



ITC France Survey with New Cohort Wave 1 (2019) Technical Report

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1 SUMMARY AND OVERVIEW OF THE PROJECT

1.1 Introduction

The International Tobacco Control Policy Evaluation Project (ITC Project) was established in 2002 to monitor and evaluate key health policies implemented in countries that are signatories to the Framework Convention on Tobacco Control (FCTC)—the first-ever international public health treaty—that was adopted in May 2003 by all 192 member states of the World Health Organization. Over the past two decades, the ITC Project has provided invaluable data to inform governments and other stakeholders on whether public health policies designed to reduce the health, economic, and societal costs of tobacco use throughout the world, are effective. The ITC Project conducts longitudinal surveys in representative cohorts in over 29 countries including France. The ITC Project team from the University of Waterloo in Canada, partnered with the Santé publique France and the Institut National du Cancer, France to develop and field the ITC France Survey.

The ITC France Project officially commenced in January 2019 with planning and survey development, and the fieldwork was conducted from October 31 to December 17, 2019. The ITC France Survey was designed to collect data from French smokers and non-smokers regarding their knowledge, attitudes, beliefs, perceptions, behaviours, and use patterns associated with cigarettes and e-cigarettes. With the passage of standardized packaging, the FRA1 survey places special importance in measuring respondents attitudes regarding package design.

1.2 Main Objectives and research questions

The objectives of the Wave 1 of the ITC France Survey (FRA1) were:

- 1) To examine patterns of tobacco-use behaviour and opinions associated with smoking among adults aged 18 and older in France;
- 2) To examine the effect of a standardized packaging law on cigarette smoking and the attitudes toward brands of cigarettes among smokers.
- 3) To examine the impact of tobacco control policies (other than standardized packaging) in France.

1.3 Overview of project

- The ITC FRA1 Survey was a web-administered survey of behaviours and attitudes related to tobacco and nicotine use among a sample of n=2,200 adult residents of France, comprising of 1,700 cigarette smokers and 500 non-smokers. The user type definitions are provided in [Table 2](#) in Section 3.1. The survey took about 40 minutes (median) to complete. Technical details of the web survey are provided in [Appendix 3](#).
- All sampling and fieldwork was conducted by the survey firm, Rakuten Insight. The sampling frame was an existing Rakuten Insight partner panel, Bilendi, that was nationally representative of French cigarette smokers and non-smokers, ([see Section 3.1.2](#)) and further quotas based on region of residence, sex, and age, were applied to ensure the final sample was proportional to stratum sizes based on the latest available France census data from the Department of Demographic and Social Statistics.

- The FRA1 Survey was conducted from October 31 to December 17, 2019. Follow-up surveys are planned contingent upon funding.
- Rakuten Insight has modified their standard procedures to maximize retention in the panel and the ITC FRA study across waves by using a customized ITC-branded background for the survey and survey communications, as well as offering bonus incentives for respondents who complete follow up waves of the survey.

2 SURVEY MEASURES AND PROGRAMMING

2.1 Survey development

The survey development process comprises four main phases:

- 1) determining survey content,
- 2) operationalization of survey content,
- 3) translation, and
- 4) translation review and checking.

2.1.1 ITC Survey Development process – content and operationalization

- During Phase 1 of the survey development process, the research investigators, project management team, and the survey management team determined which topics were most important to include in the survey, and then developed the detailed survey questions necessary to measure relevant constructs using the existing framework of the ITC database of questions. Questions were adapted to the France context and new questions were designed as necessary. The resultant draft survey was then sent to the ITC Survey Management Group (SMG) for operationalization of the survey (Phase 2).
- In Phase 2, the operationalization of survey development, involved comprehensively and iteratively reviewing, and revising the survey to ensure that routing, question wording, response options, and all other survey elements are refined and cross-referenced for consistency, clarity, and accuracy. At the conclusion of Phase 2, the final draft of the survey was generated by SMG and sent to Rakuten Insight for programming and testing.
- During the period when the survey firm programmed and tested the survey, additional revisions were made in consultation between Rakuten Insight and SMG, until a fieldwork version of the survey was achieved. The fieldwork version of the survey was sent to SMG by the firm and is retained in the SMG database. The updated last version of the survey in the database was later used to cross reference with the data set.

2.1.2 ITC Survey Development process – translation and review/verification

- The team developed the FRA1 survey content and specifications in English initially. The final English FRA1 survey was then translated into French by Rakuten Insight per specifications provided by the research team.
- After the initial translation from English to French had been completed and checked internally by the Rakuten Insight translator(s), the French translation of FRA1 was then checked by the France team, and issues were identified, discussed, and resolved to confirm the French translation met the research team's standards for the highest possible degree of accuracy.

2.1.3 Survey development process – timeline

Table 1: Summary of the FRA1 survey development timeline.

Task	Start date	End date
Survey content determined	January, 2019	April, 2019
Operationalization	April, 2019	July, 2019
Translation (includes discussion)	August, 2019	September, 2019
Translation review and checking	September, 2019	September, 2019

2.2 Survey content

The FRA1 survey content was developed to assess the research objectives described in [Section 1.2](#) as well as measure other constructs necessary to meet the survey objectives. These include demographic, social and psychological factors relevant to models of behaviour change, as well as content to meet logistical requirements for the survey.

The specific FRA1 content included the following:

- Information about the survey, time commitment, contact information for ethical concerns or survey-related concerns, and an explicit consent screen.
- Screening section that assesses age, gender, region of residence, smoking status, heat-not-burn product use status
- Cigarette questions: brand choice, brand perception, dependence, quitting attempts and aids used, knowledge of health effects of tobacco, warning labels, smoke free places, advertising and promotion, purchase, beliefs about quitting, psychosocial beliefs, regulation, perceived risk;
- Other questions: anti-tobacco campaigns, e-cigarette and heated tobacco product use, moderators (i.e., factors not asked in any of the previous categories that are important in models of behaviour change and/or policy evaluation such as time perspective, stress, co-morbidities).
- Demographic questions (e.g., age, gender, education, income, socio-economic status).

2.3 Survey programming and testing

- Rakuten Insight used the FRA1 specifications (provided in Microsoft Word format) to program the FRA1 English Survey using Confront Computer-assisted Web Interview (CAWI) Software.
- Rakuten Insight worked closely with the research team to test the English survey CAWI program and survey quotas. The research team provided signoff on the FRA1 English Survey program that met pre-determined standards prior to beginning data collection.

- After receiving signoff on the French translation, Rakuten overlaid the French into the CAWI program (originally programmed in English).
- The French translation overlap into the English CAWI program was then systematically tested to ensure the program was functioning as intended and free of errors.

3 STUDY SAMPLE

3.1 Overview of Wave 1 ITC France Survey sample and quotas

The target sample size for the FRA1 Survey was 2,200 French adult cigarette smokers and non-smokers. Table 2 below provides the sub-sample definitions, targets, and achieved sample.

Table 2: Subsample User Groups

Subsample (quota) group	Definition	Target n	Valid n
Current smokers	Smokes cigarettes at least monthly AND is 18 years of age.	1,700	1,700
Non-users	Smokes cigarettes not at all AND is 18 years of age	500	500
Total		2,200	2,200

3.1.1 Inclusion/exclusion criteria and quotas

- Rakuten Insight used demographic profile information about existing panelists to inform which panelists would be invited to the survey.
- Once invited to the survey, the panelists first completed screening to ensure they met the following inclusion criteria:
 - Participants were adults aged 18 years or older;
 - Participants met the definition of the user types specified in [Table 2](#);
 - The quota for the panelist’s specifications (i.e., user type, region of residence, age, gender) was still open.

The study exclusion criteria were:

- Those younger than 18 years old;
- Corresponding quota to panelist’s specifications are full.
- Note: Following data collection, any identified ‘speeders’ were removed from the dataset, as described in [Section 5.3](#).
- The study sample was allocated proportionally to stratum sizes based on census data. The research team established quotas for the FRA1 sample based on age, gender, region, and degree of urbanization. Refer to [Appendix 1: Allocation \(per stratum\) of FRA1 web panel sample](#).

3.1.2 Description of sampling frame

- The sampling frame in the FRA1 Survey was Rakuten Insight’s France web panel. All of the subsample groups were recruited from this panel.
- According to the panel’s sample description, panel recruitment sources include self-recruitment of panelists themselves as well as sourcing by affiliate networks. Each panel is

managed locally by trained panel managers and support teams. Panel managers overwatch the recruitment as well as cleaning and black listing. Support teams help panelists directly in cases of issues with surveys.

4 RECRUITMENT AND INTERVIEW PROCEDURES

4.1 Contact and recruitment procedures

4.1.1 Recruitment strategy

- 1) During the initial phase of fieldwork invitations only targeted panelists who likely would meet the cigarette smoker definition (Subsample Group 1 in [Table 2](#). These invitations were termed 'Phase 1 Invitations'. Some of the panelists who were recruited as potential cigarette smokers actually met the definition of a non-user and thus, were placed in the non-user quota.
- 2) After the initial cigarette smoker quotas began to fill, Rakuten Insight invited non-smoker panelists to the survey, to fill the remaining open positions in the non-smoker quota (Subsample Group 2 in [Table 2](#)). These invitations were called 'Phase 2 Invitations'. The sample and subsample categories are provided in [Table 2](#).

4.1.2 Invitations and reminders

- All communications with panelists were administered by Rakuten Insight. All communications were in French.
- Rakuten Insight invited panel members to the FRA1 Survey by sending them a standard email invitation that informed the panelists of the survey length and that they would receive the standard incentive for a 35-minute Rakuten Insight survey.
- Per standard procedures, Rakuten Insight sent one email invitation and up to two reminders to panelists who had been pre-identified as being potentially eligible for the FRA1 Survey. Once the quotas were achieved, the web survey was closed. Some additional respondents were recruited from each quota to ensure it was still met following a cleaning process which removed speeders and other data oddities. Panelists were able to ignore the emails, or contact Rakuten Insight to refuse the study or unsubscribe from the panel at any time.

4.2 Fieldwork timeline

- The FRA1 Survey was conducted from October 31 to December 17, 2019.

4.3 The survey experience and interview duration

The FRA1 Survey was designed to have the look and feel of a typical Rakuten Insight survey, with some branding to identify the survey as an ITC survey.

- The Conformat software automatically rendered the on-screen formatting to adapt to the respondent's device type (desktop/tablet vs. mobile device) so that text and visual elements would be appropriately placed on the screen to ensure an optimal survey-taking experience.
- The FRA1 Survey began with a screening section that assessed panelists' eligibility (based on user type and possibly region/gender/age-based quotas) and determined which survey

questions (related to user type) would be asked throughout the survey. Thus, panelists will experience a tailored survey within a single programmed instrument, relevant to each respondent's current tobacco use pattern.

- Consent screens provided information about the survey, time commitment, contact information for ethical concerns or survey-related concerns, and then the panelist was required to provide consent to complete the survey.
- Respondents were able to navigate back to previous questions to change a response.
- Respondents were able to stop the survey and login to finish at a later time without losing any data.
- Questions were primarily multiple choice format and included one question per page. Some questions had a check list or grid format, which was modified by the survey software depending on the device type that the respondent used (i.e., desktop vs. a mobile phone).
- There were 20 questions with the 'Other-specify' format, require respondents type open text responses.
- The survey contained encouragement screens.
- Respondents were required to submit their completed survey in order for their survey record to be considered 'complete'.
- Item non-response was acceptable, provided that: the majority of questions were answered, 'essential questions' used for eligibility were answered, and the panelist has submitted their survey.
- The median length of the survey interview was 40 minutes for the valid complete records.

Table 3. Median survey interview length (minutes)

Sample description	n	Median survey interview length (minutes)
Final valid completes	2305	40.0
Completes with speeders	2212	38.7
Final valid completes for Smokers only	1679	45.0
Final valid completes for Non-smokers only	533	26.8

4.4 Assigning disposition codes

- Disposition codes were used to track the outcomes of survey respondents.
- Temporary Disposition Codes were applied to respondents who did not complete the survey within one session.
- Final disposition codes were assigned to each record (see [Section 7 Disposition Codes](#)).
- Three types of disposition codes were used in the study: 1) disposition codes programmed into the survey script, 2) disposition codes entered by the survey firm, and 3) dispositions derived at the end of fieldwork (see [Section 7 Disposition Codes](#)).
- Each completed survey record was further sub-coded as being completed on a desktop/tablet device vs. a mobile device vs. being undefined (not possible to classify).

4.5 Study incentives

- Panelists were given standard compensation upon completion of the survey, plus bonus points the equivalent to 4 Euros.
- Upon submitting a completed survey, the Wave 1 Survey participants were shown a web screen with the information stating that if they stayed in the panel and completed the Wave 2 Survey about 12-18 months later, they would be provided with bonus points equivalent to 20 Euros.

5 QUALITY CONTROL

5.1 Fieldwork monitoring and progress reports

- At the beginning of fieldwork, the initial sample invitations were released carefully at deliberate intervals and survey activity was closely monitored to ensure that all aspects were working as intended. This method is termed a ‘soft launch’ and occurred from October 31st to November 5th, 2019.
- The ‘soft launch’ data were systematically reviewed by both Rakuten and data analysts from the University of Waterloo. No major issues of concern were determined.
- Throughout fieldwork Rakuten Insight closely monitored survey activity and ensured a smooth implementation.
- Rakuten Insight provided the research team with weekly fieldwork reports and an analysis of next steps with respect to the survey recruitment strategy.

5.2 Survey completes vs. partial completes

- The definition of a “survey complete” is the survey record for a panelist who started the survey, completed the survey questions, perhaps endorsing “prefer not to answer” for a reasonable proportion of questions, and then chose to ‘submit the survey’ after the last survey question.
- Survey response data for survey completes were checked using the criteria defined in [Section 5.3](#). Records that passed the checks were considered valid completes.
- Survey response data for partially completed survey records (defined as records for which the panelist started the survey but did not hit submit at the end of the survey) were not included in the final data set.

5.4 Data cleaning and topline frequencies

- After fieldwork was completed, Rakuten Insight cleaned the data and then transferred the cleaned data to the ITC Project.
- ITC Project analysts completed further data cleaning, weights construction, and conducted initial descriptive analyses, including generating topline frequencies.

5.5 Translation review and verification

- Standard procedures at ITC include validating the translation against the fieldwork-version of the survey. This process was conducted by an independent reviewer fluent in French and English.

6 DISPOSITION CODES

Disposition Codes			
DMC Code	Type*1	Description	Comment
A - Interviewed			
P-A1	P	Selected respondent completes the entire survey; maybe skipping or refusing to answer a few questions	
B - Eligible, non-interview			
P-B19	E	Respondent completed eligibility questions and was deemed to be eligible, then started to answer the survey but did not complete the survey	
P-B90	S	Any other reason why interview was not completed, but eligibility was confirmed by respondent	Unlikely to be used, but left in as a precaution
C - Unknown eligibility, non-interview			
P-C11.1	P	Respondent refuses, can't answer or doesn't know his/her age/DOB; thus unknown if he/she is eligible	
P-C11.2	P	Respondent refuses, can't answer or doesn't know his/her gender; thus unknown if he/she is eligible	Eligibility is unknown because of gender quotas
P-C11.5	P	Respondent refuses, can't answer or doesn't know his/her cigarette smoking status or how long they have quit smoking; thus unknown if he/she is eligible	
P-C13	P	Respondent refuses at consent; thus unknown if he/she is eligible	
P-C70	S	Withdrawal and/or unsubscribe and/or email bounce back	
P-C72	S	Respondent was invited to complete the survey, but never logged into system to start the survey (but there was no email bounce back/invalid)	This is an important disposition code, and we expect that many individuals will fall into this category

P-C80	P	Respondent refuses (or doesn't know) to provide required information to derive their stratum; hence sampling weights cannot be computed and unknown if he/she is eligible		
P-C90	S	Other reason why unknown eligibility	Unlikely to be used, but left in as a precaution	
D - Not eligible				
P-D10.1	P	Respondent is out of the target population because of geographic criteria		
P-D10.2	P	Respondent is out of the target population because of smoking/tobacco use criteria	For example, respondent is a occasional less than monthly smoker	
P-D70	P	Respondent is too young (i.e., < 18 years old)		
P-D80.1	P	Quota for smokers in sex-age-group is full		
P-D80.2	P	Quota for non-smokers in sex-age-group is full		
P-D90	S	Any other reason why respondent is not eligible	Unlikely to be used, but left in as a precaution	

Notes:

*1 Type of disposition codes:

P = disposition code programmed into the script

S = Dispositions to be entered by supervisor or other person responsible for fieldwork

E = Dispositions to be derived at the end of fieldwork

7 COOPERATION AND RESPONSE RATES

Summary of Disposition Codes

ITC France (FRA) Survey – Wave 1

Created by C. Boudreau on Mar 30, 2020

Last updated by: M. Grey
on: March 31, 2020

Notes:

- 1) Numbers/text in grey boxes must be inputted; all other calculations are automated.
- 2) See spreadsheet "Replenishment codes" for description of the disposition codes

Code	Freq.	%
P-A1	2,380	4.6%
P-B19	192	0.4%
P-B90	0	0.0%
P-C10	504	1.0%
P-C11.1	87	0.2%
P-C11.2	4	0.0%
P-C11.5	74	0.1%
P-C13	129	0.2%
P-C70	0	0.0%
P-C72 (Formally P-C75)	44,024	84.7%
P-C80	14	0.0%
P-C90	0	0.0%
P-D10.1	14	0.0%
P-D10.2	674	1.3%
P-D70	7	0.0%
P-D80.1	732	1.4%
P-D80.2	840	1.6%
P-D90	2,281	4.4%
Total:	51,956	1

Note about missing disposition code classification

513 Records were missing a disposition code, the majority (504) of which were respondents who closed the survey before eligibility was determined. To be consistent with 4CV a new disposition code has been added: P-C10 (Description on Replenishment codes tab).

The other 9 had data that indicated that they could be classified into one of the other categories. The reclassification of all 513 records is summarized in the following table

N	Description	Coded to:
324	Link was clicked but no survey was started. Survey is empty - consent is missing (BI41270=.)	P-C10
167	Gave consent to survey but then closed (but did not refuse) before providing a valid age (including 2-age=0).	P-C10
1	Gave consent to survey but then closed (but did not refuse) before providing gender.	P-C10
12	Gave consent to survey but then closed (but did not refuse) survey before determining smoking eligibility.	P-C10
1	Respondent has data indicating that they declined consent (BI41270=2)	P-C13
6	Respondent has data indicating that they were ineligible because they smoke less than monthly, but occasionally (FR41225=4).	P-D10.2
1	Respondent has data indicating that they were ineligible because they don't know how long ago they quit smoking cigarettes (QA41439=9).	P-C11.5
1	Respondent has data indicating that they were eligible (FR41225=1 and BI41345=1) but then immediately left.	P-B19

**APPENDIX 1: ALLOCATION (PER REGION AND BY AGE) OF ITC FRANCE
SURVEY WEB PANEL SAMPLE**

Label	Quota	Final
Male smokers 18-34	336	336
Male smokers 35-44	194	194
Male smokers 45-54	177	177
Male smokers 55+	206	206
TOTAL	913	913
Female smokers 18-34	264	264
Female smokers 35-44	158	158
Female smokers 45-54	183	183
Female smokers 55+	182	182
TOTAL	787	787
Male Non-smokers 18-34	51	51
Male Non-smokers 35-44	34	34
Male Non-smokers 45-54	40	40
Male Non-smokers 55+	104	104
TOTAL	229	229
Female Non-smokers 18-34	59	59
Female Non-smokers 35-44	39	39
Female Non-smokers 45-54	40	40
Female Non-smokers 55+	133	133
TOTAL	271	271
COMBINED TOTAL	2200	2200
Metropolitant Regions	Quota	Final
Ile-de-France	413	412
Nord – Pas-de-Calais	141	141
Est	188	188
Bassin Parisien Est	171	171
Bassin Parisien Ouest	205	205
Ouest	300	300
Sud-Ouest	241	241
Centre (Sud)-Est	266	266
Méditerranée	276	276

- Survey length: About 20-30 minutes. (Actual length may vary depending on contents)
 - Incentive: [**max incentive**].

- Closing Date: Once the required number of survey completions is reached.
- Incentive Awarded Date : Max 60 days after completing the survey
 - Depending on the survey, it may take longer than the above timing.

Please take note while answering surveys:

- Please make sure to review each question and answer choice carefully to make sure your answers are accurately selected.

- We suggest the below internet environment:

[PC]

OS: Windows 7 or above, iOS 10.0 or above

Browsers: Internet Explorer 8+ , Edge, Firefox 10 or above, Safari (Mac only) 5.1 or above, Chrome 26 or above

[Smartphone/Tablet]

Android OS: Android 4.4 or above

iOS: iOS 10.0 or above

- We strictly adhere to the Privacy Policy in the Member Agreement. Please do not disclose any information you acquired in the survey to any third party, including posts to bulletin boards and blogs.

We would appreciate you taking the survey at your earliest convenience by using the web address below. If you have already completed the survey, thank you and please discard this email.

Please join the survey below.

- **Survey URL: [LINK TO SURVEY]**
 - Answering a survey can only be done once per person.

- Survey length: About 20-30 minutes. (Actual length may vary depending on contents)
 - Incentive: **[max incentive]**.

- Closing Date: Once the required number of survey completions is reached.
- Incentive Awarded Date : Max 60 days after completing the survey
 - Depending on the survey, it may take longer than the above timing.

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[Smartphone/Tablet]

Android OS: Android 4.4 or above

iOS: iOS 10.0 or above

- We strictly adhere to the Privacy Policy in the Member Agreement. Please do not disclose any information you acquired in the survey to any third party, including posts to bulletin boards and blogs.

En répondant aux enquêtes, veuillez garder à l'esprit les points suivants :

- Veuillez vous assurer de relire attentivement toutes les questions et toutes les réponses possibles pour vous assurer de bien avoir choisi votre réponse.
- Nous vous conseillons l'environnement Internet suivant :

[PC]

Système d'exploitation : Windows 7 ou plus récent, iOS 10.0 ou plus récent
Navigateurs : Internet Explorer 8+ , Edge, Firefox 10 ou plus récent, Safari (sur Mac uniquement) 5.1 ou plus récent, Chrome 26 ou plus récent

[Smartphone/tablette]

Système d'exploitation Android : Android 4.4 ou plus récent
iOS : iOS 10.0 ou plus récent

- Nous respectons strictement la Politique de confidentialité du Contrat d'adhésion. Veuillez ne révéler les informations obtenues au cours de cette enquête à aucun tiers, y compris par le biais de publications dans des chats ou des blogs.

Nous vous remercions de répondre à cette enquête dès que vous le pouvez en utilisant le lien ci-dessous. Si vous avez déjà répondu à l'enquête, merci. Vous pouvez alors ignorer cet e-mail.

Veillez rejoindre l'enquête ci-dessous.

- URL de l'enquête : **[LINK TO SURVEY]**
 - Chaque personne ne peut répondre qu'une seule fois à l'enquête.
- Durée de l'enquête : environ 20 à 30 minutes. (La durée effective peut varier en fonction du contenu)
 - Récompense : **[max incentive]**.
- Date de fin : une fois que le nombre de participants nécessaire est atteint.
- Date d'attribution de la récompense : maximum 60 jours après avoir terminé de répondre à l'enquête.
 - En fonction de l'enquête, il pourra vous falloir plus de temps qu'annoncé ci-dessus.

En répondant aux enquêtes, veuillez garder à l'esprit les points suivants :

- Veuillez vous assurer de relire attentivement toutes les questions et toutes les réponses possibles pour vous assurer de bien avoir choisi votre réponse.
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[Smartphone/tablette]

Système d'exploitation Android : Android 4.4 ou plus récent
iOS : iOS 10.0 ou plus récent

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APPENDIX 3: WAVE 1 ITC FRANCE SURVEY WEIGHTS

Sampling Weights of the International Tobacco Control France (ITC FRA) Survey

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This document describes the various cross-sectional weights for wave 1 of the ITC France Survey. It also provides some guidance on which set of weights should be used depending on the analysis being performed, as well as cautionary notes when analyzing ITC France data. These various weights computed for the ITC France Survey adjust for sample mis-representation, non-response and other biases. It is thus extremely highly recommended to use weighted data, when performing any analyses using ITC France data.

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1 Wave 1 weights

1.1 Cross-sectional sampling weights

A total of 2212 respondents were interviewed at wave 1 of the ITC France Survey. These respondents can be divide into two groups: 1679 smokers and 533 non-smokers. To be classified as a smoker a respondent must: a) have smoked at least 100 cigarettes in his/her lifetime and b) smoked at least monthly. To be classified as a non-smoker a respondent must either: a) never been a smoker or b) quit smoking more than 5 years ago. In addition to those criteria, respondents must be: a) be 18 years old or more and b)

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be residing in one of the 22 regions of [metropolitan France](#). Consequently any individual that met one or more of the following criteria was deemed not eligible to be interviewed as part of the ITC France Survey:

- younger than 18 years of age
- residing outside of the 22 regions of metropolitan France (e.g., those residing in one of the 5 overseas departments and regions were not eligible)
- occasional smokers (i.e., those smoking less than monthly, and those smoking at least monthly but less than weekly)
- quit smoking cigarette within the last 5 years

Four sets of cross-sectional weights were computed at wave 1 of the ITC France Survey; see summary in table 1 and detailed description below: All sampling weights for the ITC France Survey were computed using the statistical software R (<http://www.r-project.org>). As mentioned at the beginning of this document, these weights adjust for sample mis-representation, non-response and other biases. It is thus extremely highly recommended to use weighted data, when performing any analyses using ITC France data.

Weight	Variable Names
Wave 1 cross-sectional “inflation” weights for all respondents	aWTS41100v
Rescaled wave 1 cross-sectional weights for all respondents	aWTS41101v
Rescaled wave 1 cross-sectional weights for smokers	aWTS41201v
Rescaled wave 1 cross-sectional weights for non-smokers	aWTS41801v

Table 1: Cross-sectional sampling weights for wave 1 of the ITC France Survey

- 1- Variable aWTS41100v contains the wave 1 cross-sectional “inflation” weights for all 2212 respondents interviewed at wave 1; see below why inflation is in quotation marks. This total excludes the 93 respondents that were deemed to be fraudulent (also referred to as speeders in some documentation). Respondents were first divided into smokers and non-smokers. Within these two groups, they were further subdivided based on sex, age group, geographic region and education. Data from the [2017 Baromètre Santé](#) was then used to obtain calibration/target figures for each of these groups (e.g., estimated number of male smokers ages 18 to just before their 25th birthday). These figures are given in appendix [A.1](#). A raking procedure (see appendix [A.2](#)) was then applied to calibrate the weights based on sex \times age group (i.e., the cross-tab of sex and age), geographic region and education; this was done separately for smokers and non-smokers.

Unfortunately, the 2017 Baromètre Santé only provides rescaled sampling weights. These are the inflation weights of that survey rescaled to sum to sample size (i.e., $n = 25,319$). Those rescaled weights preserved the proportions of the various groups and subgroups, and thus the calibration/target figures obtained from the 2017 Baromètre Santé are perfectly suitable to compute the weights of the ITC France Survey. However, this implies that the wave 1 cross-sectional “inflation” weights lose their traditional meaning and interpretation; hence, the quotation marks. To be precise, the wave 1 cross-sectional “inflation” weights do not sum to the adult (18 years and older) French population of

cigarette smokers and non-smokers, but rather to a sub-population of about 25,000 that is representative of that population of cigarette smokers and non-smokers. For that reason, variable [aWTS41100v](#) is not part of the ITC France dataset; however, it is available upon request by emailing the [first author](#). Furthermore, variable [aWTS23101v](#) (the rescaled version of the wave 1 cross-sectional “inflation” weights) is available for analyses involving both smokers and non-smokers.

- 2- Variable [aWTS23101v](#) contains the rescaled wave 1 cross-sectional weights for all 2212 respondents. These are simply the wave 1 cross-sectional inflation weights (variable [aWTS41100v](#)) of those respondents rescaled to sum to sample size (i.e., $n = 2212$). These weights are designed to make these 2212 respondents representative of the adult (18 years and older) French population of cigarette smokers and non-smokers at the time of wave 1 data collection. Recall that occasional smokers and those who quit within the last 5 years were not eligible, and are thus not included in this population of cigarette smokers and non-smokers.

These rescaled wave 1 cross-sectional weights preserve the ratio of smokers to non-smokers; both overall and within subgroups (e.g., age, sex, geographic regions, etc.). Hence they are designed for analyses involving both smoker and non-smokers. However, it should be noted that smokers and non-smokers are ultimately distinct populations. Hence, great care must be taken when deciding to analyse them together using the [aWTS23101v](#) weights. This is probably fine when the goal is to carry out descriptive inference about the joint population of smokers and non-smokers. However, carrying out analytical inference (e.g., linear regression and logistic regression) from that same joint population is probably much more questionable.

- 3- Variable [aWTS41201v](#) contains the rescaled wave 1 cross-sectional weights for the 1679 respondents who were cigarette smokers at the time of wave 1 data collection. These are simply the wave 1 cross-sectional inflation weights (variable [aWTS41100v](#)) of those respondents rescaled to sum to sample size (i.e., $n = 1679$). These weights are designed to make these 1679 cigarette smokers representative of the French population of cigarette smokers at the time of wave 1 data collection.
- 4- Variable [aWTS41801v](#) contains the rescaled wave 1 cross-sectional weights for the 533 respondents who were non-smokers at the time of wave 1 data collection. These are simply the wave 1 cross-sectional inflation weights (variable [aWTS41100v](#)) of those respondents rescaled to sum to sample size (i.e., $n = 533$). These weights are designed to make these 533 non-smokers representative of the French population of non-smokers at the time of wave 1 data collection.

2 Remarks and cautionary notes

2.1 Inflation versus rescaled weights

A key reason for rescaling the weights is to facilitate joint analyses involving data from multiple ITC countries. There were about 17.3 million adult cigarette smokers in France at the time of wave 1 data collection. Data from the 2016 [National Health Interview Survey \(NHIS\)](#) was used to calibrate the weights of the US sample for wave 1 of the ITC Four Country Smoking and Vaping Survey (4CV) Survey, which was conducted in 2016. According to the 2016 NHIS, there were about 39.8 million cigarette smokers (ages 18 and older) in the United States at the time of data collection. Hence, any joint analysis using data from ITC France and the US sample of the 4CV Survey will be dominated by the US if inflation weights are used.

On the other hand, the various rescaled weights sum to the appropriate sample size, as described above; and likewise for the 4CV Survey. Hence, if the rescaled weights are used, the US will have a slightly greater impact on the results (e.g., the ITC France sample consists of 1679 cigarette smokers; whereas the 4CV sample of US cigarette smokers consists of 2327 respondents), but no country will dominate the analysis. In summary, rescaling the weights to sum to the sample size is a simple and efficient way to make countries with different population sizes comparable. This also holds true when comparing ITC France data to other ITC countries.

Last but not least, it should be mentioned that rescaling the weights will not affect the results when estimating population means and proportions/percentages, as well as when fitting various statistical models (e.g., logistic and linear regressions). However, the rescaled weights should not be used to estimate population totals (e.g., the total number of daily smokers or e-cigarette users).

2.2 Covariates to include in statistical modelling

As with other surveys, it is good practice to include the survey design variables and the variables used in the weight construction, when fitting statistical models (e.g, linear or logistic regression models) using ITC France data. Hence, we highly recommend that any statistical model includes age and gender as covariates. Though somewhat less essential, users should also strongly consider adding education to their statistical model(s). The geographic region should also be used as the stratification variable in the statistical software.

A Appendix

A.1 Benchmark/calibration figures

The benchmark/calibration figures used to compute the weights of the ITC France Survey are given below. These calibration figures were obtained using data from the [2017 Baromètre Santé](#) conducted by [Santé publique France](#). A total of 25,319 adults (ages 18–75 years old) residing in [Metropolitan France](#) were interviewed for the 2017 Baromètre Santé. Though we do not discuss the methodological details, as they are available [here](#), it should be noted that the weights of the 2017 Baromètre Santé were rescaled to sum to sample size. Consequently, the estimated numbers of smokers and non-smokers in the tables below are not for the entire adult (18 years and older) French population, but rather to a sub-population of about 25,000 that is representative of that population of cigarette smokers and non-smokers.

Sex	Age	# Smokers	# Non-smokers
male	[18, 25)	611.4505	633.3386
	[25, 35)	1022.4098	724.8737
	[35, 45)	910.5199	978.1946
	[45, 55)	789.7664	1235.9897
	[55, 65)	517.7993	1263.7179
	[65, 100)	164.6148	1324.6934
female	[18, 25)	515.7863	692.4087
	[25, 35)	833.3458	1009.5018
	[35, 45)	768.6353	1201.3196
	[45, 55)	855.8482	1287.0523
	[55, 65)	470.0626	1532.7253
	[65, 100)	195.7259	1542.7824

Region [†]	# Smokers	# Non-smokers
Paris/Ile de France	1271.3483	2800.9454
Bassin Parisien ouest	680.0767	1230.1275
Bassin Parisien est	580.1953	971.0107
Nord	549.4158	868.0665
Ouest	942.5523	1778.7250
Est	675.5758	1090.8830
Sud-ouest	935.5285	1497.1448
Sud-est	927.0434	1646.6356
Méditerranée	1094.2288	1543.0597

[†] These are the 9 regions of [Union des marques \(UDM\)](#); see figure 1. UDM, formerly know as the Union des annonceurs (UDA), is an association of French advertising firms and others working in the advertising industries.

Education	# Smokers	# Non-smokers
Less than Baccalauréat	4026.5939	6370.9956
Baccalauréat	1654.5856	2670.4730
Bac+2	974.7235	1693.6517
Bac+3/Bac+4	466.6350	1089.4813
Bac+5 & higher	533.4268	1601.9965



Figure 1: The 9 regions of Union des marques (UDM).

A.2 Raking algorithm

This section details the raking algorithm used to calibrate the wave 1 cross-sectional inflation weights (i.e., variable `aWTS41100v`) to the benchmark figures of section A.1. The description is for the computation of the sampling weights of smokers, but the exact same logic applies to non-smokers.

Step 1: Let $w_i^{(0)}$ be the start weight of the i^{th} respondent. If this is the very first iteration of the raking algorithm, then $w_i^{(0)} = 1$ for all respondents; otherwise, $w_i^{(0)} = w_i^{(3)}$, as computed in step 3 below.

The $w_i^{(0)}$ weights are calibrated to the sex \times age groups benchmark figures of the first table of section A.1. To this end, the respondents were divided into the 12 user sex/age cells of that table. For respondents in cell k ($k = 1, \dots, 12$), this calibration/post-stratification adjustment consists in multiplying their $w_i^{(0)}$ weights by \hat{N}_k/t_k to produce calibrated $w_i^{(1)}$ weights. These $w_i^{(1)}$ weights are such that their sum over all respondents in cell k is equal to \hat{N}_k , the estimated number of individuals in that cell (as obtained from the 2017 Baromètre Santé). Let k be the cell to which the i^{th} respondent belongs to, the $w_i^{(1)}$ weight of that respondent is given by

$$w_i^{(1)} = w_i^{(0)} \times \frac{\hat{N}_k}{t_k} = w_i^{(0)} \times \frac{\hat{N}_k}{\sum_{i \in C_k} w_i^{(0)}}$$

where $\widehat{N}_1, \dots, \widehat{N}_{12}$ are given in column 3 of the first table of section A.1 and C_k is the set of all respondents in cell k .

Step 2: Using the same post-stratification technique described in step 1, the $w_i^{(1)}$ weights were then calibrated to the geographic benchmark figures of the second table of section A.1. The $w_i^{(1)}$ weights of respondents in cell/region ℓ ($\ell = 1, \dots, 9$) were then multiply by a factor, $\widehat{N}_\ell^{(2)}/t_\ell^{(2)}$, to produce calibrated $w_i^{(2)}$ weights. Let ℓ be the cell to which the i^{th} respondent belongs to, the $w_i^{(2)}$ weight of that respondent is given by

$$w_i^{(2)} = w_i^{(1)} \times \frac{\widehat{N}_\ell^{(2)}}{t_\ell^{(2)}} = w_i^{(1)} \times \frac{\widehat{N}_\ell^{(2)}}{\sum_{i \in C_\ell^{(2)}} w_i^{(1)}}$$

where $\widehat{N}_1^{(2)}, \dots, \widehat{N}_9^{(2)}$ are given in column 2 of the second table of section A.1 and $C_\ell^{(2)}$ is the set of all respondents in cell ℓ .

It is important to recognize that this second calibration partially destroys the calibration done in step 1; in other words, we no longer necessary have that

$$\sum_{i \in C_k} w_i^{(2)} = \widehat{N}_k \quad \text{for } k = 1, \dots, 12$$

where C_k and \widehat{N}_k were defined in step 1 above. Because of this, step 1 will need to be repeated (most likely multiple times) after calibrating to the other benchmark figures of section A.1; see step 4 below.

Step 3: The $w_i^{(2)}$ weights were then calibrated to the 5 educational grouping benchmark figures of the third table of section A.1. This was done using the same post-stratification technique as detailed above, and yielded the $w_i^{(3)}$ weights. As in step 2, this third calibration partially destroys the calibration done in steps 1 and 2, and those two steps will need to be repeated; see step 4 below.

Step 4: Repeat steps 1–3 until convergence; that is until,

$$\sum_{i \in C_k} w_i^{(3)} = \widehat{N}_k \quad \text{for } k = 1, \dots, 12 \quad \sum_{i \in C_\ell^{(2)}} w_i^{(3)} = \widehat{N}_\ell^{(2)} \quad \text{for } \ell = 1, \dots, 9$$

and likewise for the calibrations on education (step 3). In other words, repeating steps 1–3 until convergence ensures that the weights are calibrated to all the benchmark figures of section A.1.

Note that weight trimming (and redistribution) was done at some of the above mentioned steps. This was done to prevent extreme weight variation arising from a few respondents having very large sampling weights.