mode approaches – particularly in relation to maximising response via CAWI. It also describes the nature of CAWI completion and thereby contributes to data quality improvement and understanding.

Keywords: Innovation Panel, Mixed-mode survey, UKHLS, online surveys.

JEL classification: C81, C83

Contact: Martin Wood, Martin.Wood@natcen.ac.uk

Acknowledgements: This research was funded by an Economic and Social Research Council (ESRC) award to the University of Essex for *Understanding Society*. Thanks to the programmers and data managers at NatCen Social Research, notably Colin Miceli, Kulvinder Singh, Sven Sjodin and Jess Bailey. Thanks too for the useful guidance and support from Jonathan Burton and Peter Lynn at ISER.

Contents

1	Background.....	3
1.1	Report aims	3
1.2	Methodological challenges for mixed mode.....	3
1.2.1	The IP6 mixed mode design.....	3
1.2.2	Response rates.....	3
1.2.3	CAWI data quality	3
2	Pathways to CAWI.....	4
2.1	Accessing the CAWI	4
2.2	CAWI response	13
2.3	Field interviewers and CAWI	18
2.3.1	The interviewer phase of mixed mode	18
2.3.2	CAWI and the CAPI fieldwork.....	19
3	Completing the CAWI.....	20
3.1	Multiple sessions and break-offs.....	20
3.2	Types of device and browser	20
3.3	Comparison of item timings between CAWI and CAPI	22
3.4	Mode preference	26
4	Conclusions	28

Tables

Table 2.1	Dates of contact points for the two IP6 sample tranches	5
Table 2.2	Final result of emails	6
Table 2.3	Reminder email outcome by initial email outcome.....	6
Table 2.4	Response to CAWI and overall by initial email outcome	7
Table 2.5	Locations clicked in email	9
Table 2.6	Point of first entry to CAWI.....	11
Table 2.7	Day of week of entry to CAWI.....	12
Table 2.8	Time of day of entry to CAWI.....	12
Table 2.9	Response by incentive group	14
Table 2.10	IP6 outcome by last wave in which email address was provided	14
Table 2.11	Response in IP6 by IP5 mode of response.....	15
Table 2.12	IP6 outcome by age group.....	16
Table 2.13	Logistic regression of CAWI completion.....	17
Table 2.14	Mode and timing of completed interviews among Web sample members.....	19
Table 3.1	Number of CAWI sessions and final outcomes.....	20
Table 3.2	Browser and device type used.....	21
Table 3.3	Differences in individual question timings between CAPI and CAWI	24
Table 3.4	Mode preference in IP6 by mode of completion.....	26
Table 3.5	Mode preference between IP4 and IP6.....	27

Figures

Figure 2:1	Example initial email with ‘clickable’ regions identified.....	8
Figure 2:2	CAWI completions over time – since initial letter arrival	10
Figure 2:3	CAWI completions over time – by incentive group	13

1 Background

1.1 Report aims

This report draws on paradata from a range of sources to describe the operation of the Computer Assisted Web Interviewing (CAWI) element of the sequential mixed mode experiment implemented on the Innovation Panel from Wave 5. It extends the technical reports for Waves 5 and 6¹ in doing so and aims to identify features of the approach that could be taken forward in future mixed mode approaches – particularly in relation to maximising response via CAWI. It will also describe the nature of CAWI completion and thereby contribute to data quality improvement and understanding.

1.2 Methodological challenges for mixed mode

1.2.1 The IP6 mixed mode design

The sixth wave of the Understanding Society Innovation Panel (IP6) entailed a continuation of the mixed mode experiment set up in IP5. This involved allocating one random sub sample of households (the ‘Web sample’) to a sequential mixed mode approach, with CAWI as the first mode (two weeks) before non-responding cases were moved to CAPI (in IP6 there was an additional CATI mop-up). Another group was allocated to a CAPI approach from the outset (the F2F sample) – these allocations were the same in IP5 and IP6.

The aim of this approach was to reduce fieldwork costs by reducing the number of interviewer visits required, so the challenge for the implementation of the design was to maximise response to the CAWI in the first phase.

1.2.2 Response rates

A concern for the introduction of the mixed mode approach, particularly in the longitudinal context, was in relation to overall response rates. In IP5 response was notably lower overall for those cases allocated to mixed mode, and there were concerns that the divergence may widen as commitment waned without an interviewer-administered approach. Efforts were made in IP6 to limit this divergence in response through improved communications, a focus on the issues with field interviewers and incentive approaches.

1.2.3 CAWI data quality

A further challenge for a mixed mode design is to assess the impact on data quality of mode effects. Break-offs that lead to partial interviews are more likely with CAWI and without an interviewer-administered approach there is a greater risk of ‘satisficing / straight-lining’. This report will consider some aspects of data quality that relate to the CAWI process.

¹ Available at <https://www.understandingsociety.ac.uk/documentation/innovation-panel/technical-reports>

2 Pathways to CAWI

2.1 Accessing the CAWI

It was the aim of the sequential mixed mode approach to maximise the number of panel members completing the interview via CAWI. The expectation was that this would reduce costs, particularly where the entire household completed via this mode. Steps were taken to maximise response in the communications used to invite panel members to complete the survey online. To set out the approach:

- The first contact was via a **letter** to all individual panel members. This and the other communications were developed in consultation with a design agency to ensure they were engaging and succinct. The letters were tailored for specific demographic groups as part of an experiment and in relation to whether they had responded in the previous wave and by what mode. This letter included an unconditional incentive of varying amounts (see discussion below) in the form of Post Office vouchers. The letter included the URL of the CAWI instrument and the panel member's unique password.
- An **initial email** was sent to individuals who had provided an email address – 60% of the Web sample. These were sent two days after the letter and contained similar messages and branding. A link was included in the body of the text and in buttons on the email that when clicked on took panel members directly into their own questionnaire (either to the household grid or, where this and the household questionnaire had been completed by another household member, into their individual questionnaire).
- Where there was no response via CAWI, two further **reminder emails** were sent and one further reminder letter.
- The CAWI-only phase ended after two weeks. At this point, non-responding cases were issued to CAPI.

Table 2.1 provides the dates of the various points of contact during IP6 for the two sample tranches (a smaller tranche of sample was issued about a month before a larger tranche to provide a 'soft launch' opportunity).

Table 2.1 Dates of contact points for the two IP6 sample tranches						
	Tranche 1			Tranche 2		
	Number of cases	Date	Interval (days)	Number of cases	Date	Interval (days)
Initial letter – expected arrival	101	21/02/2013		2184	21/03/2013	
Initial email sent	50	22/02/2013	1	1009	22/03/2013	1
1st reminder email sent	35	26/02/2013	4	782	26/03/2013	4
2nd reminder email sent	33	01/03/2013	3	734	28/03/2013	2
Reminder letter - expected arrival	61	02/03/2013	1	1423	29/03/2013	1
First interviewer visits		08/03/2013	6		08/04/2013	10
Start of CATI fieldwork		04/06/2013	88		04/07/2013	87

Access via email

Table 2.2 shows the outcomes of the initial and two reminder emails.² ‘Hard bounces’ are email’s sent to an address where the message cannot be delivered due to a permanent failure. This can be due to email users abandoning their account, or mailing to an address that has never existed. Soft bounces typically indicate a temporary delivery issue to an address, i.e. an email is sent to an active email address but is turned away before being delivered. This can be because the server is down or the recipient’s mailbox is over quota. The email might be held at the recipient’s server and delivered later, or the sender’s email program may attempt to deliver it again. ‘Unsubscribed’ refers to the recipient clicking on a link on the email that gave the option of unsubscribing from further emails.

- Less than a third (30%) of the emailed group read the initial email.
- 13.5% of those emailed went on to click on a link in the email that would have taken them through to their personal Web survey.
- The reminder emails were sent to those who had not responded by CAWI by the point of the send. For the first reminder, 7.7% clicked on the email and in the second reminder 8.6% did so, indicating there was value in sending these messages.

² This data is provided by the email system used for the bulk sending of emails (Pure360).
www.pure360.com/

Table 2.2 Final result of emails			
<i>Base: All individuals who were sent emails in the Web sample</i>			
	Initial email	First reminder	Second reminder
	%	%	%
Bounced	10.0	0.1	0.3
Soft bounced	2.8	4.8	2.1
Blocked	0	0	0.1
Received, not opened	56.9	73.2	79.0
Opened, no action	16.7	14.2	9.9
Unsubscribed	0.1	0	0
Clicked through	13.5	7.7	8.6
	100.0	100.0	100.0
<i>Bases</i>	1073	817	767

Table 2.3 shows the first reminder email outcome for the different outcomes at the initial email. Click-throughs were achieved with 5.8% of those who had previously not opened the initial email and with 14.7% of those who had opened it but taken no action. Over a quarter (27.3%) of those who had previously clicked- through (but who did not complete the interview) did so again.

Table 2.3 Reminder email outcome by initial email outcome					
<i>Base: All individuals who were sent first reminder email in the Web sample</i>					
	Initial email outcome				
	Bounced	Soft bounced	Received, not opened	Opened, no action	Clicked through
First reminder email outcome	%	%	%	%	%
Bounced	0.0	0.0	0.2	0.0	0.0
Soft bounced	0.0	56.5	5.1	0.0	0.0
Received, not opened	100.0	30.4	82.7	38.5	40.9
Opened, no action	0.0	13.0	6.2	46.9	31.8
Clicked through	0.0	0.0	5.8	14.7	27.3
Total	100.0	100.0	100.0	100.0	100.0
<i>Bases</i>	93	23	513	143	44

- Of the total number of respondents who completed the individual questionnaire via CAWI, 27% had clicked on an email link (either the initial email or the reminder emails). The remainder entered the URL directly into their browser's address bar.

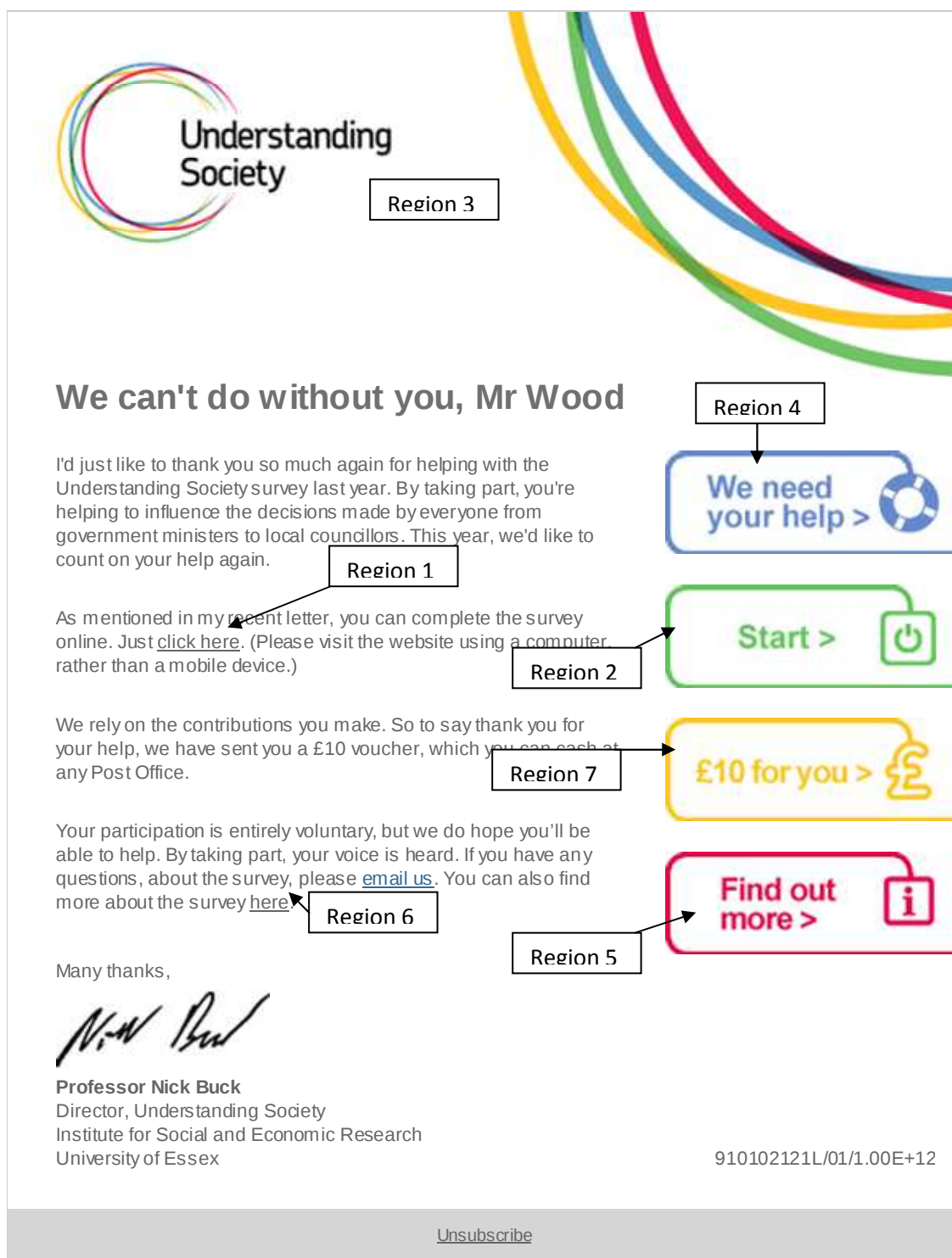
Table 2.4 shows that those who were not emailed (those who did not provide an email address) were less likely to respond via CAWI and overall. Where contact could be made by email, response via CAWI and overall was higher, even where the email was not opened. Where emails were opened – even if not clicked on – the rate of completion by CAWI was very high (81% among all those who opened an email, i.e. combining the 'clicked through' and 'opened not clicked' groups). Providing a working email address, and being willing to open an email from Understanding Society, appeared to indicate a greater likelihood to respond to the survey in general.

Table 2.4 Response to CAWI and overall by initial email outcome			
<i>Base: All Web individuals</i>			
	Response via CAWI	Total response	
	%	%	Base
Not emailed	29	67	754
Bounced	37	70	134
Received, not opened	47	76	594
Opened, not clicked	70	83	177
Clicked through	94	97	144
Total	45	74	1803

'Heat map' data for the emails

An example of the initial emails sent is provided in Figure 2:1 below. There were multiple variants relating to participation in the previous wave and experimental groups but they shared the same 'clickable' regions – all of which took the participant through to their personalised questionnaire's landing page which included links to further information.

Figure 2:1 Example initial email with 'clickable' regions identified



The number of clicks in each of the seven regions of the email is provided in Table 2.5.

- The 'just click here' link in the body of the email text was the most commonly clicked region (23% of those who opened the initial email to Tranche 2).
- The 'Start' icon was the next most common (14%). Care was taken in the design of emails to ensure that for those who were not going to read the detail of the text, clear branding to identify the sender and clear signposting of the next steps meant they could move quickly into the questionnaire.

Table 2.5 Locations clicked in email		
<i>Base: All who opened the Tranche 2 initial email</i>		
	Count	%
Region 1 – 'Just click here'	73	23
Region 2 – 'Start'	44	14
Region 3 – Understanding Society banner	9	3
Region 4 – 'We need your help'	8	3
Region 5 – 'Find out more'	2	1
Region 6 – 'Find more about the survey here'	2	1
Region 7 – Incentive value	1	0
Bases	315	

Note: Tranche 1 not included as data not accessible in Pure360

Attempts to access via smartphones

The increasing prevalence of email access via smartphones³ is a challenge to email as a means of pushing sample members towards CAWI. The CAWI interview for IP6 was not optimised for smartphones, and access via smartphone was therefore blocked to avoid potentially high levels of break-offs and significant mode effects (participants who attempted to access the questionnaire via smartphone were presented with a screen asking them to try again on a computer).

- Of Tranche 2 Web sample members who opened their initial email (n=290), 25% did so on a smartphone (8% opened it on a tablet).
- In total, 45 attempts to access the CAWI via a smartphone were recorded in IP6. These cannot be linked back to the sample member, but would represent 4% of the total invited to participate in the CAWI via email.

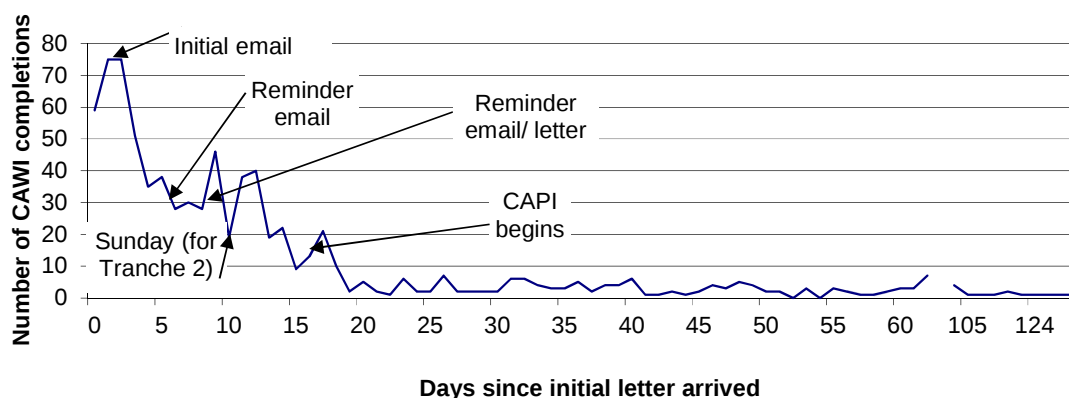
³ Ofcom's Communications Market Report 2013, pp72.

Point of CAWI entry over time

The point of CAWI entry in terms of days from the arrival of the first communication – the initial letter – is provided in Figure 2:2.

As expected, the pattern of completion was one of high participation in the early period, with spikes in completion shortly after the reminder emails and the reminder letter. The CAPI fieldwork commencement also generated a small spike, with a subsequent long tail of CAWI entry until the end of the CATI fieldwork.

Figure 2:2 CAWI completions over time – since initial letter arrival



The proportion of CAWI entries that occurred after each point of contact is provided in Table 2.6 – see Table 2.1 for details of these communications. Although an entry to the CAWI may have occurred after a letter had arrived or an in-person visit from the interviewer, it may be that an email was still used as the access point.

- 17.7% of CAWI responses occurred after the initial letter and without any email correspondence. This group will include many who had not provided an email address in previous waves (there was only one day between the letter's arrival and that of the email).
- A third (34%) entered the CAWI after emails were sent but before the reminder letter. As noted above, many of these emails were not opened, which means that many in this group would have entered the URL directly from the letter.

Table 2.6 Point of first entry to CAWI		
<i>Base: All in Web sample who completed CAWI</i>		
Point of first entry to CAWI		
	Count	%
After initial letter	143	17.7
After initial email (for those to whom emails were sent)	187	23.2
After 1st reminder email (for those to whom emails were sent)	59	7.3
After 2nd reminder email (for those to whom emails were sent)	25	3.1
After reminder letter	279	34.6
After first interviewer visit ¹	111	13.8
After start of CATI	3	0.4
<i>Total</i>	<i>807</i>	<i>100.0</i>

1. This is the first visit to the individual's own household as provided by CAPI paradata.

Although there appears to be a strong association between different contact points and first entry to the CAWI, for those who do not immediately complete the CAWI other factors will be at play. Table 2.7 shows the association of entering the CAWI with the day of the week and Table 2.8 looks at the time of day.

- There was little pattern in the preferred day of the week to enter the CAWI questionnaire. The most common day of entry was a Saturday (18.5% of first CAWI entries), but responses were spread fairly evenly across the other days. The email send for the largest group was a Friday, which saw the single highest number of CAWI entries along with the following Saturday (75 entries each). After this, the number of interviews steadily fell, recovering at points where reminders were sent.

Table 2.7 Day of week of entry to CAWI		
<i>Base: All who entered the CAWI instrument</i>		
Day of first entry to CAWI		
	Count	%
Sunday	108	13.5
Monday	108	13.5
Tuesday	105	13.1
Wednesday	79	9.9
Thursday	127	15.9
Friday	126	15.7
Saturday	148	18.5
<i>Bases</i>	<i>801</i>	<i>100.0</i>

- The preferred time of day of entry to the CAWI was in the evening (45.2%, Table 2.8).

Table 2.8 Time of day of entry to CAWI		
<i>Base: All who entered the CAWI instrument</i>		
Time of day of first entry to CAWI		
	Count	%
After midnight to 5am	15	1.9
After 5am to 12 noon	147	18.4
After 12pm to 5pm	277	34.6
After 5pm to midnight	362	45.2
<i>Bases</i>	<i>801</i>	<i>100.0</i>

2.2 CAWI response

This section considers factors associated with response to the CAWI. Overall, 44.8% of the individuals in the Web experimental group completed the survey via CAWI, with a further 29.3% carrying it out with a CAPI or CATI interviewer.

Incentives

IP6 included an experiment with different incentive approaches. This involved dividing individuals into three random groups, two of which were sent different levels of unconditional incentives - £10 and £30 – with the other receiving an unconditional £10 plus a promise of a further £20 each if the whole household completed the survey online within the 2 week CAWI period (the aim being to maximise cost savings by avoiding sending an interviewer to the address).

As Figure 2:3 shows, there was a higher level of CAWI completion among the conditional group than for either of the other incentive groups in the period up to the 2 week deadline (40.8% compared with 35.2% for the £30 unconditional group and 29.0% for the £10 group; Table 2.9). On this evidence, the conditional incentive does appear to encourage individual-level completion at an earlier stage (levels of response after all modes were complete was similar between the £30 groups – 77.8% for the conditional incentive group and 76.3% for the unconditional group).

Figure 2:3 CAWI completions over time – by incentive group

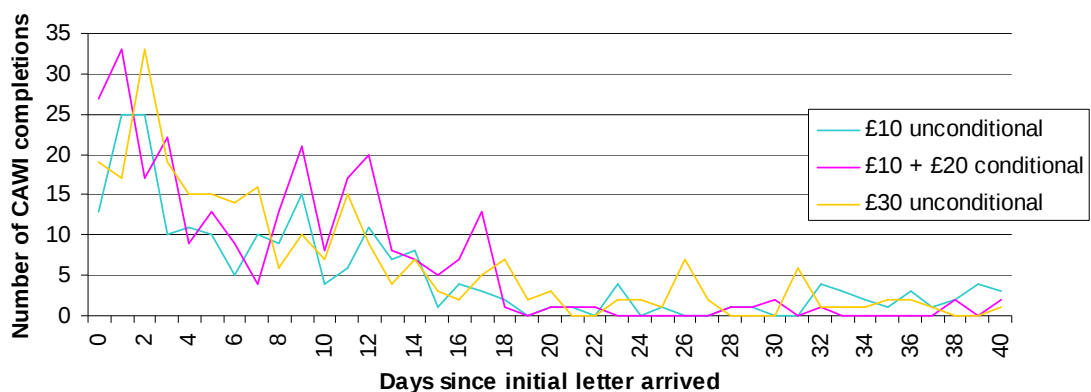


Table 2.9 Response by incentive group				
<i>Base: All Web individuals in IP6</i>				
	£10 unconditional	£10 + £20 conditional	£30 unconditional	Total
	%	%	%	%
Response by CAWI - before 2 week deadline	29.0	40.8	35.2	35.1
Response by CAWI - after 2 week deadline	10.2	8.8	10.2	9.8
Response - Other	28.7	26.7	32.4	29.3
Individual refusal	5.6	5.8	4.7	5.4
Other non-response	26.5	17.8	17.5	20.5
Total	100	100	100	100
<i>Base</i>	<i>586</i>	<i>600</i>	<i>617</i>	<i>1803</i>

Provision of an email address

The wave in which emails were provided to the study was associated with CAWI response and response overall (Table 2.10). Those who did not provide an email at any wave were considerably less likely to respond by CAWI or overall (61% overall compared with 87% for those providing an email in IP5).

Table 2.10 IP6 outcome by last wave in which email address was provided							
<i>Base: Web individuals in IP6 from households issued in IP1</i>							
	Not provided	IP1	IP2	IP3	IP4	IP5	Total
	%	%	%	%	%	%	%
Response by CAWI	22.4	46.6	58.2	46.5	50.0	61.4	45
Response - Other	38.2	34.2	23.8	31.4	27.7	25.4	29
Individual refusal	10.3	5.5	2.1	2.3	1.4	1.8	5
Other non-response	29.1	13.7	15.9	19.8	20.9	11.4	21
Total	100.0	100.0	100.0	100.0	100.0	100.0	100
<i>Base</i>	<i>495</i>	<i>73</i>	<i>189</i>	<i>86</i>	<i>148</i>	<i>228</i>	<i>1219</i>

Response in previous wave

Response via CAWI in IP6 was associated with the mode of interview in the preceding wave. Table 2.11 shows that those who had completed the survey by CAWI in IP5 were very likely to participate by CAWI again in IP6 (81%). Among those who did not take the CAWI option in IP5 and instead completed the interview via CAPI, 26% completed via CAWI in IP6.

It was encouraging that those who had participated by CAWI in IP5 – and who therefore had not had interviewer contact for two years by the time of the IP6 fieldwork, were as likely to respond after all modes were completed as those who had a CAPI interview in IP5 (89% compared to 85%). Further, the Technical Report for IP6 describes analysis that demonstrates that lower response rates observed in IP5 between the Web and CAPI experimental groups could be closed with an appropriate incentive strategy.

Table 2.11 Response in IP6 by IP5 mode of response

Base: All Web individuals in IP6 with IP5 outcome

	Non-response in IP5	CAPI in IP5	CAWI in IP5	Total
	%	%	%	%
Response by CAWI	26	26	81	45
Response - Other	18	59	8	29
Individual refusal	14	1	2	5
Other non-response	43	14	10	21
Total	100	100	100	100
Base	509	644	621	1774

Response by age group

Those in the youngest and oldest age groups were the least likely to respond by CAWI (38.1% of 16-24 year olds and 35.8% of those aged 65+ compared with 54.6% among 55-64 year olds; Table 2.12). However, 16-24 year olds were less likely to participate overall after all modes were complete, and the proportion of their interviews that were conducted by CAWI was similar to that of other age groups – apart from the oldest age group who were more likely than other groups to participate by CAPI).

Table 2.12 IP6 outcome by age group							
<i>Base: All Web individuals in IP6</i>							
Age group	16-24	25-34	35-44	45-54	55-64	65+	Total
	%	%	%	%	%	%	%
Response by CAWI	38.1	43.6	49.4	50.3	54.6	35.8	44.8
Response - Other	20.4	29.5	23.0	23.4	26.9	46.6	29.3
Individual refusal	10.5	6.8	3.8	4.7	4.1	3.3	5.4
Other non-response	31.0	20.1	23.8	21.6	14.4	14.4	20.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Base	294	234	265	342	271	397	1803

A forward stepwise logistic regression of CAWI participation was carried out to establish whether the factors considered here remained significant when controlling for other factors (Table 2.13). In order of significance, the groups found to be more likely to complete the CAWI, controlling for the other factors in the model, were:

- Regular Web users (in IP5)
- Those providing an email address to the study
- Home owners
- Those who were married / living as married
- Those receiving either a £30 unconditional incentive or a £10+£20 conditional incentive

Factors not found to be significant included sex, age, employment status and number of adults in the household. The omission of age may help to explain the inclusion of home ownership as a significant factor, as younger age groups are less likely to own homes and to complete the CAWI.

Table 2.13 Logistic regression of CAWI completion

<i>Base: All Web sample members</i>		
	Logistic regression of CAWI completion	
	Odds ratio	Significance
Whether regular Web user (reference=No)		0.000
Regular Web user IP5	2.711	0.000
No information from IP5	.628	0.031
Email provided to the study (reference=email not provided)	2.716	0.000
Home owner (reference=Not homeowner)	2.239	0.000
Marital status (reference=no information)		0.000
Single	1.356	0.438
Married	2.161	0.047
Widowed/separate/divorced	1.089	0.833
Incentive level (reference=£10 unconditional)		0.002
£10 + £20 conditional	1.554	0.001
£30 unconditional	1.452	0.005
Constant	.059	0.000
<i>Base</i>	<i>1722</i>	

Notes: Stepwise logistic regression carried out in SPSS. Dependent variable=whether or not a response via CAWI. Variables not included in the model: sex, age, employment status and number of adults in the household.

2.3 Field interviewers and CAWI

2.3.1 The interviewer phase of mixed mode

The mixed mode sample in IP5 achieved a lower overall response rate compared with the CAPI sample. In response to this, qualitative work was conducted to try to better understand what the mechanisms might be that lead to a higher level of refusal there.⁴

A number of recommendations for the face-to-face fieldwork process flowed from that work and from discussions with field interviewers and were addressed in the IP6 design:

- An emphasis in briefings on how to handle households where there had been partial completion via CAWI. This drew on the learning from the qualitative work that suggested that panel members' decisions about whether to participate hardened by the time of the interviewer's visit because they had had time to consider their participation without an interviewer being present.
- Clear messages to interviewers about gaining a CAPI interview as a first priority. Having made the journey to the household, there are advantages in terms of both costs and response to carry out an interview there and then via CAPI (rather than managing a CAWI process that will often result in further visits having to be made in any case).
- Where sample members were clear with interviewers that they wanted to complete the study online, guidance was provided to interviewers about enabling the CAWI process (checking that sample members had the information they needed and understood how to access the CAWI) and managing response using information provided centrally about CAWI completion.
- Interviewer payments were designed to reward completed interviews that were achieved by CAWI as well as those by CAPI once they had been issued to them. Payments were also attached to the process of following up those who said they wanted to complete via CAWI.
- Technical issues relating to feeding forward partial CAWI completions were overcome during IP5, but reassuring interviewers that the technology would work was important.
- Implementation of improved information for interviewers so that they could feel confident about the status of their cases in relation to CAWI completion (some problems persisted with this in the early stages of IP6 which again interviewers found disconcerting). In addition to updates on their laptops each time they connected to NatCen's servers, updates on CAWI progress could be obtained from NatCen's Telephone Unit who were operating a technical support line for participants.
- In response to extended periods where interviewers were told repeatedly that sample members would get round to completing an interview online, a deadline for the CAWI was set at 7 weeks into a 10 week fieldwork period. This enabled interviewers to state to sample members from that point that there was no other option other than completing a CAPI interview.

⁴ Collins, D. and Mitchell, M. (2013) *'Role of mode in respondents' decisions to participate in IP5'*, Understanding Society Working Paper 2014-03.

2.3.2 CAWI and the CAPI fieldwork

As noted in Table 2.4, 13.8% of CAWI completions occurred after field interviewers had visited the household after the initial CAWI-only phase. This represented 8.5% of the total completed interviews. Over half (51.9%) of the interviews for IP6 were conducted via CAWI before any interviewer involvement (Table 2.14).

Table 2.14 Mode and timing of completed interviews among Web sample members

<i>Base: Completed interviews among the Web sample</i>		
Mode and timing of interview		
	Count	%
CAWI before interviewer visit	693	51.9
CAWI after interviewer visit	114	8.5
CAPI, no CAWI	522	39.1
CATI, no CAWI	6	0.4
<i>Bases</i>	<i>1335</i>	<i>100.0</i>

Field interviewers and Web cases

The mean number of visits that interviewers made to households that had been issued to CAWI first was higher than for those issued straight to CAPI (3.85 visits compared to 3.63 visits; SD=3.150 and 2.142 respectively). This was reflected in comments from interviewers, some of whom held the view that their job had been made more difficult by issuing households to the web first.

However, when controlling for household characteristics there was no association of number of visits with mode of allocation.⁵

- Interviewers reported that in a fifth (19.8%) of Web cases issued to them someone in the household said that they would prefer to complete the survey via CAWI.
- Of these, 62.1% were then chased by telephone by the field interviewer to check whether there were any problems and to complete the CAWI (field interviewers received automated updates on a daily basis on whether the CAWI had been completed for their cases). On average, 2.26 telephone calls were made in these circumstances.

⁵ In a linear regression of number of visits that controlled for whether the household responded last wave, the number of adults in the household and tenure, no statistically significant association was found (standardised coefficient for mode allocation=0.11; significance=0.701).

3 Completing the CAWI

3.1 Multiple sessions and break-offs

The CAWI instrument was set up to enable participants to break off from the survey and come back to it at the point where they left off. However, 88.6% of those who entered the CAWI only had a single session (Table 3.1). Only 2.1% of cases had more than two sessions in the CAWI. None had more than four.

- Of those who entered the CAWI instrument, only three cases (0.4%) did not provide any useable data in this mode.
- 4.4% of cases entering the CAWI were partially completed in this mode.
- Partial cases were more likely to have involved multiple sessions (20.0% of partial cases had more than one session compared to 11.0% among those that were fully completed).
- Looking at the point at which partials broke off from the questionnaire, there was no clustering at a particular point - they occurred throughout the instrument.

Table 3.1 Number of CAWI sessions and final outcomes

Base: All who entered the CAWI instrument

	Non-responding household	Fully completed interview	Partially completed interview	Total
Number of CAWI sessions	%	%	%	%
One session	100.0	89.0	80.0	88.6
Two sessions	0.0	9.0	14.3	9.2
Three sessions	0.0	1.4	2.9	1.5
Four sessions	0.0	0.5	2.9	0.6
Total	100.0	100.0	100.0	100.0
Base	2	764	35	801

3.2 Types of device and browser

The paradata for the CAWI instrument also provides browser information in the form of the 'user agent' identification string. This provides the browser type, from which devices can be identified (Table 3.2). The CAWI instrument was tested on the main browsers and on tablet as well as desktop computers.

- The most commonly used browser among those entering the CAWI was Internet Explorer (44.2%).
- Windows was by far the most common operating system (84.6%) with Apple's the next most common: this was used with a desktop by 8.1% and by 6.4% with an iPad.
- A total of 7.3% of those who entered the CAWI did so using a tablet computer (smartphones were blocked from accessing the instrument as noted above).
- There was no difference between device types or operating systems in terms of the level of break-offs or number of sessions.

Table 3.2 Browser and device type used		
<i>Base: All CAWI cases</i>		
Browser	Count	%
Internet Explorer	354	44.2
Google Chrome	218	27.2
Firefox	119	14.9
Safari	108	13.5
Opera	1	0.1
Other	1	0.1
Operating system		
Windows (Any)	675	84.6
Macintosh	65	8.1
IPad-Mac	51	6.4
Google Tablet	3	0.4
Android Tablet	2	0.3
BlackBerry Tab OS	1	0.1
Sony Tablet	1	0.1
Device type		
Desktop / Laptop	740	92.7
Tablet	58	7.3
<i>Bases</i>	<i>801</i>	<i>100.0</i>

3.3 Comparison of item timings between CAWI and CAPI

The aim of this piece of analysis was to use the paradata available with the CAWI and CAPI instruments to identify potentially problematic questions, or those that appear to represent a higher level of burden to participants.

The CAPI timings are available for each separate CAPI question. For the CAWI, the timings relate the number of seconds between arriving at a screen and leaving it again (however many variables may be included on that screen). The paradata also includes keystroke information: this will be analysed in a separate exercise.

The selection of variables for comparison in Table 3.3 was based on a comparison of their mean timing in CAPI and CAWI for variables that were asked in a similar format. Where the difference in timings for CAWI and CAPI was more than two standard deviations from the mean difference between CAPI and CAWI variables, these variables were included. Looking across the variables that could be easily compared between the CAPI and CAWI instruments, CAWI questions took on average 2.1 seconds longer than CAPI (standard deviation=6.1).

The two samples compared in the analysis are the Web sample cases who were issued first to CAWI and who completed the survey via CAWI, against those who were issued straight to CAPI (and who completed in CAPI). There will be differences between these samples resulting from the lower response to the CAWI compared to the CAPI: those participating in the CAWI are likely to be more willing to participate in the survey in general and more positive towards use of the Web.

To control for some of this difference, the approach to the analysis included a set of simple linear regressions. The dependent variable in these regressions was time in seconds, and independent variables were age, age squared, sex and highest educational qualification attained. A refinement might be to include whether the participant was interviewed in the previous wave as a means of further controlling for the issue of respondents in CAWI being more likely to respond in general.

This analysis is focused on the individual questionnaire.

The table is ordered by the size of the CAWI coefficient from the linear regression, except in the case of the 'Choice' variables where collecting them together helps to understand the changes in the timing through that set of questions.

The set of 'Choice' questions listed in the table refer to a module that set up binary choices of receiving or winning different amounts of money in relation to waiting for a period of time or a risk of losing. They provide an illustration of the how the timings work. There were 91 questions in all, with sets of questions following a logical progression (for instance going up gradually in the amount of money). However, there were breaks in this logic when a new concept was brought in (a new time frame, or a different type of calculation).

- Trpre: This was the introduction to the set of questions. The CAPI took longer, but possibly due to the laptop being handed to the participant for self-completion.
- Choice01: CAWI completion for this question was quicker than for CAPI. Controlling for age and sex, answering this question in CAWI was quicker on average by 10 seconds.

-
- Looking at the mean timings, the questions became considerably quicker as we would expect, and CAPI became quicker than the CAWI (the level of difference for Choice10 might relate to the speed of the connection and moving from one screen to the next).
 - Choice25 represents a break in the flow of the questions and there is a corresponding peak in the timing for this question – and this is the case for both CAWI and CAPI.
 - Choice91 is a particularly demanding question in terms of the assessment of options to be made and the average timings for both CAPI and CAWI are relatively high. However, the time required was particularly high for the CAWI (in CAPI, the participant would be aware of an interviewer waiting to carry on with the interview).
 - The questions that took substantially longer in CAWI than in CAPI included two open-ended questions (Jbsic07 and Soc00).
 - Questions that took longer in CAPI than in CAWI included some that used showcards (carbuy1, disdifa1, Trextype1).

Table 3.3 Differences in individual question timings between CAPI and CAWI

Variable	Description	Mean (seconds)			Standard Deviation		Base N		Linear regression ¹		Difference > 2 SDs from mean
		CAPI	CAWI	Difference in CAWI	CAPI	CAWI	CAPI	CAWI	Coefficient for CAWI	Sig	
Q390TimeRisk.Trpre	Introduction to the Choices questions	75.9	59.5	-16.4	35.1	37.9	270	285	-15.99	0.000	Yes
Q390TimeRisk.Choice01	Closed choice between two amounts of lottery winnings (self comp in CAPI) - first occurrence	36.4	25.3	-11.1	22.3	16.4	254	255	-10.03	0.000	Yes
Q390TimeRisk.Choice10	10th choice question	4.2	6.1	2.0	5.6	5.7	244	253	2.21	0.000	
Q390TimeRisk.Choice24	24th choice question	3.6	6.0	2.4	3.5	6.2	246	253	2.58	0.000	
Q390TimeRisk.Choice25	25th choice question - change in reference period	6.7	9.3	2.6	10.0	11.9	242	253	3.00	0.002	
Q390TimeRisk.Choice27	27th choice question	3.0	5.6	2.6	3.3	5.8	239	253	2.76	0.000	
Q390TimeRisk.Choice91	Complex choice question	52.7	67.3	14.6	38.2	44.3	243	222	16.90	0.000	Yes
Q471WkCond.PenMPy	Percent of salary paid to pension	17.0	33.2	16.2	22.3	43.4	162	220	17.29	0.000	Yes
Q480SecJob.J2Pay	Gross earnings from 2nd job	26.3	41.0	14.7	22.3	44.7	33	52	14.46	0.076	Yes

Table 3.3 Differences in individual question timings between CAPI and CAWI

Q453CurrEmp. JbSic07	What employer does - open	31.5	45.9	14.4	32.0	29.5	75	98	13.49	0.008	Yes
Q221YoungAd. Soc00	Job would like to do when leave education - open	25.2	36.5	11.3	11.7	29.5	28	47	11.03	0.068	
Q409AnnEv. preg	Whether been pregnant - YN	5.9	12.0	6.2	4.9	15.9	156	213	6.20	0.000	
Q409AnnEv. trainany	Any training courses - YN	7.7	14.1	6.4	8.1	26.7	629	743	5.38	0.000	
Q409AnnEv. samejob	Same job since last interview - YN	2.9	6.4	3.5	4.0	6.1	256	355	3.49	0.000	
Q368Caring. AidHH	Doing any caring - YN	7.8	10.9	3.2	10.4	10.6	580	713	3.20	0.000	
Q492TranspB. carbuy1	Important factors for buying car - showcard for CAPI	43.6	32.7	-10.9	23.7	25.3	438	569	-10.47	0.000	Yes
Q409AnnEv. disdifa1	Health condition effects - showcard in CAPI	40.6	28.0	-12.6	35.1	22.6	292	343	-10.77	0.000	Yes
Q726TimeRiskC ontrol. Trextype1	Type of exercise - long list	39.4	21.3	-18.1	42.7	15.3	240	280	-18.21	0.000	Yes
Q726TimeRiskC ontrol. Tmprf12	Slider question (self-comp in CAPI - may be a technical delay to access slider in CAPI)	104.2	14.2	-90.0	49.7	10.6	241	278	-88.44	0.000	Yes

Notes:

1. Linear regression: dependent variable=time in seconds; independent variables=sex, age, age squared, highest level of education.

3.4 Mode preference

Mode preference was not taken into account in the design of the IP mixed mode experiments in order to fully understand the impact of the sequential design. A decision about whether a preference is ever something to systematically take account of would require a different experimental design, but we can at least gain some insight into the sample members' views on the mode in which they are completing the survey by looking at these preferences – signs of dissatisfaction may suggest implications for the long-term commitment to the study. Table 3.4 shows that for over three-quarters of sample members the mode in which they completed the survey was the one they preferred. Only 6.7% of those completing via CAWI, the first mode offered, would have preferred to complete the survey face-to-face. In addition, 13.1% of CAPI participants would have preferred to complete the study online.

Table 3.4 Mode preference in IP6 by mode of completion

<i>Base: All responding individuals in the Web sample</i>		
	Completed by CAWI	Completed by CAPI
Mode preference	%	%
A Face-to-face interview at home	6.7	76.3
A telephone interview	0.8	1.7
A questionnaire sent by post	9.2	7.5
An internet questionnaire	78.8	13.1
SPONTANEOUS: No preference	4.6	1.3
Total	100.0	100.0
<i>Base</i>	791	520

A question remains over the impact of mode preference on long-term commitment to the study and the potential devaluing of it for those who no longer get to see an interviewer. It is a potentially positive sign that the introduction of mixed mode in IP5 has led to individuals changing their mode preference views (Table 3.5). The proportion of respondents who preferred a CAWI approach increased from 22.2% in IP4 (before the mixed mode experiment was introduced) to more than half (50.9%) in IP6.

Table 3.5 Mode preference between IP4 and IP6		
<i>Base: Responding individuals in both IP4 and IP6 Web sample</i>		
	IP4	IP6
	%	%
A Face-to-face interview at home	62.3	37.4
A telephone interview	1.1	1.1
A questionnaire sent by post	13.2	7.8
An internet questionnaire	22.2	50.9
SPONTANEOUS: No preference	1.1	2.8
Total	100.0	100.0
<i>Base</i>	<i>1065</i>	<i>1065</i>

4 Conclusions

- A communications strategy that included both emails, and letters and reminders in each of those formats, was successful in encouraging a relatively high level of CAWI participation. Each item of communication resulted in a further rise of completions.
- Those who had provided an email address to the survey were more likely to participate than those who had not. Those who provided an email address to the study in recent waves and those who opened an email sent to them were particularly likely to participate via CAWI. However, most sample members who completed the CAWI did so by directly entering the URL from the letters that they were also sent. Only a minority read the emails sent to them and not all of these clicked through to the CAWI.
- A quarter of the emails sent for IP6 were opened first on a smartphone. Sample members were informed that it was not possible to complete the instrument via a smartphone - a small proportion still tried, but considerably fewer than the number opening them on a smartphone.
- Regular Web usage was found to be strongly associated with likelihood to complete the interview via CAWI. Higher incentives were also associated with CAWI completion, whether or not they were conditional on CAWI response.
- Field interviewers helped to increase the proportion of interviews carried out via CAWI.
- Although the effort expended by interviewers on Web sample cases was slightly higher than for the cases issued straight to CAPI, this association was no longer observed when controlling for household characteristics.
- Break-offs for IP6 were relatively rare and the majority of interviews were completed in a single session. Tablet completion was a feature of IP6 and there was no indication of problems for the participant.
- Looking across comparable CAPI and CAWI questions, responding via CAWI was slightly slower. Relatively few questions showed substantial timing differences between the modes, but among those that did, participants took long in CAWI over open-ended questions and longer in CAPI where lists were provided on showcards.
- There are positive signs for the longer-term introduction of mixed mode in relation to mode preference. More than half of the Innovation Panel reported a preference for CAWI in IP6.