Swiss Sustainable Consumption Observatory (SSCO) 2021-2023

Key Insights From the First Three Waves

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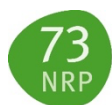
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Executive Summary

On an aggregate level, individual consumer choices in a wide range of domains strongly shape a society's environmental footprint. Decision-makers in policy, society, and industry who aim to promote more sustainable consumption patterns need a thorough understanding of how consumers make decisions in different consumption domains.

The Swiss Sustainable Consumption Observatory (SSCO) is a synthesis activity of the National Research Programme NRP73 (Sustainable Economy). It investigates sustainable consumption patterns in Switzerland, focusing on three domains of consumption relevant from an environmental impact perspective and where individuals have considerable latitude and display considerable variability regarding their behavior. These are food, consumer electronics, and textiles. The core of the SSCO consists of three waves of a repeated cross-sectional survey of Swiss residents. These were conducted between 2021 and 2023 across the major linguistic regions (German, French and Italian) with about 1200 respondents each.

Behavioral patterns and barriers turned out to be largely stable over the three waves. However, minor shifts have been observed, such as a shift in the purchasing channel of consumer electronics (increasing share of online purchases) and in the willingness of consumers to purchase secondhand electronic devices and clothes (slight increase). More importantly, the findings show that behaviors and the perceived barriers to sustainable behaviors differ considerably between the consumption domains (food, electronics, and textiles) and even within them (e.g., for different food items). For instance, participants found it much easier to identify sustainable behaviors when making food purchases rather than textiles or consumer electronics. This highlights the need to understand the specific decision contexts to identify and implement measures that promote and facilitate sustainable consumption behaviors.

Keywords: Sustainable Consumption, National Research Programme 73, Sustainable Economy

Content

1. Background

1.1. Promoting sustainable consumption requires empirical knowledge

On an aggregate level, individual consumer choices in a wide range of areas, such as food, mobility, and electronic devices, strongly influence a society's environmental footprint. This is why consumer behavior, together with technological progress and regulation, is critical to moving societies toward greater sustainability (Betz & Stephan, 2023). Consumers are increasingly aware of the multi-faceted implications of their choices, creating a growing demand for more sustainable products and services. Governments, too, have realized they must do more to promote more sustainable production and consumption patterns, for example, as stated in UN Sustainable Development Goal 12, *Responsible Consumption and Production*[1].

Companies seeking to develop new and more sustainable products based on a viable business model that is attractive to consumers and policy-makers that want to set up a supporting regulatory framework require robust empirical knowledge as a basis for effective decision-making. Several sources can contribute to this knowledge. For example, aggregated national statistics, such as for meat consumption or mobility, can reveal key trends and bottom-up life cycle models (e.g. Froemelt et al., 2020), highlighting the relevance of different consumption domains. However, these sources do not provide information on the choices available to Swiss consumers, nor do they consider psychological factors such as values, social norms, and self-efficacy as drivers and barriers to their behavior. Some studies and statistics provide detailed information about specific consumption domains, such as plant-based food (Coop, 2023) or smartphone purchase, use, and disposal (Skirgaila et al., 2023; Stevens, 2023). However, owing to their detailed focus, they seldom permit meaningful comparisons between consumption domains, which differ not only in their environmental impact but also in how consumers perceive them.

1.2. The Swiss Sustainable Consumption Observatory in brief

The Swiss Sustainable Consumption Observatory (SSCO) is a synthesis activity of the National Research Programme NRP73, entitled *Sustainable Economy: Resource-friendly, future-oriented, innovative*[2]. It serves to enhance our knowledge concerning Swiss residents' sustainable consumption behavior, underlying attitudes and beliefs, and how these may shift over time.

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[1] For details of the SDGs and how they have been adopted by Switzerland, see
https://www.eda.admin.ch/agenda2030/en/home/agenda-2030/die-17-ziele-fuer-eine-nachhaltige-entwicklung/ziel-12-fuer-nachhaltige-konsum-und-produktionsmuster-sorgen.html

[2] For details, see https://nfp73.ch/en

The SSCO brings together scholars from three different NRP 73 research projects that have explored various aspects of sustainable consumer behavior over the past four years[3]. Researchers from University of Lausanne, Zürich University of Applied Sciences, and ETH Zürich make up the team.

The core of the SSCO consists of a representative, repeated, cross-sectional survey among Swiss residents from all parts of the country on various domains and aspects of sustainable consumption, with a particular focus on food, textiles, and consumer electronics. Three survey waves were conducted between 2021 and 2023.

1.3.   Aim of this paper

This paper synthesizes the key results of the first three waves of the SSCO. It aims to provide both scholars and decision-makers in industry with an easily accessible overview of key results, the data, how it was collected, and where and how it can be accessed. This will facilitate additional analyses tailored to the needs of the various stakeholder groups.

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[3] The projects are entitled Sustainable Consumer Behaviour (lead: Prof. Renate Schubert, ETHZ), The influence of environmental identities (Lead: Prof. Czellar, UNIL), and Extending the lifespan of mobile devices (Lead: Dr. Yann Blumer, ZHAW)

2. Methodology

2.1. General approach and timeline

The SSCO is a repeated, cross-sectional online survey based on independent, demographically representative samples of the Swiss population. So far, three waves have been conducted, each about nine months apart (see Table 2). The survey was developed based on a kick-off workshop with stakeholders at the Annual NRP 73 Conference (held online due to COVID-19) in spring 2021, a review of similar cross-sectional surveys and panels focusing on sustainable consumption in Switzerland and internationally, and an internal synthesis workshop among members of the project team in summer 2021. In that workshop, the decision was taken to focus on food, mobile electronic devices, and textiles. These three domains were chosen as people regularly[4] purchase such products (in contrast to other domains, where behavior is governed by a few landmark decisions, such as car ownership or place of residence/work in the case of mobility) and as those domains have a relatively high environmental impact compared to other consumer goods (Jungbluth et al., 2011).

In fall 2021, the survey was pretested, first by researchers from the institutions involved, then by stakeholders of the three participating NRP 73 projects, and finally by a small sample (approx. 50) of online-access panel members. Based on the final version, the survey was professionally translated from English to German, Italian, and French, and again, its accuracy was checked for by members of the project team who were fluent in the respective languages.

The survey remained largely unchanged to ensure comparability between different waves over time. However, minor adjustments were made in the second wave based on feedback from stakeholders concerning the results of the first wave in spring 2022 (Nobs, 2022) and when comments indicated that individual items or answer options were unclear or unhelpful (e.g., owing to ceiling effects). For the third wave, additional items were added (i) to address the effect of high inflation in 2023 due to energy price increases following the Russian invasion of Ukraine and (ii) to obtain more nuanced data concerning selected behaviors. For a full overview of the survey (items, data, etc.), please refer to the additional material section.

2.2. Survey

The SSCO survey consists of three general blocks (see Table 1). The first – also used for quota sampling – consists of various items to better understand participant context (demographics). A second block consists of several established scales to measure

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[4] Food – daily, textiles – approx. monthly, electronics – about once every one to two years

attitudes and perceptions that may help explain participant consumption behavior (individual drivers and barriers). Third, we included detailed items to measure (self-reported) consumption behavior in individual domains; the ones chosen were food, consumer electronics (participants were specifically asked about mobile devices such as smartphones, tablets, and smartwatches), and textiles.

Table 1. Overview of key items (*=only in Wave 1, ** added in Wave 2, *** added in Wave 3). For a full overview of the survey, see additional material

Block	Goal and description	Key items (selection)
1: Demographics	Sampling (quotas), context variables that can be used for segmentation (comparison of different groups) and for explaining differences in consumption behavior	Age, gender[5], language region Education, occupation Political orientation, income Living situation (urban/rural, family status, …) Pet ownership, garden Inflation ***
2: Individual drivers and barriers	Individual traits that are relatively stable over time and may serve as predictors and help to explain consumption behaviors	Environmental identities (Rahmani et al., 2022) Green values, social norms, self-efficacy Dragons of Climate Inaction Psychological barriers*** (Lacroix et al., 2019)
3: Consumption behavior	Various self-assessed consumption behaviors (food/electronics/textiles) and perceptions relevant to the specific domains may serve as outcome variables.	Prevalence of (un-)sustainable behaviors in the different domains Perceived barriers to sustainable behavior Perception of sustainability labels Shopping methods (online/offline)

2.3. Data collection

We used Bilendi[6] as a professional online access panel provider for sampling. The target group was men and women aged 18–65 living in Switzerland. Quotas were used to obtain a sample representing the Swiss population in terms of age, gender, and language region. Hence, samples were similar regarding key demographics (see Table 2). Unless stated otherwise, findings are based on the sample sizes of the respective survey wave(s).

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[5] Response options provided to participants were *female*, *male*, non-binary and *other*.

[6] ISO-certified since Nov 2022

Table 2. Overview and sample description of the three SSCO waves

Block	Wave 1	Wave 2	Wave 3
Field phase	Feb 2022	Dec 2022	Oct 2023
Sample size (number of completed participants)	1223	1185	1179
Gender (share of respondents identifying as females)	51.4%	51.0%	50.6%
Share of participants from the German-speaking part of Switzerland	73.3%	74.9%	75.5%
Share of participants from the French-speaking part of Switzerland	21.8%	21.0%	20.5%
Share of participants from the Italian-speaking part of Switzerland	4.9%	4.1%	4.0%
Average participant age in years	42.4	42.4	42.3
Median duration of survey completion in minutes	23.0	21.7	31.6
Share of a full-time occupation	47.1%	50.1%	52.2%
Share of participants with tertiary education	40.1%	40.5%	43.9%
Share of urban or relatively urban population	49.7%	49.8%	51.2%
Share of "bourgeois parties" (middle to right) political orientation	72.7%	73.8%	75.5%
Mean household income in CHF per month	see note	7747	7755

Note. In Wave 1, household income was assessed categorically. Here, 57 percent stated their monthly income was CHF 9,000 CHF or below, and 15 percent did not declare their income.

2.4.   Data analysis

The data were cleaned for dropouts and survey satisficers[7] and, for the purpose of this paper, merged and analyzed descriptively. If not declared differently, sample sizes correspond to the sizes of the waves (see Table 2). More detailed inferential statistics will be provided in future publications (e.g., Kühne et al., forthcoming).

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[7] Participants who did not complete the survey were excluded, as were survey satisficers, who clicked through the survey. As criteria for exclusion, low response quality (quality below 0.1, assessed by the survey tool Unipark) and short duration (< 7 mins) were applied. Participants who answered open questions with random letters or pejorative comments were also excluded.

3. Results

3.1. Individual drivers of sustainable consumption

General constructs that represent some of the psychological drivers of pro-enviornmental behaviours, such as environmental identity, green values, self-efficacy, and perceived social norms, were stable between waves and above midpoint. This is illustrated by participants' answers to the "green values" items (see Figure 1). Overall, participants tended to agree with most statements, the strongest agreement being with "I am concerned about wasting the resources of our planet."

Figure 1. Results for the "green values" scale (Haws et al., 2014) for all three waves.

3.2. Shopping methods

Participants were asked how many purchases, in percentage, they made in-store and how many online for the different domains. The results indicate (see Figure 2) that across all waves, online shopping applies more to electronics (53.6%) and textiles (45.2%). Online food shopping is still comparatively rare (12.8%). These findings are relevant when selecting effective measures to promote more sustainable consumption.

Food   **Electronics**   **Clothes**

Figure 2. Overview of shopping in-store vs. online across waves and domains.

3.3.   Behavior: Food

In Wave 3, participants were asked what percentage of their food purchases were made in-store, online, and at restaurants/take-away outlets. Like the estimates in Waves 1 and 2, people bought relatively few foods online (7.6% overall). Participants were then asked about several food items with a high environmental impact (red meat, dairy products, coffee, eggs, and chocolate). Only in the case of ground coffee was there a noticeable share of online purchases (17.1%). Items with a slightly higher consumption share at restaurants/take-away outlets were red meat (12.0%) and coffee (11.7%). For details, see Figure 3.

Figure 3. Detailed breakdown of selected food shopping at restaurants/take-away outlets in-store and online in Wave 3.

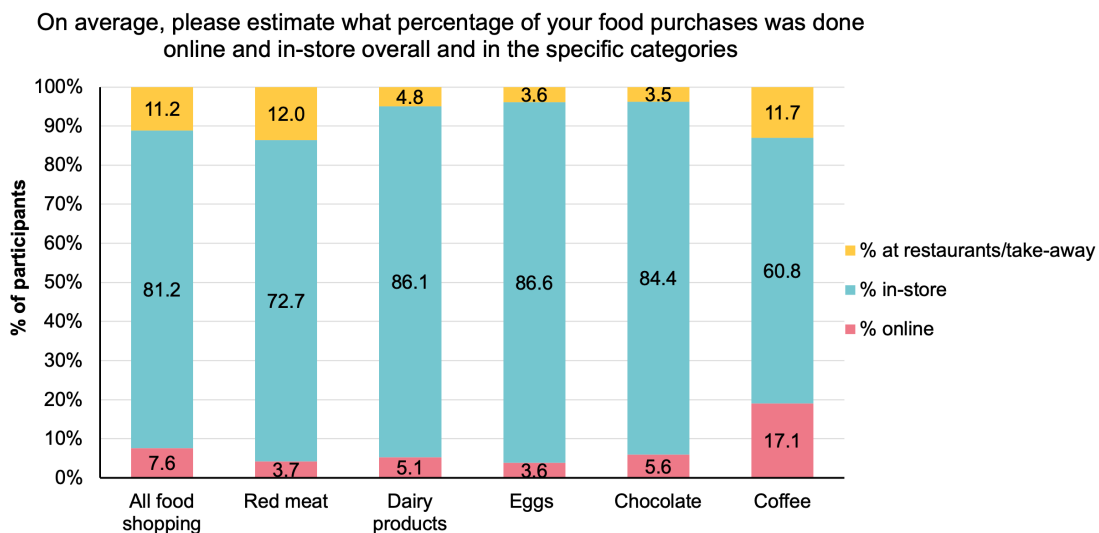Participants showed a consistent pattern across the three waves regarding sustainable food behavior (see Figure 4). They were most likely to separate organic waste (M = 5.68, SD = 1.63), which goes together with the fact that municipalities in Switzerland have the infrastructure for organic waste disposal. Participants were least likely to buy "food products only from companies that have a strong record of protecting the environment" (M = 4.14, SD = 1.65). With regard to "buying environmentally sustainable food products" in Wave 1, there was a clause, "… even if they may not be as good as competing products," which may have resulted in a lower mean for this wave.

1) Sorting organic waste separately
2) Consuming food past its expiry date
3) Purchasing food products in reusable containers
4) Buying environmentally sustainable food products *
5) Buying food products only from companies that have a strong record of protecting the environment
6) Refusing to buy food products with excessive packaging
7) Reducing my consumption of meat and dairy products

*Figure 4. Assessment of different sustainable food behaviors. * Item in W1 had the addition "… even if they may not be as good as competing products".*

For the third wave, behaviors were compared for (self-declared) omnivores (N = 653, 55.4%) and non-omnivores (flexitarian, pescetarian, vegetarian, or vegan (N = 526, 44.6%)). Omnivores indicated lower means (M = 4.68, SD = 1.69) than non-omnivores (M = 5.09, SD = 1.60) in the items in general. Some items seemed to be equally relevant to omnivores and non-omnivores (e.g., consuming food past its expiry date). However, most showed differences even when they were not meat-related (e.g., refusing to buy food products with excessive packaging). Omnivores also stated they ate meat more often (M = 4.14[8], SD = 1.96) than self-described flexitarians (N = 408, M = 5.74, SD = 2.08), suggesting that the self-declared label is not only a meaningful way to assess meat consumption (see Figure 6), but may also a possible predictor for food-related environmentally relevant behaviors (see Figure 5).

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[8] 10 point scale (1 = I eat meat every day, 10 = I never eat meat)

1) Sorting organic waste separately

2) Consuming food past its expiry date

3) Purchasing food products in reusable containers

4) Buying environmentally sustainable food products

5) Buying food products only from companies that have a strong record of protecting the environment

6) Refusing to buy food products with excessive packaging

7) Reducing my consumption of meat and dairy products

Figure 5. Differences between omnivores and non-omnivores in sustainable food behaviors in Wave 3.

Figure 6. Differences between omnivores and flexitarians in the frequency of meat consumption in Wave 3.

In Wave 3, we asked whether participants were willing to reduce their red meat consumption for environmental reasons. Eight percent stated they did not eat meat, 48.1 percent said they had already reduced red meat consumption, 13.2 percent that they intended to reduce red meat consumption in the future, and 30.7 percent said they did not intend to reduce their red meat consumption. We also assessed participants' willingness to replace meat with alternative protein sources (see Figure 7). Respondents who did not want to reduce meat consumption were also generally unwilling to replace this with protein alternatives. Vegetarians and vegans, on the other hand, were mostly ready to try plant-based meat alternatives. Insects and lab-grown foods have a low acceptance level across all the groups.

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There is a growing number of alternatives to animal products (meat and dairy). In the future, would you be willing to replace meat with each of the following food items?
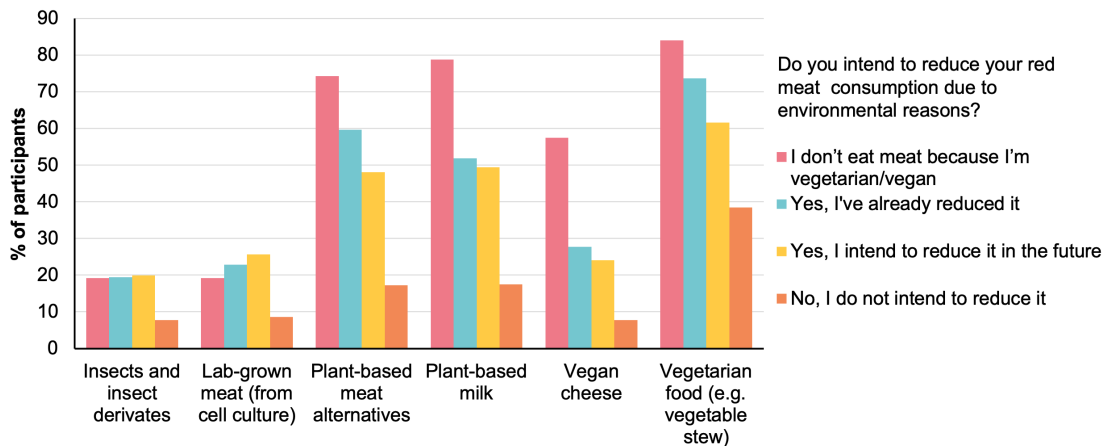

Figure 7. Acceptance of meat alternatives between people with different intentions regarding red meat consumption in Wave 3.

3.4.   Behavior: Electronic devices

Regarding sustainable electronics, participants showed a consistent pattern across the waves. People stated they are most likely to "recycle electronic devices" ($M =$ 5.72, SD = 1.57, assessed in Waves 2 and 3). Electronic devices can be returned at no extra charge (the recycling fee is included in the original purchase price) to every electronics store in Switzerland, making the procedure relatively straightforward. Participants indicated that they are least likely to "replace a device before it is broken" (M = 3.14, SD = 1.83), which was a reversed item in the survey (a high figure here would imply unsustainable behavior). Other items with relatively low means were "purchasing secondhand devices" (M = 3.84, SD = 1.92) and "purchasing electronic devices made of recycled materials even though it is more expensive" (M = 4.04, SD = 1.72)

Concerning the item "Buying environmentally sustainable electronic devices" in Wave 1, there was a clause, "… even if they may not be as good as competing products," which probably resulted in a lower mean. Furthermore, some items were only assessed in Waves 2 and 3 or in Wave 1 (see Figure 8 for details).

1) Looking for ways to reuse electronic devices.

2) Buying environmentally sustainable electronic devices *

3) Purchasing electronic devices made of recycled materials even though they might be more expensive.**

4) Buying electronic devices only from companies that have a strong record of protecting the environment.

5) Purchasing second hand electronic devices.

6) Selling/passing on my used devices

7) Recycling electronic devices (e.g., return them to a store, bring them to an electronics collection point)

8) Buying fewer electronic devices

9) Replace a device before it is broken

10) Repairing electronic devices

*Figure 8. Assessment of different sustainable electronics behaviors. *Item in Wave 1 had the clause, "… even if they may not work be as good as competing products." **Wording of item in Wave 1 was slightly different; "…even though it is more expensive."*

In Wave 3, we asked what participants did with their old smartphones when they replaced them. People said they "keep their smartphone at home" (37.2%), "took the smartphone to the recycling" (18.7%), "gave the smartphone as a gift" (10.9%), or "sold the smartphone" (10.5%). For details, see Figure 9.

Figure 9. Assessment of the fate of old smartphones by Wave 3 participants.

3.5.   Behavior: Textiles

As with electronic purchases, participants showed a consistent pattern across the three waves. People stated that they were most likely to "Recycle clothes (e.g., return

them to the store)" (*M* = 5.46, *SD* = 1.71). Here, we added an example in brackets, "bring them to a textile collection point," for Waves 2 and 3, which may have resulted in higher means. In Switzerland, there are many textile collection points in public places (often beside recycling containers for glass), so highlighting this facility may have affected the responses. Participants were least likely to "purchase secondhand clothes" (*M* = 3.70, *SD* = 2.10) or "purchase clothes made of recycled materials even though they are more expensive" (*M* = 4.11, *SD* = 1.73).

Concerning the item "Buying environmentally sustainable clothes" in Wave 1 there was a clause, "… even if they may not be as good as competing products," which probably resulted in a lower mean. Furthermore, some items were only assessed in Waves 2 and 3 or in Wave 1. See Figure 10 for an overview.
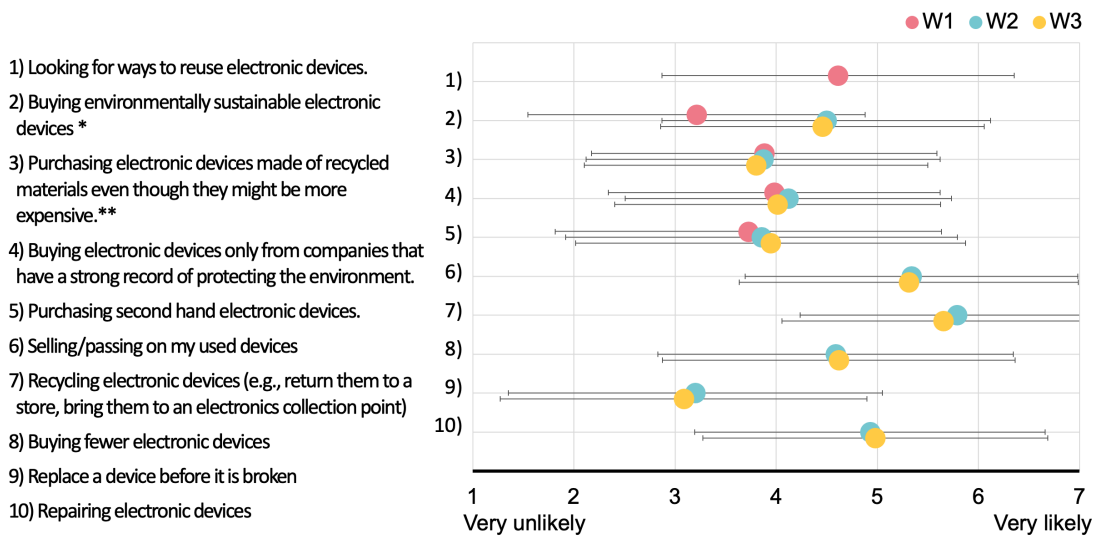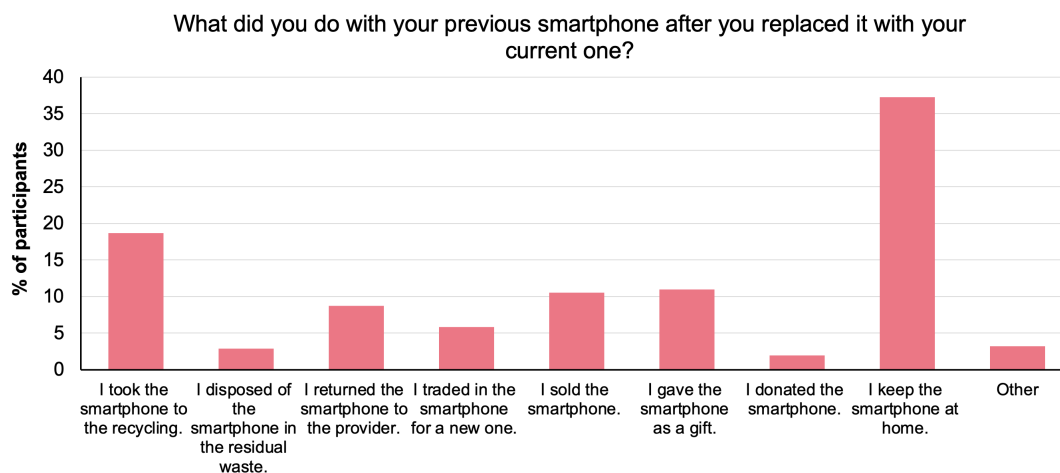

1) Looking for ways to reuse clothes.
2) Recycling clothes (e.g., return them to the store). *
3) Buying environmentally sustainable clothes. **
4) Purchasing clothes made of recycled materials even though they might be more expensive. ***
5) Buying clothes only from companies that have a strong record of protecting the environment.
6) Buying from Swiss-based clothes companies.
7) Selling/passing on my used clothes
8) Purchasing second hand clothes
9) Buying fewer clothes
10) Buying organic cotton clothes

*Figure 10. Assessment of different sustainable textile behaviors. *Item in Waves 2 & 3 had the clause, "bring them to a textile collection point." ** Item in Wave 1 had the clause, "… even if they may not be as good as competing products." *** Wording of item in Wave 1 was slightly different; "…even though it is more expensive."*

In Wave 3, we asked what people did with the clothes they no longer needed. Most people stated that they "put them in the recycling bin for clothes" (65.5%), "donate them to places like the Salvation Army" (45.5%), or "give them away for free to family or friends" (36.7%). See Figure 11 for an overview

What do you do with clothes you do not want to keep anymore? (choose all that apply)
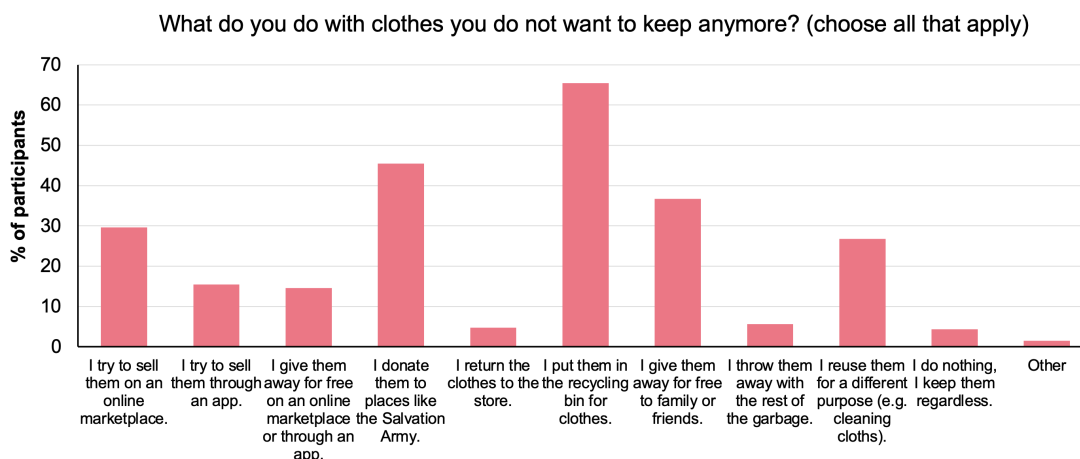
Figure 11. Assessment of the fate of clothes people do not want to keep (Wave 3).

3.6. Comparison between consumption domains

Comparing sustainable consumer behavior in a particular domain with that in others can be helpful in understanding where similarities and differences lie. However, not all items can be compared directly across domains, so fewer items may be displayed in the following analyses than in the ones above.

3.6.1. Behaviors in all three domains across the waves

Only two items, "Buying products from companies that have a strong record of protecting the environment" and "Buying environmentally sustainable products," were assessed in all three domains[9]. Across the waves, the descriptive statistics indicate a higher likeliness to show sustainable behavior in the food domain (M = 4.82, SD = 1.47) than in electronics (M = 4.48, SD = 1.61) or textiles (M = 4.42, SD = 1.61). Concerning the items assessed in electronics and textiles, a difference is indicated in respect of people "buying fewer products," with people more likely to buy fewer clothes (M = 4.88, SD = 1.78) than electronic products (M = 4.60, SD = 1.75). Similarly, participants indicated that they are more likely to "purchase products made of recycled materials even though they are more expensive" in the textiles domain (M = 4.11, SD = 1.73) than in the electronics domain (M = 3.85, SD = 1.75). For details, see Figure 12.

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[9] As some items were added or slightly changed between Waves 1 and 2, the means shown here are only across Waves 2 and 3. Only the items "Buying products only from companies that have a strong record of protecting the environment" and "Purchasing products made of recycled materials even though they might be more expensive" were kept (rather) constant and displayed here across all three waves.

1) Buying environmentally sustainable food products / electronic devices / clothes.

2) Buying food products / electronic devices / clothes only from companies that have a strong record of protecting the environment

3) Selling/passing on my used devices/clothes

4) Recycling electronic devices / clothes (e.g., return them to a store, bring them to an electronics collection point)

5) Purchasing electronic devices / clothes made of recycled materials even though they might be more expensive

6) Purchasing second hand electronic devices / clothes

7) Buying fewer electronic devices / clothes

Figure 12. Assessment of different behaviors between *domains* across the waves. Dots indicate means across the waves.

3.6.2. Secondhand purchases (electronics vs. textiles)

Regarding secondhand shopping behavior in electronics and textiles, people were asked how often they purchased pre-owned items. Across the waves, participants were more likely to buy secondhand electronic goods than secondhand clothes. There was a small trend towards buying more secondhand products in both domains. Explaining why they did not purchase secondhand textiles, people frequently commented that they felt it was unhygienic to wear the clothes someone else had worn before. Figure 13 provides an overview of the responses concerning secondhand purchases across the waves for electronics and textiles.

Figure 13. Violin plots of secondhand purchasing behavior across the waves for electronics and textiles.

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3.6.3. Barriers (all domains)
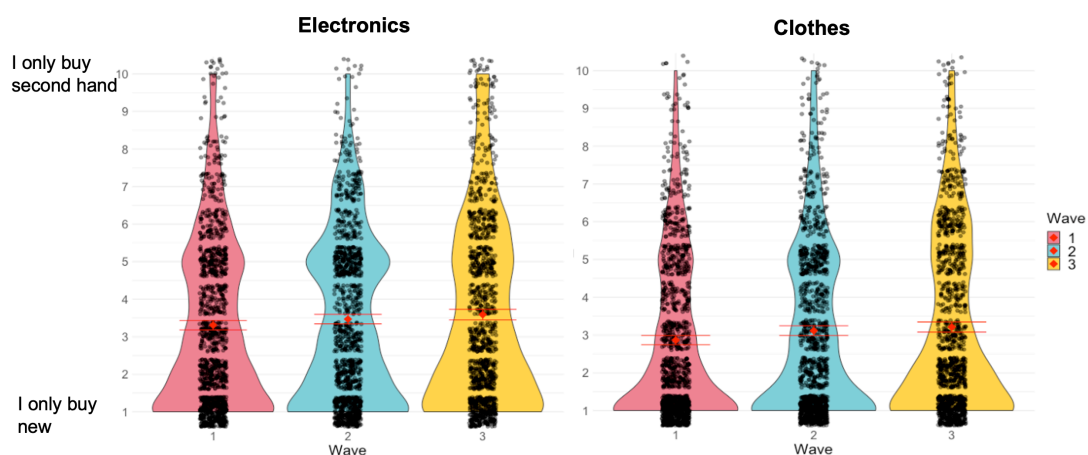
There is a relatively consistent pattern within the domains and across the waves regarding perceived barriers to sustainable consumption. Having said this, the barriers seem to differ between the domains. The barrier mentioned most often by food purchasers across the waves was "Environmentally sustainable food products are too expensive," (50.7%), followed by "I do not think that labels indicating a product's environmental sustainability are reliable" (37.9%), and "It is hard to give up the products I like, even if I know they are environmentally unsustainable" (35.5%).

For electronics, the most frequently cited barrier was "I do not know how to distinguish between environmentally sustainable and unsustainable electronic devices" (40.2%), followed by "Environmentally sustainable electronic devices are too expensive" (31.9%), and "I do not think that labels indicating environmental sustainability of electronic devices are reliable" (30.8%).

For textiles, the most frequently cited barrier was "Environmentally sustainable clothes are too expensive" (36.5%), followed by "I do not think that labels indicating the environmental sustainability of clothes are reliable" (31.0%), and "I do not know how to distinguish between environmentally sustainable and unsustainable clothes" (28.8%). This implies that different barriers deter people from acting in a more environmentally sustainable way depending on the domain. The most pressing issues seem to be clarity concerning which items, or categories of items, are in fact more eco-friendly than others, consumer trust in label claims, higher prices of sustainable products, and reluctance to forego a favorite "unsustainable" item. For an overview of perceived barriers across the three consumption domains, see Figure 14.

Figure 14. Assessment of purchasing barriers across waves for (A) food, (B) electronics, and (C) textiles.

3.6.4. Inflation (all domains)

Regarding inflation in general, most people agreed that "goods and services have become more expensive in the last 12 months" ($M = 6.20$, $SD = 1.17$). Participants said this was most noticeable in the food domain ($M = 6.24$, $SD = 1.16$) and less so for electronics ($M = 5.03$, $SD = 1.63$) and textiles ($M = 4.96$, $SD = 1.65$). For details, see Figure 15.

General Inflation
I have noticed that...

1) ... goods and services have become more expensive in the last 12 months.

2) ... food has become more expensive in the last 12 months.

3) ... electronics have become more expensive in the last 12 months.

4) ... clothes have become more expensive in the last 12 months

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1        2        3        4        5        6        7
Do not agree at all                          Fully agree
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Figure 15. Participant perception of inflation in general and for each domain in Wave 3.

Some differences are noticeable when looking at the effects of inflation on changes in shopping behavior in the three domains. Participants reported that on account of rising prices, they had purchased fewer textil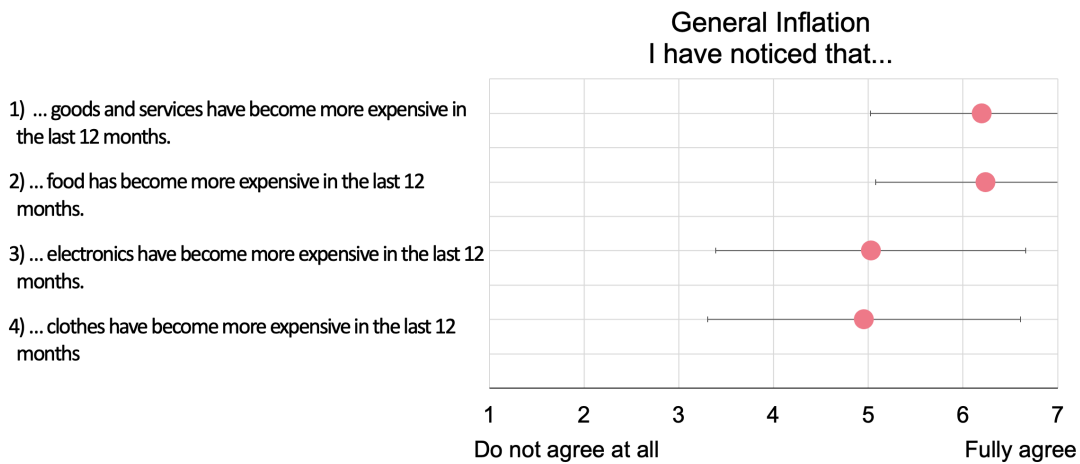es (M = 3.57, SD = 1.22) and electronic products (M = 3.45, SD = 1.22) than food products (M = 2.94, SD = 1.15). At the same time, people were more likely to buy clothes outside Switzerland (M = 2.55, SD = 1.33) than food (M = 2.16, SD = 1.32) or electronics (M = 2.08, SD = 1.26). People also said they tried to sell their old electronic devices (M = 3.34, SD = 1.30) more often than their old clothes (M = 2.83, SD = 1.48), suggesting that inflation-beating behavior differs between the domains.

It should be noted that participants were randomly assigned to one of the three domains, leading to 385 responses for food, 393 responses for electronics, and 391 responses for textiles. For details, see Figure 16.

1) I purchase less food/electronics/clothing.

2) I have become more price sensitive when it comes to food/electronics/clothing.

3) I compromise on food/electronics/clothing quality.

4) I compromise on food/electronics/clothing sustainability.

5) I do more of my food/electronics/clothing shopping abroad.

6) I try to use my electronic devices/cltohes for a longer time.

7) I seek to purchase second hand electronic devices/clothes.

8) I try to sell my old electronic devices/clothes.

● Food (N=385)   ● Electronics (N=393)   ● Clothes (N=391)

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1              2              3              4              5
Does not apply at all                      Strongly applies
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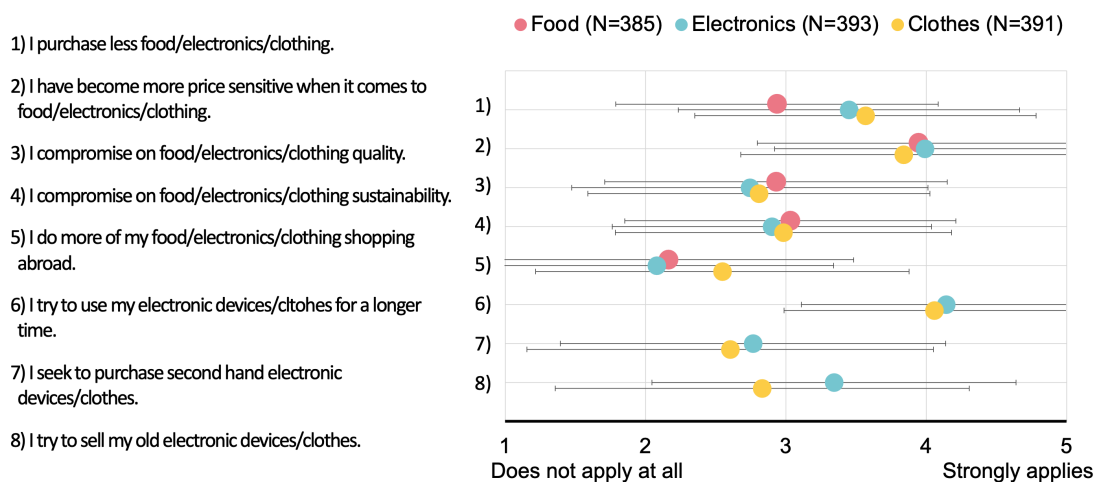
Figure 16. The influence of inflation on shopping behavior for each domain in Wave 3.

3.7. Differences in behavior between demographic groups

The analysis of the data from Wave 3 illustrates that consumer engagement in specific pro-environmental behaviors within the three domains appears to differ between socio-demographic groups. Participants identifying as females (*N* = 596) compared to males (*N* = 583) tended to engage in more environmentally friendly behaviours in all domains. However, the trend is most pronounced for circular consumption behavior, where female participants reported more instances of selling, passing on, or recycling their used electronic devices or clothes and buying more secondhand products (see Figure 17).

Another tendency is that consumers leaning towards the left politically (*N* = 281) compared to middle-right (i.e., more conservative) parties (*N* = 867) generally engaged more in pro-environmental behaviors across all domains. They reported buying more environmentally sustainable products (primarily food) and also paying more attention to companies' records on environmental protection practices. Like the gender differentiation, left-leaning participants reported buying more secondhand electronic devices and textiles.

The prevalence of circular consumption behaviors also seems to vary between generations. Recycling practices for electronic devices and clothes were more frequent among the "Boomers" (born 1946-1964; *N* = 132), who also tended to buy fewer products, especially clothes. "Generation X" (born 1965-1980; *N* = 474), "Generation Y" (Millennials born 1981-1995; *N* = 371), and "Generation Z" (1996-2010; *N* = 202), on the other hand, were more engaged with the secondhand market, selling/passing on and purchasing used electronic devices and clothes.

1) Buying environmentally sustainable food products / electronic devices / clothes.

2) Buying food products / electronic devices / clothes only from companies that have a strong record of protecting the environment

3) Selling/passing on my used devices/clothes

4) Recycling electronic devices / clothes (e.g., return them to a store, bring them to an electronics collection point)

5) Purchasing electronic devices / clothes made of recycled materials even though they might be more expensive

6) Purchasing second hand electronic devices / clothes

7) Buying fewer electronic devices / clothes

Figure 17. Assessment of different behaviors across domains by gender (Wave 3).

4. Synthesis

The SSCO explores sustainability practices in three critical consumption domains (food, electronics, and textiles) based on three waves of a representative, cross-sectional online survey among Swiss residents. Here are the key findings that may be relevant to decision-makers wanting to promote more sustainable consumption patterns in Switzerland and scholars wishing to pursue further research.

Comparing consumption domains helps understand individual behaviors

While barely any significant shifts occurred over the three years in terms of sustainable behaviors or perceived individual barriers and drivers, the findings indicate some marked differences in how participants behave and conceptualize different consumption domains. Notably, the level of sustainability awareness – as indicated by a likelihood to adopt sustainable behaviors and the perceived barriers to this – is most developed for food. At the same time, participants seem to find it more challenging to link sustainability and their individual purchasing decisions when buying textiles and (even more so) consumer electronics. Consequently, different strategies for promoting sustainable consumption are needed to address the various issues. For example, more (trustworthy) information may be necessary to help consumers identify sustainable practices in textile or electronic goods manufacturing. By contrast, most people know that consuming less meat and dairy would be environmentally beneficial, so other barriers (e.g., price, quality, attractiveness of alternatives) need to be addressed in order to facilitate more sustainable food consumption practices.

The decision context matters

Our empirical findings underscore the importance of the decision context in shaping environmentally relevant behavior. For example, when designing measures to promote more sustainable consumption patterns, consideration should be given as to whether purchasing choices are made online or offline. While food predominantly remains an in-store purchase, about 50 percent of electronics and textile purchases are made online. However, this varies significantly between participants and within each domain. For instance, certain high-impact food choices, such as coffee and red meat, are more commonly consumed outside the home or (in the case of coffee) ordered online, unlike most other food items. Moreover, the prevalence of sustainable behavior highlights the critical role of the decision infrastructure. For example, the high incidence of recycling for textiles and electronic devices reflects Switzerland's high density of collection points. However, consumers' focus on recycling in each domain (paired with lesser desire to purchase the recycled, second-hand products or give up favorite food) might overshadow the feasibility and necessity of other sustainable practices to consumers. Hence, and in line with existing research, our findings

emphasize that green behavior need not be significantly more complicated than non-green alternatives. Simplicity remains vital to encouraging sustainable practices.

Sound empirical basis and the need for future analyses

The SSCO data provide a starting point for a more in-depth understanding of sustainable consumer behavior in Switzerland. Further analysis will be conducted in forthcoming studies by the research team, for example, exploring in greater detail the specific barriers to sustainable consumption (Kühne et al., forthcoming). The data and survey are published in an open repository to permit further analysis by scholars and decision-makers seeking to better understand and promote sustainable consumption (see additional material). A continuation of the SSCO beyond NRP 73 is planned, presumably as part of the Swiss Environmental Panel[10].

Recommendations and limitations

Based on our findings, we would recommend a series of measures to reduce consumer resistance to sustainable behavior. For example, in the case of food, participants were concerned about the prices of sustainably produced food, and one solution could be to reduce any subsidies for less environmentally sustainable products (e.g., dairy and meat). Another issue is the lack of trust in sustainability labels across domains. Governmental and non-governmental entities such as environmental NGOs, large retailers, and sectoral trade associations should try to harmonize sustainability labels across domains, safeguard the trustworthiness of these labels, and help consumers identify sustainable products and services more efficiently (see Kühne et al., 2023). This is especially true for consumer electronics and textiles, where many consumers said they could not distinguish between sustainable and non-sustainable products. Consumers can also be proactive, for example, by reducing red meat consumption and buying secondhand clothes and electronics instead of new ones – a behavior suitable even when on a limited budget.

Although our study has many strengths, such as the representativeness of different language regions and the cross-sectional design, it also has limitations. For example, it did not assess the same participants between the waves (meaning we have no longitudinal data), and some question items were amended between waves, which have led to some constrains in the possible comparisons over time. This needs to be considered when interpreting the data.

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[10] https://istp.ethz.ch/research/sep.html

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6. Additional Information

Additional information on the study can be found on our project page on Open Science Framework (OSF): https://osf.io/qzmwg.

Information includes:

- Surveys with specific items (English version)
- Codebook of the survey (English version)
- Raw data of waves 1 and 2 (Wave 3 will be published later this year)