Best-ReMaP
Healthy Food for a Healthy Future

D5.3: REPORT ON REFORMULATION MONITORING:

MONITORING IMPLEMENTATION, NUTRITIONAL COMPOSITION COMPARISONS AND IMPACTS ON NUTRIENT INTAKES

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2. Abbreviations

Anses	Agence Nationale de Sécurité Sanitaire de l'Alimentation, de l'Environnement et du Travail
AGES	Austrian Agency for Health and Food Safety
BMASGK	Bundesministerium für Arbeit, Soziales, Gesundheit und Konsumenschutz (Austria)
CIPH	Hrvatski Zavod za Javno Zdravstvo (Croatia)
DGS	Ministerio da Saude – Republica Portuguesa (Portugal)
DoH	Department of Health (Ireland)
DVFA	Fodevarestyrelsen (Denmark)
EE	Estonia
FOP	Front of pack
FR	France
FSAI	Food Safety Authority of Ireland
GTIN	Global Trade Item Number
ICH	Institouton Ygeias tou Paidiou (Greece)
ISS	Instituto Superiore di Sanita (Italy)
MCA	Ministry of Civil Affairs (Bosnia and Herzegovina)
MFH	Ministry for Health – Government of Malta
MoH CY	Ministry of Health of the Republic of Cyprus
MoH-FR	The French Ministry of Solidarity and Health
MoSA	Sotsiaalministeerium (Estonia)
MRI	Max Rubner Institut Bundesforschungsinstitut für Ernährung und Lebensmittel (Germany)
MS	Member state
NCPHA	Natsionalen Centar Po Obshtestveno Zdrave i Analizi (Bulgaria)

NIJZ	Nacionalni Institut za Javno Zdravje (Slovenia)
NIPH	Institutul National de Sanatate Publica (Romania)
NIPN	National Institute of Pharmacy and Nutrition (Hungary)
NL	The Netherlands
PHI-FBH	Institute of Public Health of Federation of Bosnia and Herzegovina
PHI-RS	Public Health Institute of Republic of Srpska
RIVM	Rijksinstituut voor Volksgezondheid en Milieu (Netherlands)
SKU	Stock Keeping Unit
SU	Semmelweis Egyetem (Hungary)
SUM	Slaski Uniwersytet Medyczny w Katowicach (Poland)
THL	Finnish Institute of Health and Welfare (Finland)
WP	Work package

3. Glossary

Term	Definition
Composition data	Represents the nutrient content of food. It can be defined at two different levels : - generic level for generic food like 'apple' or 'cola' ; - brand level for branded food like 'Coca Cola Light' or 'Kellogg's cornflakes'
Consumption data	Represents the quantity of food eaten by an individual and by day for different food items
Processed food	The term processed food means the product, resulting from the application of physical, chemical or biological processes or combinations of these to a "primary food commodity", intended for direct sale to the consumer, for direct use as an ingredient in the manufacture of food or for further processing[1]

[1] FAO/WHO (1993). Codex Alimentarius Volume 2 Pesticides residues in food. [consulted in May 2021] http://www.fao.org/fao-who-codexalimentarius/sh-proxy/fr/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FStandards%252FCXA%2B4-1989%252FCXA_004e.pdf

4. Executive summary

The Best-ReMaP Joint Action is a three-year project (October 2020 – September 2023), involving EU Member States on diet and nutrition with a special focus on children. The principal aim is to identify, adapt, replicate and implement practices that have proven to work in the areas of food reformulation, food marketing and public procurement of foods in public settings (kindergartens, schools and hospitals).

According to the latest figures, one in four children in Europe is overweight or obese. Unhealthy diet is one of the main contributing factors to childhood obesity. It is important for European Member States to implement nutrition policies to reduce obesity pandemic and to prevent obesity related diseases. Some examples of these policies may include reducing the impact of harmful marketing of food to children, improving the quality of food provided in public institutions and promoting processed food reformulation.

Within the Joint Action, an entire work package was dedicated to share and promote the best practices on how to implement a European sustainable and coordinated monitoring system for processed food reformulation : the Work Package 5 (WP5).

The methodology and the guidelines to collect, codify, verify and analyse data in a harmonized way have been shared among partners and presented in a previous deliverable (see D5.2). The objective of this report is to present :

- the first analyses made on the data collected across some of the participating countries: individual reports on statistical analysis of the data collected, written respectively by every partner who was involved in the first snapshot (T0) data collection (four countries) and some of the follow-up (T1) data collection (six countries);
- the first trend analysis of food composition for several countries and comparisons between countries and the impact of the observed evolutions on nutrient intakes.

Best-ReMaP WP5 has enabled to collect more than 50 000 products codified in the same categories and subcategories. Moreover, around 20 000 pre-existing data has been gathered and codified in order to feed the FABLE European database. Due to limited time, all data gathered during Best Remap have not been yet analysed. The first analyses show that all statistical treatments have to be conducted at the subcategory level, due to differences in the food offer between subcategories and countries. First trend analysis of composition evolution between countries shows that there is room for reformulation for the majority of countries and subcategories of products. First assessment of the impact on nutrient intakes shows differences depending on the country but that reformulation affect all social classes the same way, thus reducing health inequities (case study on France). This report presents the results obtained within the framework of the project but more in depth analyses will be conducted during the Joint Action Prevent-NCD (2024-2027).

5. Introduction

The main objective of the WP5 of Best Remap was to share and promote the best practices on how to implement a European sustainable monitoring system for processed food reformulation. For that purpose, common tools and methods have been defined, participating countries have been trained, and a first or a second data collection has been implemented in 18 European countries. The goal of the deliverable is to present:

- data collections for the 18 European countries and the statistical analyses of the data with help of indicators realized by 10 of them;
- the first trend analysis of the comparison of the evolution of food offer and nutritional composition for the eight countries for which two datasets were available in July 2023: Austria, Belgium, Estonia, France, Germany, Hungary, Ireland and Romania;
- the first trend analysis of the assessment of impact of nutritional composition evolution on the nutrient intake of the population for countries for the eight same countries : Austria, Belgium, Estonia, France, Germany, Hungary, Ireland and Romania.

6. Data collection and production of indicators at the country level

Best-ReMaP data collections have been implemented between 2021 and 2023 depending on the countries and have covered five priority food categories (Bread products, Breakfast cereals, Delicatessen meat and similar, Fresh dairy products and desserts and Soft drinks), targeted because they represent the main contributors to the intakes of sugar, salt, fat and saturated fat for children *(Deliverable 5.2).*

6.1 Countries without preexisting data

The first data collection occurred between July 2021 and July 2022 for Ireland[2], Bosnia Herzegovina/Republic of Srpska, Poland and Croatia, corresponding to countries without preexisting data (i.e. which had never collected data on the given food categories prior to Best-ReMaP) (see Table 1). A total of 7590 products has been gathered, including 1182 Bread products, 1120 Breakfast cereals, 1997 Delicatessen meat and similar, 1404 Fresh dairy products and desserts and 1887 Soft drinks. For these countries, indicators were produced according to the methodology described in D5.2 part 11. Methodology for the data treatment. Detailed countries reports are provided in Annexes 1 and 2 uploaded on the Best-ReMaP website: https://bestremap.eu/wp-content/uploads/2023/09/Annexes-D5.3-Report-on-reformulation-monitoring.pdf

Table 1 : Years of data collection and number of products collected from July 2021 to July 2022 by category and country

	Bosnia Herzegovina/ Republic of Srpska		**Croatia**		**Ireland**		**Poland**		
Best-ReMaP category	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	Total
Bread products	2022	209	2021-22	183	2021	538	2021	252	1182
Breakfast cereals	2022	291	2021-22	285	2021	367	2021	177	1120
Delicatessen meats and similar	2022	744	2021-22	81	2021	706	2022	466	1997
Fresh dairy products and desserts	2022	247	2021-22	63	2021	713	2022	381	1404
Soft drinks	2022	484	2021-22	285	2021	790	2022	328	1887
Total	1975		897		3114		1604		**7590**

[2] Ireland is an exception as they have preexisting data only for Breakfast cereals and Yoghurts (part of Fresh dairy products and desserts) but were part of the first data collection.

6.2. Countries with preexisting data

6.2.1. Countries with preexisting data collected on their own

In the case of countries who have, before Best-ReMaP, collected on their own data for at least one considered food category (Austria, Belgium, Estonia, Germany, Hungary, Ireland[3] and Romania), the Best-ReMaP data collection occurred between March 2022 and February 2023 (see Table 2). The majority of the participating countries have collected the five food categories but due to domestic constraints, Germany has not collected Bread products and Delicatessen meat and similar. However, not all countries have preexisting data for the five food categories (Table 3). For these countries, indicators were produced to monitor the evolution of the food offer and nutritional composition according to the methodology described in D5.2 part 11.Methodology for the data treatment. Detailed countries reports are provided in Annexes 1 and 2 uploaded on the Best-ReMaP website: https://bestremap.eu/wp-content/uploads/2023/09/Annexes-D5.3-Report-on-reformulation-monitoring.pdf.

Table 2 : Years of data collection and number of products collected between March 2022 and February 2023 by category and country

	Austria		**Belgium**		**Estonia**		**Germany**		**Hungary**		**Romania**		
Best-ReMaP category	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	Total
Bread products	2022	341	2022	629	2022	484	None		2022	254	2022	402	2648
Breakfast cereals	2022	312	2022	371	2022	523	2022	1490	2022	237	2022	291	3591
Delicatessen meats and similar	2022	1087	2022	1175	2022	1042	None		2022	886	2022	382	5278
Fresh dairy products and desserts	2022	610	2022	1116	2022	782	2022	1283	2022	454	2022	741	5699
Soft drinks	2022	1219	2022	1936	2022	1175	2022	3021	2022	768	2022	709	9618
Total	3569		5227		4006		5794		2599		2525		23720

Table 3 : Years of data collection and number of products from preexisting data collection (prior to Best-ReMaP) by category and country

	Austria		**Belgium**		**Estonia**		**Germany**		**Hungary**		**Ireland**		**Romania**		
Best-ReMaP category	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	*Years of data collection*	*Number of products*	Total
Bread products	None		2018	353	2018	286	2020	833	2020	78	None		None		1550
Breakfast cereals	2020-2021	940	2018	182	2018	323	2021	923	2020	204	2016	452	2016 (Janpa)	220	3244
Delicatessen meats and similar	2020	1318	2018	530	2018	807	2020	2512	2020	600	None		None		5767
Fresh dairy products and desserts	2018-2019	940	2018	550	2018	531	2021	1501	2020	147	2016	573	None		4242
Soft drinks	2020-2021	1381	2018	626	2018	821	2021	1931	2020	306	None		2016 (Janpa)	475	5540
Total	4579		2241		2768		7700		1335		1025		695		20343

[3] Ireland is an exception as they have preexisting data only for Breakfast cereals and Yoghurts (part of Fresh dairy products and desserts) but were part of the first data collection

6.2.2. Countries with preexisting data corresponding to EUREMO

For the last countries (Bulgaria, Denmark, Finland, Greece, Italia, Portugal, Slovenia and Malta), they do not have, before Best-ReMaP, collected on their own data for the considered food categories but were included in the Euremo project. The Best-ReMaP data collection occurred between July 2022 and July 2023 (Table 4). The timeline of the project did not enable to realize data treatment, these data will be analysed during the next joint action Prevent-NCD.

Table 4 : Years of data collection and number of products collected from July 2022 to July 2023 by category and country

Best-ReMaP category	Bulgaria	Denmark	Finland	Greece	Italia	Portugal	Slovenia	Malta	Total
Bread products	291	393	619	470	379	261	466	-	2879
Breakfast cereals	181	321	348	272	321	321	561	328	2653
Delicatessen meats and similar	817	1041	241	392	795	629	1088	701	5704
Fresh dairy products and desserts	370	351	398	414	693	786	1025	-	4028
Soft drinks	618	923	270	646	835	746	1105	790	5933
Total	2277	3029	1867	2194	3023	2743	4245	1819	21197

6.3. Data collection synthesis

This project has enable to gather an unprecedented number of products linked with preexisting data (EUREMO or other preexisting data) for 14 countries. A total of 52 507 products has been gathered during Best-ReMaP, including 6171 Bread products, 6997 Breakfast cereals, 12273 Delicatessen meat and similar, 10418 Fresh dairy products and desserts and 16648 Soft drinks (Figure 1).

The timeline of the Best-ReMaP project did not enable to realize an in-depth analysis of the evolution of the food offer and nutritional composition (including reformulation) but has enabled to have first trends before the Prevent-NCD joint action which will give the opportunity to analyse more deeply the results and link them with national public policies.

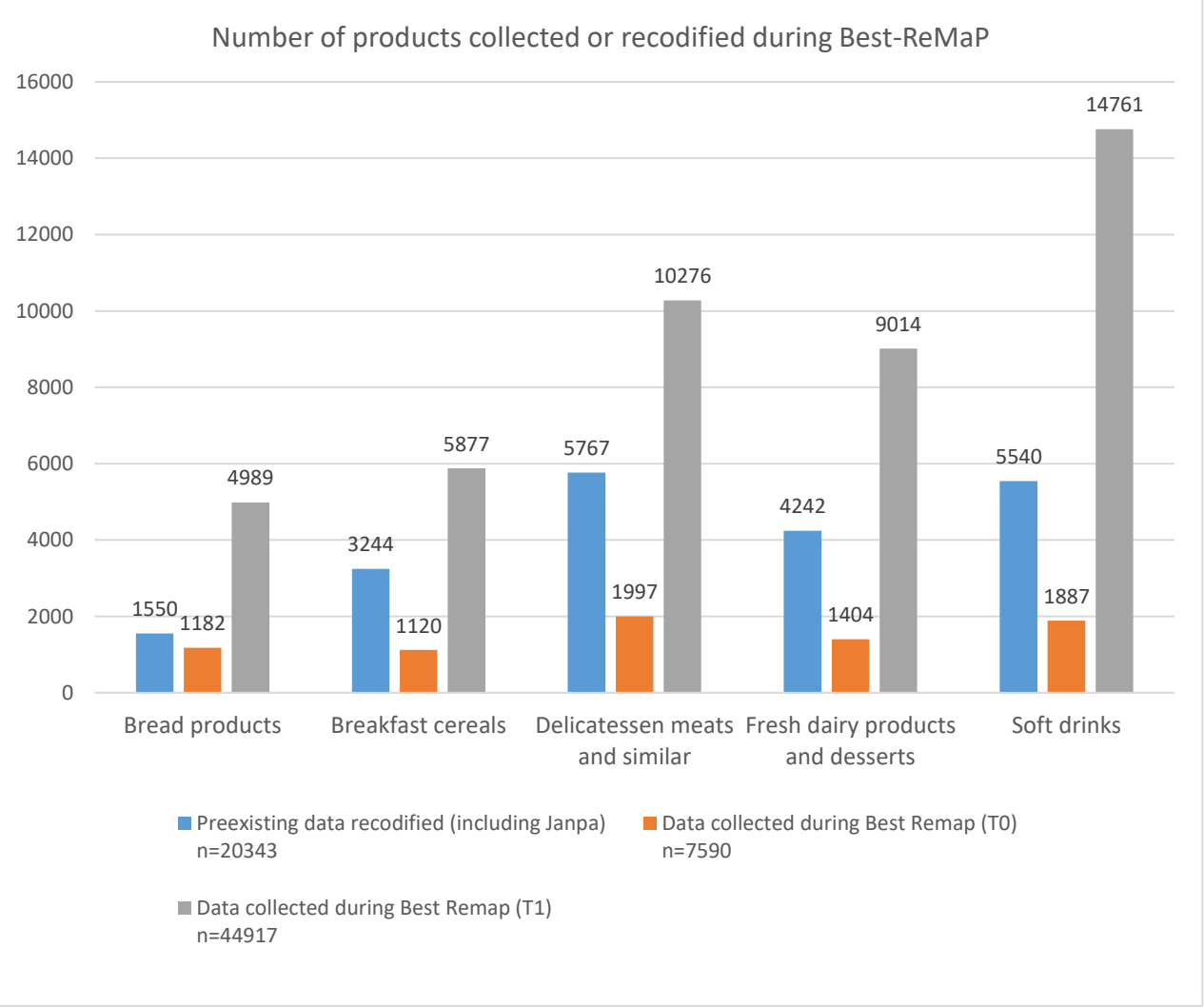

Figure 1 : Number of products collected or recodified during Best-ReMaP

7. First trend analysis of the comparison of the evolution of food offer and nutritional composition between countries

The objective is to compare the food offer and changes in nutritional composition (including reformulation) of studied processed food between countries for which two datasets for at least one of the five considered food categories are available, namely: Belgium, Estonia, France, Hungary, Ireland, Austria, Germany and Romania. Countries concerned have collected branded composition data belonging to at least two categories considered during Best-ReMaP (Bread products, Breakfast cereals, Delicatessen meats and similar, Fresh dairy products and desserts and Soft drinks) and have preexisting data, collected prior to the project, for the same food categories.

7.1. Methodology

Preexisting data collected prior to Best-ReMaP represents the state of play of the food offer (T0) and data collected during Best-ReMaP the follow up of the food offer (T1). France is an exception as two datasets were already available (no data collected during Best-ReMaP).

Table 5 presents the years of each data collections and the number of subcategories collected at both times by country. For all countries, indicators on changes over time are generated only when data is available for a given subcategory both at T0 and T1.

As described in the Table 5, Belgium, Estonia, France and Hungary have two datasets (one for each time point) for the five categories, and are therefore included in the studies for all of them.

Ireland, Romania, Germany and Austria do not have data for all food categories and will then only appear in the comparisons for which data by category are available at both times:

- Ireland: Breakfast cereals, Fresh dairy products and desserts;
- Germany: Breakfast cereals, Soft drinks and Fresh dairy products and desserts;
- Austria: Breakfast cereals, Delicatessen meats and similar, Soft drinks and Fresh dairy products and desserts;
- Romania: Breakfast cereals and Soft drinks.

Regarding the large amount of data collected per country and the time available for the project, a non-exhaustive selection of indicators for comparison is presented in this section (*for more details on the monitoring of food supply per country, please refer to annexes 1 and 2 uploaded on the Best-ReMaP website: https://bestremap.eu/wp-content/uploads/2023/09/Annexes-D5.3-Report-on-reformulation-monitoring.pdf*.):

- The total number of products collected at T0 and T1 per category and country,
- The distribution of products collected at T1 into the available subcategories per country, by category (only T1 data is compared here for the good readability of the graphs) [without products belonging to the subcategories excluded from data collection (see D.5.2 part 10.3 for more details)],

- The evolution over time of the mean content by nutrient (g/100g) per subcategory and country. For this part, statistical analysis were carried out for each country and subcategory to identify whether the average content evolution was significant or not (permutation test, using R studio).

For each of the five categories, a selection of relevant nutrients has been realized to present their mean content evolution:

- For Bread products: Saturated fat, Salt, Sugar;
- For Breakfast cereals: Saturated fat, Sugar, Salt;
- For Delicatessen meats and similar: Fat, Saturated fat, Salt ;
- For Fresh dairy products and desserts: Fat, Saturated fat, Sugar ;
- For Soft drinks: Sugar.

When comparing data, it is necessary to take into account that there are differences in time intervals between data collections. For instance for Breakfast cereals, there is a two-year gap between T0 and T1 in Austria and a six-year gap in Romania.

It is also necessary to consider that there are differences in the processed food offer available at a given time depending on the year of the collection (due to the turnover through time).

Table 5 : Branded dataset available by category and country for the comparisons of the processed food offer and nutritional composition

		Austria		Romania		Belgium		Estonie		Hungary		Germany		France		Irlande	
		T0	T1	T0	T1	T0	T1	T0	T1	T0	T1	T0	T1	T0	T1	T0	T1
Bread products	*Years of data collection*	No comparison		No comparison		2018	2022-2023	2018	2022-2023	2020	2022-2023	No comparison		2009	2019	No comparison	
	Subcategories considered for comparison					17/19		10/19		4/19				18/19			
Breakfast cereals	*Years of data collection*	2020-2021	2022-2023	2016 (Janpa)	2022-2023	2018	2022-2023	2018	2022-2023	2020	2022-2023	2019	2022-2023	2008	2018	2016-2017	2021
	Subcategories considered for comparison	14/16		14/16		14/16		15/16		12/16		15/16		14/16		13/16	
Delicatessen meats and similar	*Years of data collection*	2020	2022-2023	No comparison		2018	2022-2023	2018	2022-2023	2020	2022-2023	No comparison		2010	2013	No comparison	
	Subcategories considered for comparison	14/18				15/18		15/18		11/18				9/18			
Fresh dairy products and desserts	*Years of data collection*	2018-2019	2022-2023	No comparison		2018	2022-2023	2020	2022-2023	2020	2022-2023	2019	2022-2023	2009	2019	2016-2017	2021
	Subcategories considered for comparison	14/21				18/21		16/21		8/21		6/21		19/21		11/21	
Soft Drinks	*Years of data collection*	2020	2022-2023	2016 (Janpa)	2022-2023	2018	2022-2023	2018	2022-2023	2020	2022-2023	2019	2022-2023	2009	2019	No comparison	
	Subcategories considered for comparison	26/27		17/27		24/27		26/27		21/27		22/27		22/27			

7.2. Results

7.2.1. Comparison of the number of products collected at T0 and T1 by country

This first part compares the number of products collected in the different European countries for each food category and the distribution of collected subcategories for T1 per country and category. These results allow to analyse the diversity of the food offer for the participating countries and the differences observed between countries.

7.2.1.1. Bread products

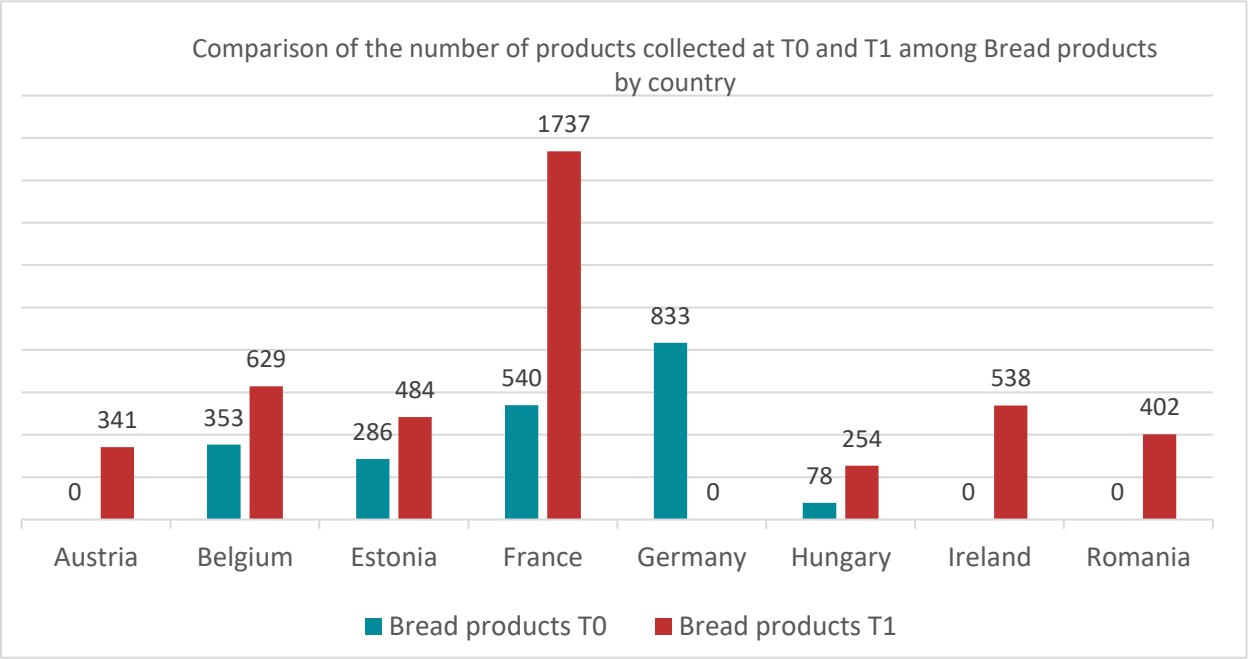

Figure 2 : Comparison of the number of products collected during T0 and T1 data collection among Bread products, by country

As seen on Figure 2, it appears that during T1, more Bread products were collected for almost all countries (explained for most of the countries both by the fact that the data collection was more exhaustive at T1 and because more subcategories were considered under the Bread products for Best-ReMaP). An exception is made for Germany, who had not collected such products for T1, due to a specific adaptation of the timeline to fit their national constraints (*for more details, see D5.2. part 10.3).* Moreover, for Austria, Ireland and Romania, the data collection conducted during Best-ReMaP constitutes an initial database for Bread products, as no preexisting data was available.

Figure 3 shows the subcategories distribution among products collected at T1 belonging to Bread products, for the seven countries considered. It shows that the food offer is different from one country to another, both in terms of number of subcategories represented and proportion of products found for a given subcategory. For example, the offer appears to be more diversified in Belgium, Estonia, France, Ireland and Romania (with 19 or more subcategories of products represented against less than 15 for other countries). For these five countries, the highest number of subcategories covered can be explained by the fact that the data collection was more exhaustive compared to the other countries and maybe because of a more diversified food offer.

If some subcategories such as Wholemeal cereal grains sandwich breads / hamburger / hot dogs buns, Pre-packaged breads and Pre-baked breads seem to be well represented in all countries, some others appear to be much more represented only in some countries, as for subcategory Fine bakery wares other, which is better represented in Estonia, Romania, Hungary and Austria.

In conclusion, Bread products collected during T1 across Europe show that the supply can highly vary depending on the countries and is not comparable from one country to another. This highlights that nutrient comparisons between countries has to be done at the subcategory level in order to compare similar products. If not, results will not only reflect the differences in nutritional composition but also the differences in the food offer itself.

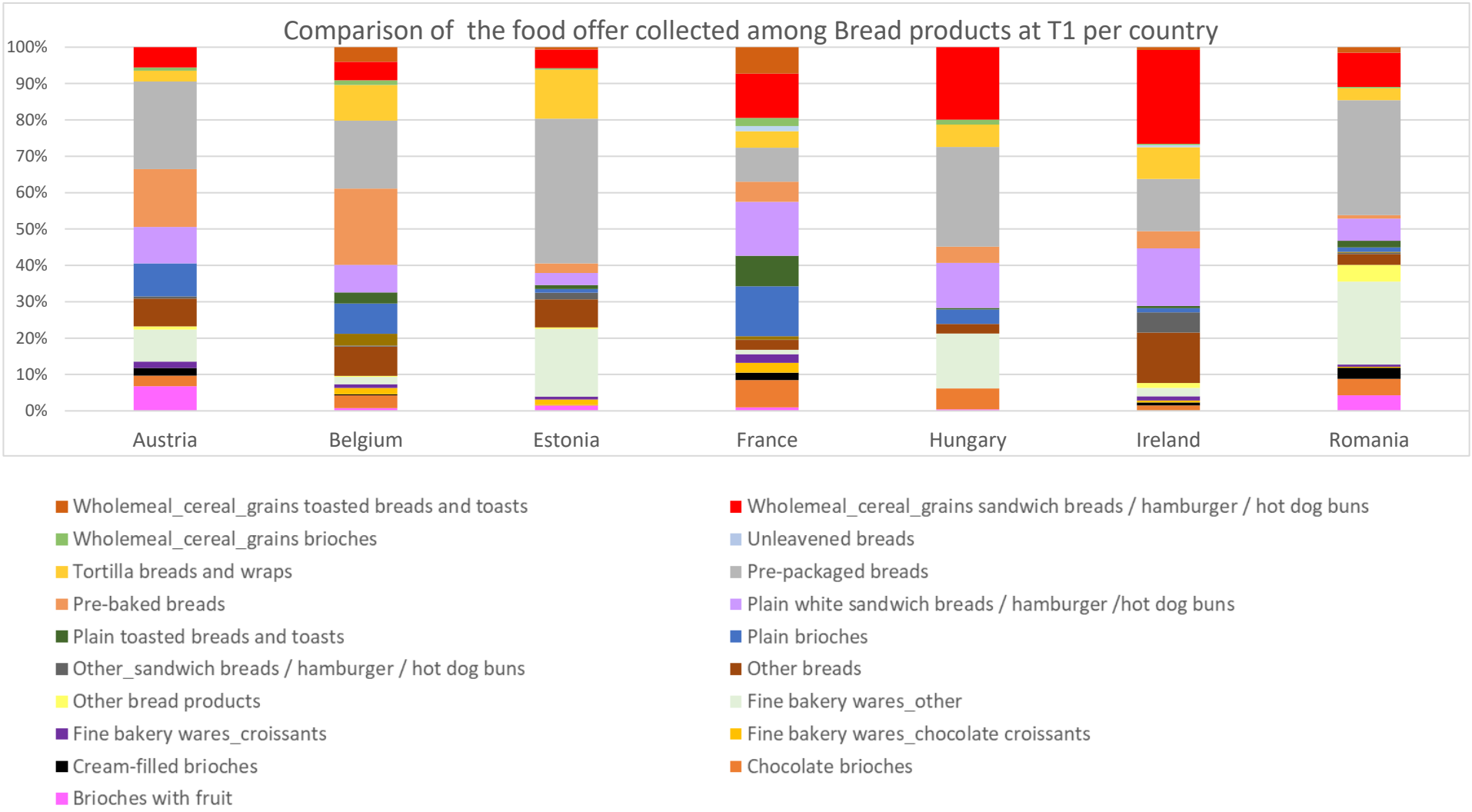

Figure 3 : Distribution of references collected during T1 among Bread products subcategories by country

7.2.1.2. Breakfast cereals

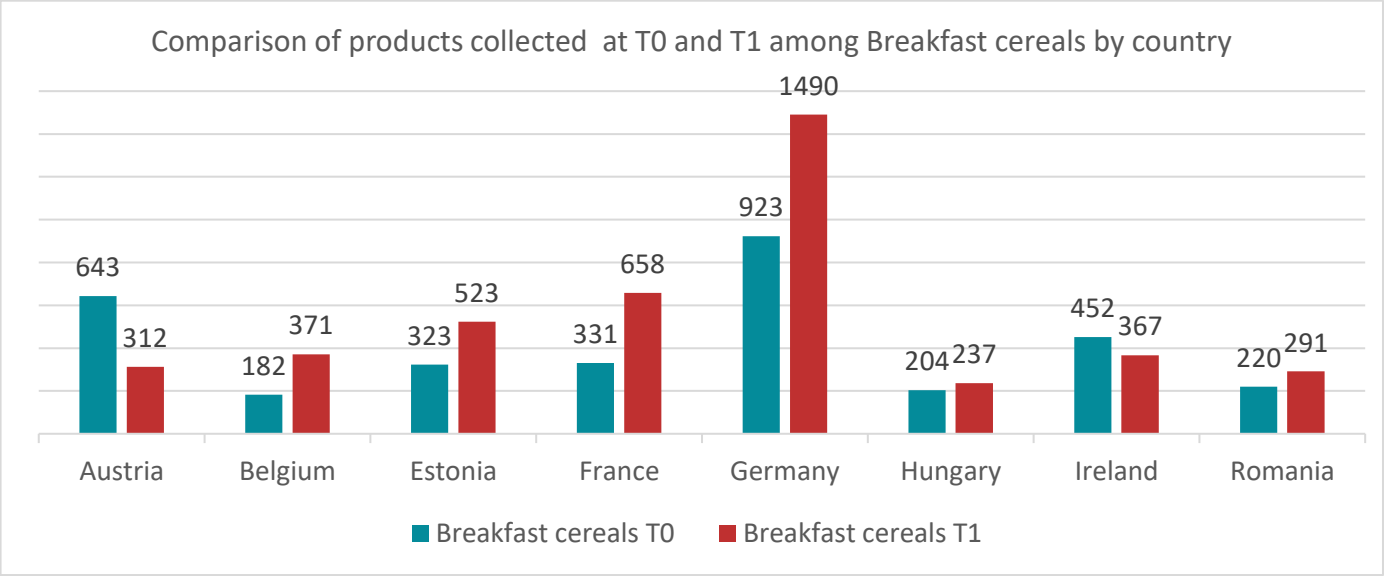

Figure 4 : Comparison of the number of products collected during T0 and T1 data collection among Breakfast cereals, by country

Figure 4 shows the number of products collected for Breakfast cereals, during T0 and T1, among the eight countries considered. For the majority of countries represented here, more products were found during T1 data collection compared to T0. This tendency can be explained for most of the countries both by the fact that the data collection was more exhaustive at T1 and because more subcategories were considered under the Breakfast cereals category for Best-ReMaP. It is not the case for Austria (T0 data collection contains more than twice as many products than T1) and Ireland (around 100 additional products collected during T0).

Biggest differences in the number of products collected between times are observed for Austria, Belgium, Estonia, France and Germany (more than 200 additional references). Such differences can be explained mainly by a more exhaustive data collection and maybe by the addition of new products on the market.

Figure 5 shows the subcategories distribution among products collected at T1 belonging to Breakfast cereals. It appears that even if the proportion of products per subcategory varies according to the country, the overall offer is quite similar for all countries, except for Germany and to a lesser extend Hungary. If some breakfast cereals such as Traditional muesli flakes, Crunchy fruit muesli, Crunchy chocolate muesli, Chocolate-flavoured cereals or Cereals without added sugar are well represented in all countries, the proportion of Traditional muesli flakes is much higher in Germany and Hungary than in the other countries. On the opposite, the proportion of Cereals without added sugar is much lower in Germany, Hungary (and also in France).

In conclusion, the Breakfast cereals offer per country seems to be similar in terms of types of products present on the market. However, the number of references collected and therefore the proportion of each subcategory highly varies from country to country.

The classification in subcategories allows visualizing the diversity of breakfast cereals and highlights that nutrient comparisons between countries has to be done at the subcategory level in order to compare similar products. If not, results will not only reflect the differences in nutritional composition but also the differences in the food offer itself.

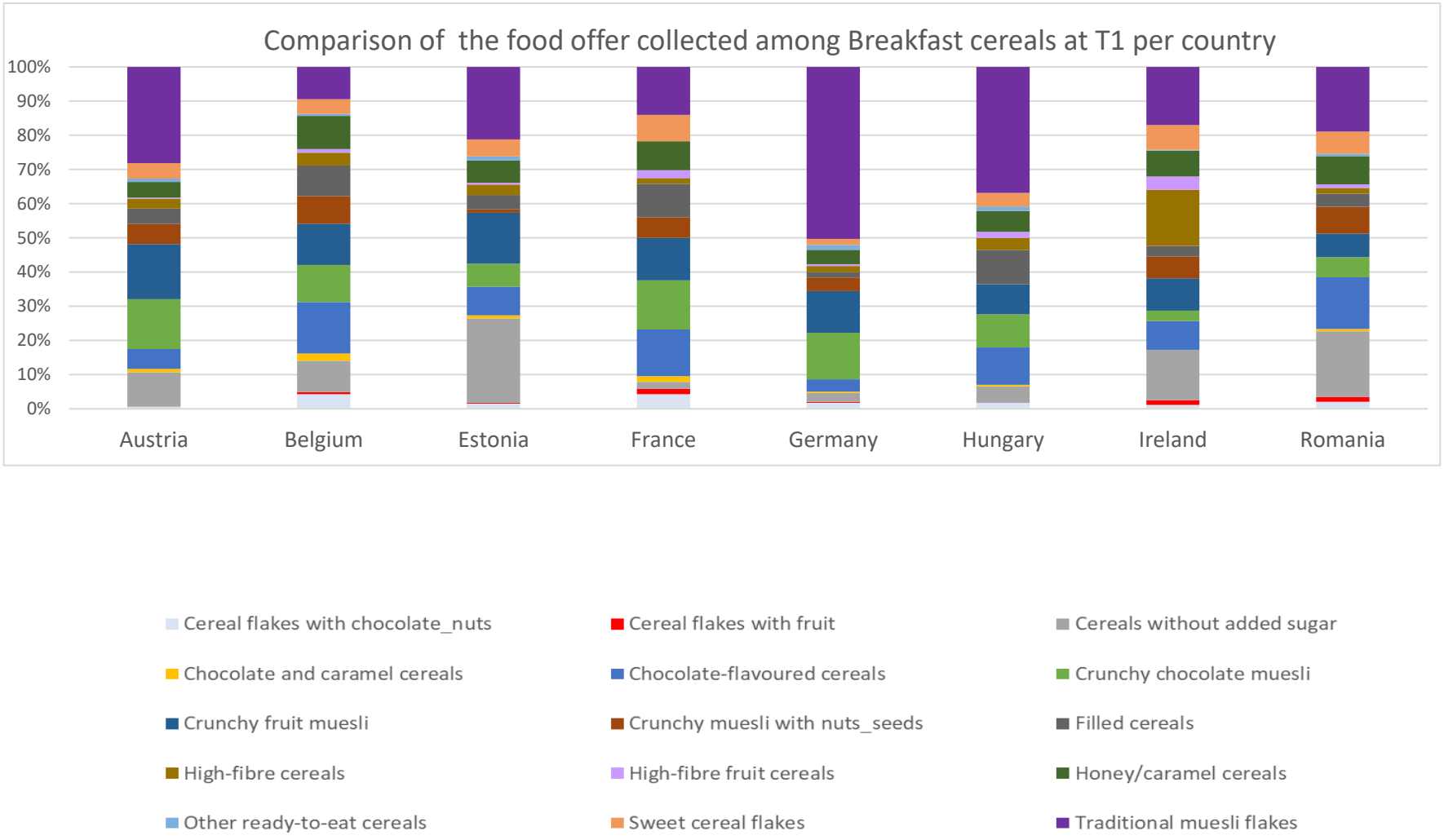

Figure 5 : Comparison of references collected during T1 among Breakfast cereals subcategories, by country

7.2.1.3. Delicatessen meats and similar

Figure 6 : Comparison of the number of products collected during T0 and T1 among Delicatessen meats and similar, by country

The number of products collected per country during the two data collections among Delicatessen meats and similar is presented on Figure 6. For four countries out of eight (Belgium, Estonia, France and Hungary), the T1 data collection contains more references that the T0. This can be explained for most of the countries both by the fact that the data collection was more exhaustive at T1 and because more subcategories were considered under the Delicatessen meats and similar Best-ReMaP category. Moreover, it can be noted that for Ireland and Romania, data collection conducted during Best-ReMaP enables the creation of an initial database for Delicatessen meats and similar.

Due to a specific adaptation of the timeline for data collection to fit Germany national constraints, there was no data collected for T1 for Delicatessen meats and similar for this country.

Overall, it appears that the food offer for Delicatessen meats and similar category is large in all countries, especially in Austria, Belgium, Estonia, France and Germany (more than 1000 references collected for one or both time points).

Figure 7 shows the subcategories distribution among products collected at T1 for Delicatessen meats and similar. It can be seen that the food offer differs depending on the country, some presenting more subcategories, thus a most diversified food offer, such as Belgium, Ireland, Hungary and Estonia (more than 15 subcategories of products). However, there are some subcategories well represented through all countries such as Sausages, Dry sausage, Pâté and Cooked pork ham and roast (packaged).

In conclusion, Delicatessen meats and similar offer varies according to the country even if some types of products seem to be found all across these countries. This highlights that nutrient comparisons between countries has to be done at the subcategory level in order to compare similar products. If not, results will not only reflect the differences in nutritional composition but also the differences in the food offer itself.

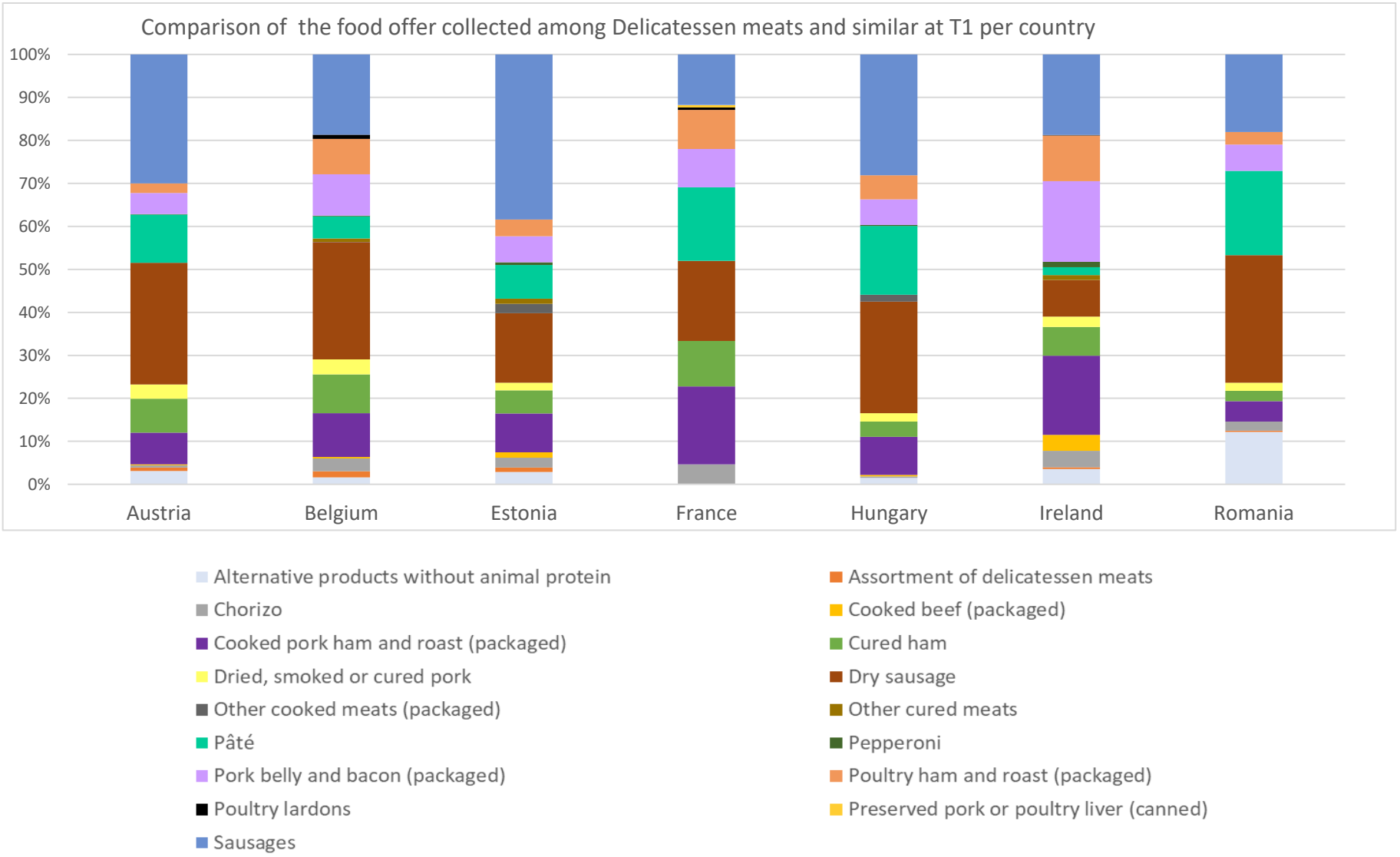

Figure 7 : Comparison of references collected during T1 among Delicatessen meats and similar subcategories, by country

7.2.1.4. Fresh dairy products and desserts

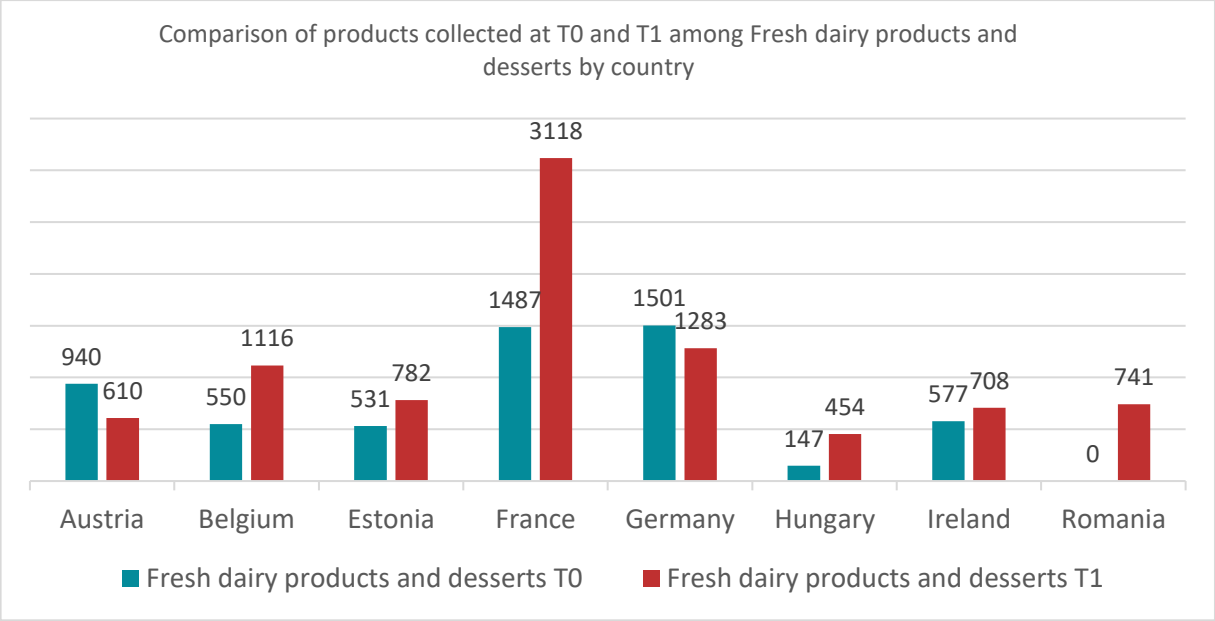

Figure 8 : Comparison of the number of products collected during T0 and T1 among Fresh dairy products and desserts, by country

Figure 8 shows the number of Fresh dairy products and desserts collected per data collection and country. For the majority of the countries, T1 data collection is wider than the T0. This can be explained for most of the countries both by the fact that the data collection was more exhaustive at T1 and because more subcategories were considered under the Fresh dairy products and desserts for Best-ReMaP. Exception is observed in Austria and Germany, where T0 data collection was more provided, but this can be due to a less exhaustive data collection at T1, fewer shops visited at T1 or the removal of some types of products from market (*detailed results are available in annexes 1 and 2 uploaded on the Best-ReMaP website: https://bestremap.eu/wp-content/uploads/2023/09/Annexes-D5.3-Report-on-reformulation-monitoring.pdf*.). Finally, for Romania, Best-ReMaP data collection has led to set up an initial database providing a market overview, as no preexisting data was available.

Details on the subcategories distribution of T1 Fresh dairy products and desserts are presented in Figure 9. Food offer for this category greatly varies depending on the country, with many subcategories of products represented in almost all countries (between 18 and 21). For Germany, only seven subcategories representing different types of yoghurts and fresh cheeses have been collected (on purpose). Moreover, the food offer seems to be more diversified in some countries such as France, Belgium and Austria (with all 21 subcategories represented).

Additionally, yoghurts-type products classified into Classic sweet yogurt and fermented milks and Gourmet sweet yoghurts and fermented milks are the most common products and are well represented in all countries.

In conclusion, classification into subcategories reflects the great variability of products found on the market and the differences in supply from one country to another. This highlights that nutrient comparisons between countries has to be done at the subcategory level in order to compare similar products. If not, results will not only reflect the differences in nutritional composition but also the differences in the food offer itself.

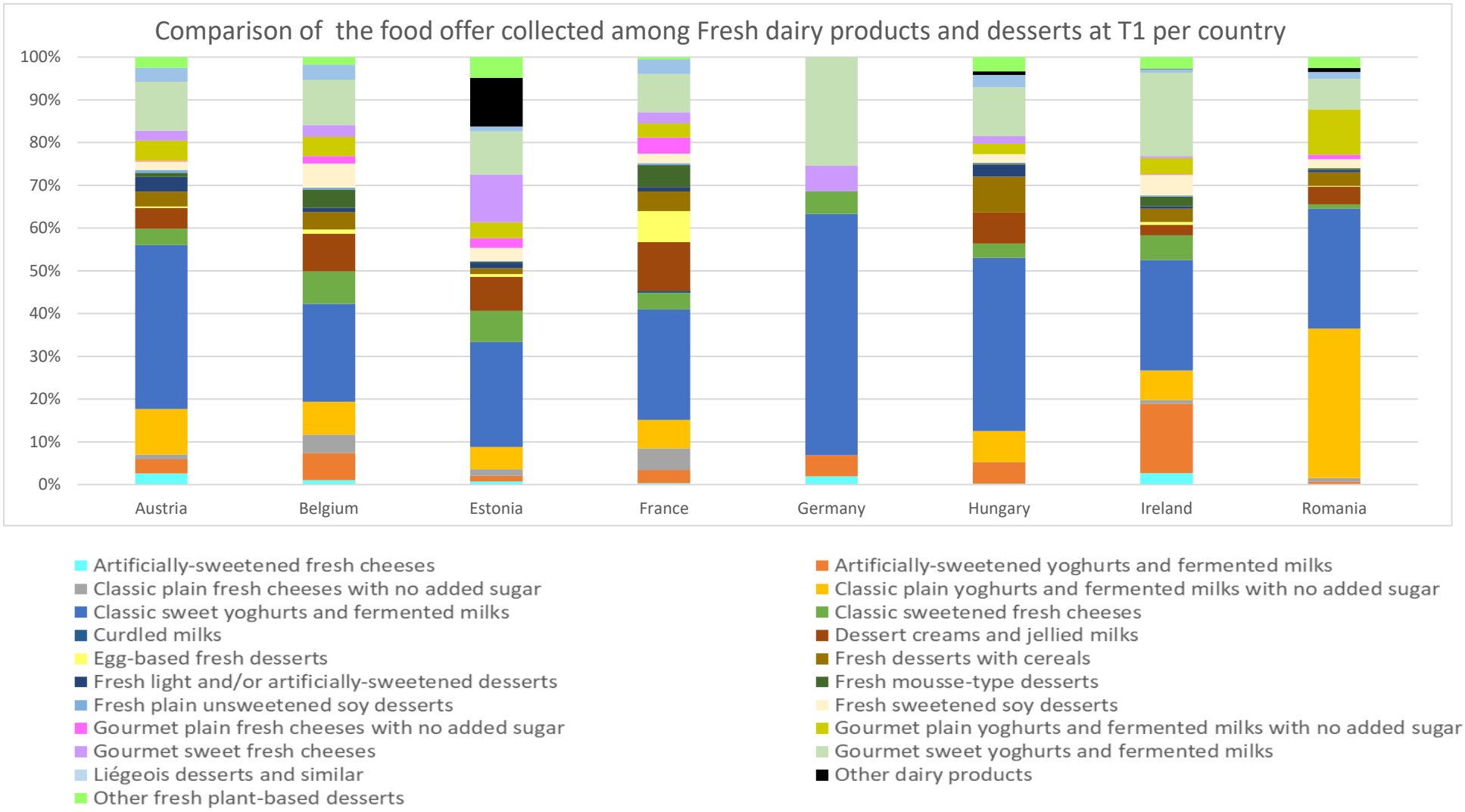

Figure 9 : Comparison of references collected during T1 among Fresh dairy products and desserts subcategories, per country

7.2.1.5. Soft drinks

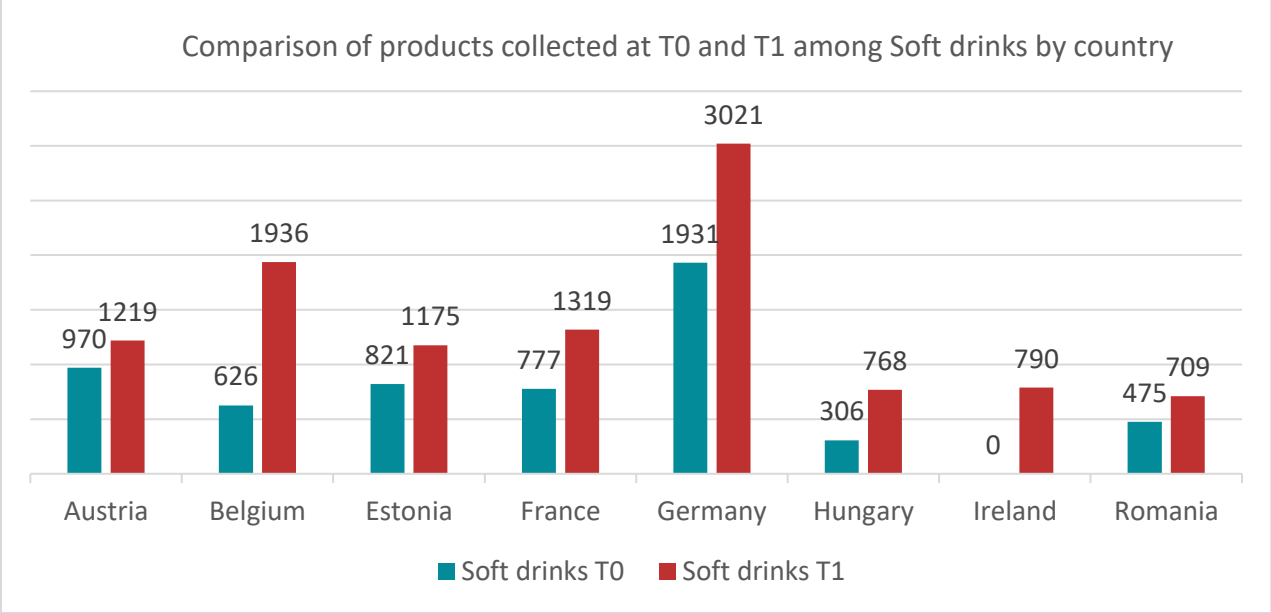

Figure 10 : Comparison of the number of products collected during T0 and T1 among Soft drinks, by country

As seen on Figure 10, the number of products collected for Soft drinks category during T1 is higher than during T0 for all the countries considered. This can be explained for most of the countries both by the fact that the data collection was more exhaustive at T1 and because more subcategories were considered under the Soft drinks. Moreover, for Ireland, data collection conducted during Best-ReMaP enables to set up an initial database that gives an overview of the Soft drinks offer in their country.

Details on the subcategories distribution among products for Soft drinks collected at T1 are shown on Figure 11. It appears that for all countries the offer contains a wide range of different types of soft drinks. Moreover, it is highly variable from one country to another, and not many subcategories seem to be overall well represented on all markets except for Sugar-sweetened fruit beverages.

In conclusion, classification into subcategories allows to identify the great diversity of the food market within a country but also from one country to another, highlighting that nutrient comparisons between countries has to be done at the subcategory level in order to compare similar products. If not, results will not only reflect the differences in nutritional composition but also the differences in the food offer itself.

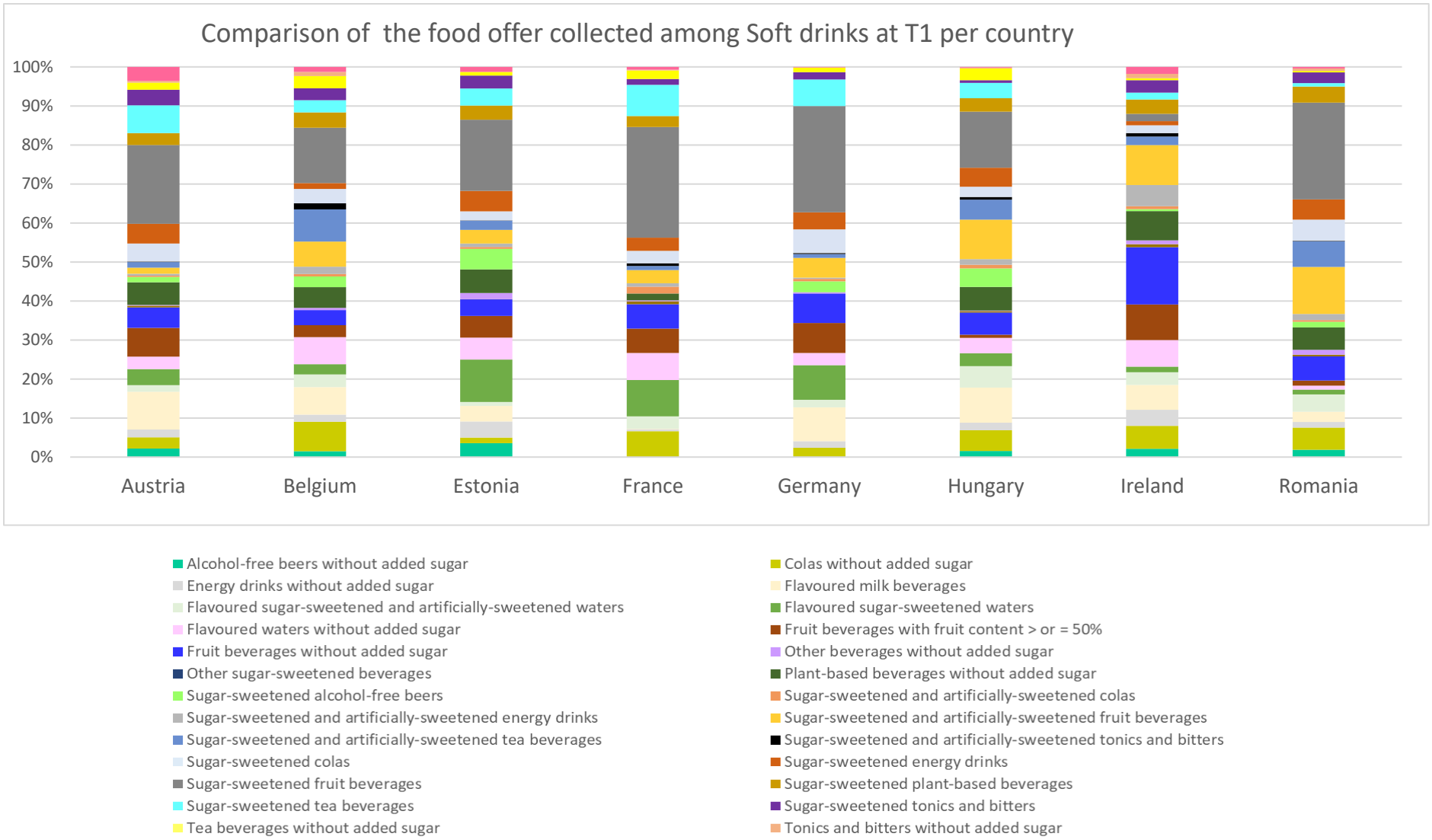

Figure 11 : Comparison of references collected during T1 among Soft drinks subcategories, by country

7.2.2. Comparison of nutritional values evolution per category and country

Summary tables present the mean content for each nutrient, by subcategory, country and data collection. The evolution has been characterized for all countries with two datasets available per category and subcategory (one for each time point). A selection of boxplots has been added to illustrate more precisely the distribution of the studied nutritional values among a given subcategory between countries but due to differences in data collections' dates and time gap between countries, it is not possible to compare the results directly. A more in depth analysis will be realized during the next joint action Prevent-NCD.

7.2.2.1. Bread products

Relevant nutrients selected to compare Bread products' nutritional values among concerned countries are: Saturated fat, Sugar and Salt.

7.2.2.1.1. Saturated fat

Table 6 shows the mean saturated fat content (g/100g) among Bread products subcategories for each data collection (T0 and T1) and country, with the associated differences over time (g/100g).

The mean value for saturated fat differs greatly depending on the subcategory, with a mean value below 3g/100g for the majority of breads, but with higher values for brioches and bakery wares (up to 14.7g/100g for Fine bakery wares_chocolate croissants in France at T0).

Overall, the evolution of saturated fat content among Bread products collected across Europe seems to differ according to the country.

No significant differences are observed for saturated fat in Belgium and Hungary.

Significant increases in the saturated fat content (+1,2g/100g and +1,4g/100g) are observed for two subcategories out of 19 in Estonia, respectively Tortilla bread and wraps and Other breads. For Tortilla bread and wraps it has to be noted that the mean value was especially low at T0 for these products and that the mean value reached at T1 is in line with the means observed for the other countries. In the case of Other breads, the observed change may reflect the evolution of the products composing this subcategory which can be quite heterogeneous rather than the real evolution of the nutritional content of the products.

Significant decreases in the saturated fat content are observed for six subcategories out of 19 in France, ranging from -1g/100g (for Plain toasted breads and toasts and Plain white sandwich breads / hamburger /hot dog buns) to -2,3g/100g (for Cream-filled brioches). It can be noted that these significant changes are observed for the subcategories for which France had higher values than the other countries at T0 and that the data collection dates and the time gap is not comparable with the other countries and thus that no direct comparison is possible.

Figure 12 gives an example of the distribution of the saturated fat content of products collected among the Plain white sandwich breads / hamburger / hot dog buns subcategory by country according to the data collection. The variability is comparable for all countries and all mean contents are below 1g/100g, except for France and Germany, which had higher values and variability at T0. In France, the mean value decreased significantly between T0 and T1 (from 1.7g/100g to 0.7g/100g in average, with products containing between 0.2 and 7.6 g/100g of saturated fat at T1), bringing it in line with the mean saturated fat content observed in the other countries.

The significant evolution observed for France cannot be compared with the evolutions of the other countries, as the dates of the data collections are different and that the time gap is bigger for France, giving more time for reformulation.

Finally, it can be seen that for all countries, even if the saturated fat content is in average relatively low, there are still opportunities to reformulate some products, which have a higher saturated fat content, to align them with the ones showing the most virtuous formulations in the subcategory.

Table 6 : Summary of mean saturated fat content evolution among Bread products subcategories, by country

Bread products subcategories Saturated fat (g/100g)	Belgium			Hungary			Estonia			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Brioches with fruit	2,3	2,7	+0,4		2,1		1	2,9	+1,9	6,7	4,3	-2,4
Chocolate brioches	5,8	4,2	-1,6		3,3			3,2		6,8	5,1	-1,6**
Cream-filled brioches	3,2	3,1	-0,1							4,9	2,6	-2,3**
Fine bakery wares_chocolate croissants	12,7	12	-0,7					14,3		14,7	12,5	-2,1
Fine bakery wares_croissants	14,4	12,1	-2,3					9,3		12,5	12,1	-0,4
Fine bakery wares_other	11,1	10,2	-0,9		13			6		8,2	7,4	-0,8
Other bread products		1,6					3,2	2,7	-0,5			
Other breads	0,5	0,5	+0,07	2	0,7	-1,3	0,4	1,9	+1,4*	0,2	0,6	+0,5
Other_sandwich breads / hamburger / hot dog buns	1,2	1,6	+0,4	3,9			0,8	2,8	+2	2,5	0,5	-2
Plain brioches	4,2	3,4	-0,9		2,7		3,6	3,8	+0,2	6,5	6	-0,5
Plain toasted breads and toasts	2,7	1,1	-1,5		0,4			2,4		3,6	2,7	-1*
Plain white sandwich breads / hamburger /hot dog buns	0,8	0,8	-0,07	0,8	0,9	+0,05	0,8	0,6	-0,2	1,7	0,7	-1***
Pre-baked breads	1,4	0,7	-0,7		0,5			0,5		0,3	0,5	+0,2
Pre-packaged breads	0,9	0,8	-0,1	0,5	0,8	+0,3	0,5	0,6	+0,05	0,4	0,7	+0,3
Tortilla breads and wraps	1,2	1,5	+0,3		1,7		0,1	1,3	+1,2*	3	1,4	-1,6**
Unleavened breads	0									0,3	0,3	+0,02
Wholemeal_cereal_grains brioches	2,1	2,8	+0,7		2,2		2,1	1,1	-1	5,3	3,9	-1,4
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	1	0,7	-0,4	1	0,9	-0,07	0,7	0,6	-0,1	0,9	0,8	-0,1
Wholemeal_cereal_grains toasted breads and toasts	1,9	1,8	-0,08					1,8		2,5	1,4	-1,1***

*Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

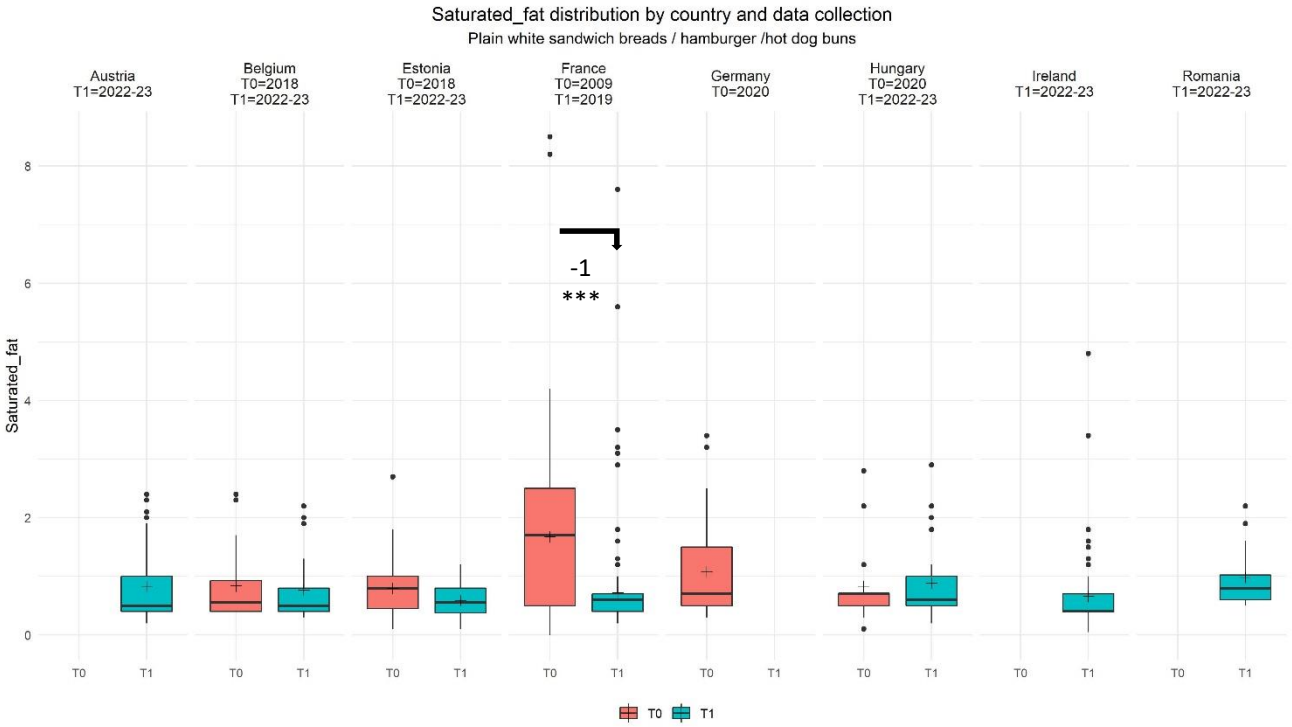

*Figure 12 : Saturated fat distribution of products collected among Plain white sandwich breads / hamburger / hot dog buns subcategory, by country and data collection (Significance: *** if p<0,001 ; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test))*

7.2.2.1.2. Sugar

Table 7 shows the mean sugar content (g/100g) among Bread products subcategories for each data collection (T0 and T1) and each country, with associated differences over time (g/100g).

Overall, the mean sugar value differs greatly from one subcategory to another, with highest values observed for Fine bakery wares and Brioches products.

No significant decrease in the sugar content is observed.

A significant increase in the sugar content is observed for Other breads in Estonia (+6,8g/100g) but it may reflect an evolution of the content of this subcategory, which can include a wide range of heterogeneous products rather than the evolution of the sugar content of the products.

Significant increases are also observed for one subcategory in France and Hungary: +1,8g/100g of mean sugar content for Chocolate brioches in France and +1,6g/100g for Plain white sandwich breads / hamburger / hot dog buns in Hungary. It has to be noted that the corresponding T0 mean sugar values observed in both countries were among the lowest. Also, despite the significant increase observed, these values remained aligned with the ones observed in the other countries (as it can be seen for Plain white sandwich bread / hamburger / hot dog buns in **Erreur ! Source du renvoi introuvable.**).

Figure 13 shows the variability of the sugar content among Plain white sandwich bread / hamburger / hot dog buns. Finally, for all countries, there are opportunities to reformulate products with higher sugar content to align them with the ones showing the most virtuous formulations in the subcategory.

Table 7:Summary of mean sugar content evolution among Bread products subcategories, by country

Bread products Sugar evolution (g/100g)	Belgium			Hungary			Estonia			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Brioches with fruit	24	24	0		20		9	12,6	+3,6	19,7	24,6	+4,9
Chocolate brioches	18,9	18,2	-0,7		12,5			19		16	17,9	+1,8*
Cream-filled brioches	15	16	+1							20,7	19,2	-1,5
Fine bakery wares_chocolate croissants	13,5	13,3	-0,3					17,1		12,1	13	+0,9
Fine bakery wares_croissants	14,9	8,9	-6,1					6,1		9,6	8,6	-1
Fine bakery wares_other	17,5	17,7	+0,2		18,7			17,3		17,3	19,2	+1,9
Other bread products		4					2,8	1,4	-1,3			
Other breads	3,3	3	-0,3	5,8	2	-3,8	2,4	8,8	+6,3*	2,2	4,1	+1,9
Other_sandwich breads / hamburger / hot dog buns	12,8	4,6	-8,2	8,9			4,2	7	+2,8	6	5,6	-0,4
Plain brioches	9,6	11	+1,4		10,8		15,7	13,4	-2,3	12,8	13,4	+0,6
Plain toasted breads and toasts	6,3	5,7	-0,6		5,9			4,6		7,4	8,1	+0,6
Plain white sandwich breads / hamburger /hot dog buns	7,1	6	-1,1	3	4,6	+1,6**	4,8	4,9	+0,07	6,7	6,7	+0,07
Pre-baked breads	2,2	2,6	+0,4		3,3			3,8		2,2	2,8	+0,6
Pre-packaged breads	3,2	3,6	+0,4	2,5	2,4	-0,1	4,3	4,4	+0,09	2,4	4,3	+1,9
Tortilla breads and wraps	2,2	2,4	+0,2		1,9		0,9	2,7	+1,7	1,4	2,1	+0,8
Unleavened breads	0,8									0	3,1	+3,1
Wholemeal_cereal_grains brioches	6,7	7	+0,4		20,3		1,6	7,7	+6,1	9,2	12,3	+3,1
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	5,8	5	-0,7	2,7	2,9	+0,2	3,1	2,7	-0,4	5	5,4	+0,4
Wholemeal_cereal_grains toasted breads and toasts	4,1	4,4	+0,3				3,1	5,2		4,4	5	+0,5

*Significance: *** if p<0,001 ; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

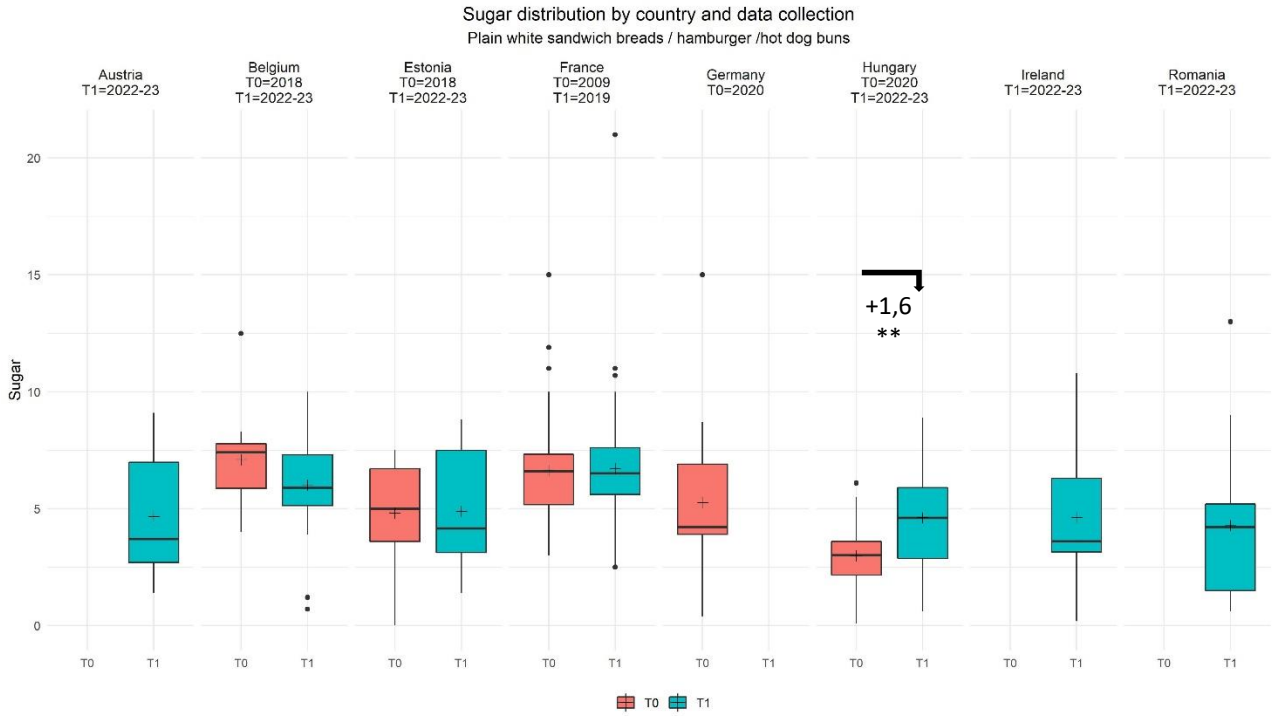

*Figure 13 : Sugar distribution of products collected among Plain white sandwich breads / hamburger / hot dog buns subcategory, by country and data collection (Significance: *** if p<0,001 ; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test))*

7.2.2.1.3. Salt

Table 8 show the mean salt content (g/100g) of Bread products subcategories for each data collection (T0 and T1) and country, with the associated differences (g/100g).

Overall, the mean salt value differs depending on the subcategory, with highest mean values observed for Plain toasted breads and toasts, Wholemeal_cereal_grains toasted breads and toasts, Pre-baked breads or Pre-packaged breads.

Regarding the evolution of salt content among the different subcategories of Bread products, it differs according to the country and the subcategory.

No significant changes are observed in Estonia and Hungary, but these countries have less subcategories available in their data for the comparison.

Significant decreases are observed for two subcategories out of 19 in France and Belgium. For France, these observations are made in Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns (-0,09g/100g) and Wholemeal_cereal_grains toasted breads and toasts (-0,18g/100g). For Belgium, the decreases are significant in Pre-baked breads (-0,12g/100g) and Pre-packaged breads (-0,1g/100g).

The distribution of salt content among Bread products collected in Plain white sandwich breads / hamburger / hot dog buns is presented on Figure 14. No significant change is observed at the level of this subcategory but there is still room for reformulation for some products with higher salt content, to align them with the ones having the most virtuous formulations and thus reduce the variability.

Table 8 : Summary of mean salt content evolution among Bread products subcategories, by country

Bread products Salt distribution (g/100g)	Belgium			Hungary			Estonia			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Brioches with fruit	1,09	1,01	-0,088		0,76		0,76	0,8	+0,044	1,01	0,69	-0,32
Chocolate brioches	0,95	0,91	-0,043		0,84			0,83		0,85	0,88	+0,038
Cream-filled brioches	0,78	0,76	-0,02							0,68	0,7	+0,023
Fine bakery wares_chocolate croissants	1,05	0,95	-0,11					0,48		0,88	0,98	+0,092
Fine bakery wares_croissants	0,8	0,95	+0,15					1,34		1,16	1,11	-0,052
Fine bakery wares_other	0,86	0,84	-0,012		0,5			0,58		0,81	0,78	-0,038
Other bread products		2,35					0,6	1,48	+0,89			
Other breads	1,24	1,15	-0,086	0,56	1,12	+0,56	1,11	1,07	-0,047	1,37	1,12	-0,24
Other_sandwich breads / hamburger / hot dog buns	1,3	1,4	+0,1	0,53			1,07	1	-0,075	1,17	1,13	-0,04
Plain brioches	1,08	1,1	+0,018		0,88		0,53	0,68	+0,15	1,05	1	-0,051
Plain toasted breads and toasts	1,72	1,37	-0,35		1,6			2		1,27	1,19	-0,086
Plain white sandwich breads / hamburger /hot dog buns	1,17	1,11	-0,067	1,27	1,23	-0,042	1,05	1,09	+0,044	1,18	1,17	-0,016
Pre-baked breads	1,22	1,1	-0,12**		1,19			1,05		1,25	1,24	-0,008
Pre-packaged breads	1,17	1,07	-0,1*	1,36	1,26	-0,1	1,04	1,06	+0,016	1,17	1,07	-0,094
Tortilla breads and wraps	1,11	1,26	+0,16		1,26		1,15	1,08	-0,071	1,5	1,4	-0,099
Unleavened breads	0									0,01	0,08	+0,066
Wholemeal_cereal_grains brioches	1,13	1	-0,13		0,89		0,56	1,05	+0,5	1,03	1,1	+0,065
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	1,08	1,24	+0,16	1,2	1,2	-0,024	1,02	1,07	+0,043	1,2	1,11	-0,09**
Wholemeal_cereal_grains toasted breads and toasts	1,55	1,35	-0,2					1,23		1,5	1,31	-0,18**

*Significance: *** if p<0,001 ; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

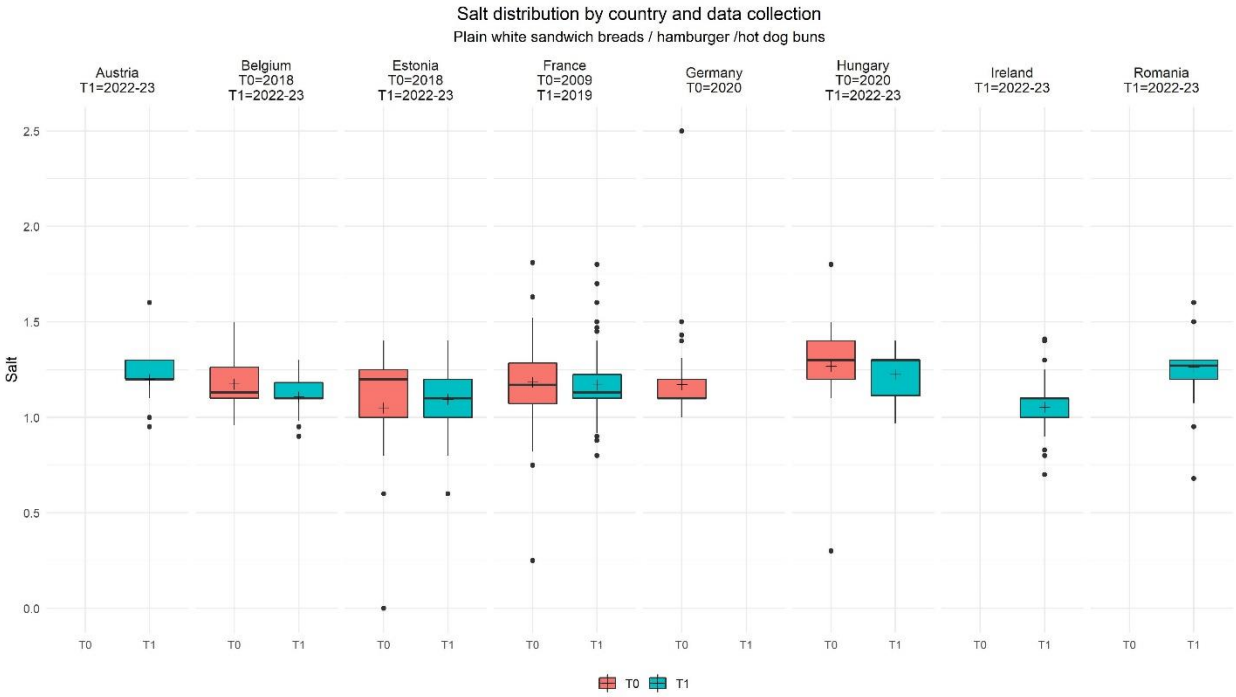

*Figure 14 : Salt distribution of products collected among Pre-packaged breads subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0, 01, * if p<0,05 (Statistical tests performed: permutation test))*

7.2.2.2. Breakfast cereals

Relevant nutrients selected to compare Breakfast cereals' nutritional values among concerned countries are: Fat, Saturated fat, Sugar and Salt.

It should be noted that the subcategory Other ready-to-eat cereals will not be taken into account in the analyses as it is a subcategory containing a wide variety of products and very few products for all countries.

7.2.2.2.1. Fat

Table 9 shows the mean fat content (g/100g) of Breakfast cereals subcategories for each data collection (T0 and T1) and country, with associated differences (g/100g).

Overall, for all countries, the mean fat content differs greatly depending on the subcategory, with mean value below 10g/100g for the majority of subcategories and highest mean fat contents observed for Crunchy chocolate muesli, Crunchy fruit muesli, Crunchy muesli with nuts_seeds and Filled cereals (up to 22,9g/100g for Crunchy muesli with nuts_seeds in Ireland at T0). It should be noted that the values vary considerably from one subcategory to another, depending on the ingredients added (e.g. chocolate) or the type of cereal (e.g. crunchy muesli).

The evolution of the mean fat content among Breakfast cereals collected across Europe seems to differ according to the country.

No significant differences in mean fat content between T0 and T1 are observed in Austria and Hungary.

Significant increases in the mean fat content (+2,4g/100g and +1,2g/100g) are observed for two subcategories out of 15 in Estonia, respectively Cereals without added sugar and Chocolate-flavoured cereals. Significant increases are also observed in Germany for the Crunchy fruit muesli subcategory (+1,2g/100g) and in Romania for the Filled cereals subcategory (+5,4g/100g). For Filled cereals in Romania, it has to be noted that the mean value was low at T0 for these products compared to the mean values of other countries at T0 and that the mean value reached at T1 is in line with the means observed for the other countries.

Significant decreases in the mean fat content are observed in Belgium for Cereals without added sugar (-2,1g/100g), in Estonia for Traditional muesli flakes (-1,5g/100g), in Germany for Honey/caramel cereals (-1,5g/100g), in Ireland for Crunchy muesli with nuts_seeds and Sweet cereal flakes (-5,8g/100g and -0,5g/100g respectively), in Romania for Chocolate-flavoured cereals (-0,5g/100g) and in France for Cereal flakes with chocolate_nuts and Chocolate-flavoured cereals (-1g/100g and -0,8g/100g respectively). It can be noted that the greatest significant decrease concerns Crunchy muesli with nuts_seeds in Ireland that had the highest mean fat content of all the countries at T0.

As an example, Figure 15 gives an overview of the distribution of the fat content of products collected among the Chocolate-flavoured cereals subcategory by country according to the data collection. The variability is comparable for all countries and all mean contents are below 5g/100g. A significant increase is observed for Estonia (+1,2g/100g) and a significant decrease is observed in France (-0.8g/100g) and for Romania (-0.5g/100g). However, these evolutions need to be tempered because dates and time gaps are different. France has an initial data collection more ancient (2008) than the other countries and with a bigger time gap to T1 (10 years), giving more time to reformulate.

It should also be noted that France's T1 year (2018) corresponds to the T0 year of some countries, making comparisons with other countries not possible.

Finally, it can be seen that for all countries, even if the fat content is in average relatively low, there are still opportunities to reformulate some products, which have a higher fat content, to align them with the ones showing the most virtuous formulations in the subcategory.

Table 9 : Summary of mean fat content evolution among Breakfast cereals subcategories, by country

Breakfast cereals Fat (g/100g)	Austria			Belgium			Estonia			Germany			Hungary			Ireland			Romania			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Cereal flakes with chocolate_nuts	5,3	5,3	0	6,3	6,8	+0,5	4,7	4,7	-0,02	7,3	9,8	+2,5	6,3	5,7	-0,6	8	3,9	-4,2	4	5,2	+1,2	7,5	6,5	-1*
Cereal flakes with fruit	1,6			1,6	1,4	-0,1	2,4	3,5	+1,1	1,6	3,9	+2,3				2,4	1,5	-0,9	3,7	7,3	+3,6	1,7	1,6	-0,06
Cereals without added sugar	5	5,4	+0,4	7,1	5	-2,1**	2,4	4,7	+2,4***	1,8	2,3	+0,5	2,2	5,1	+2,9	5,8	5,7	-0,05	5,6	4,2	-1,4	3	2,7	-0,3
Chocolate and caramel cereals	6,4	7,7	+1,3	6	6,4	+0,4	4,7	5,4	+0,7	4,8	5,9	+1,1	4,2	6,3	+2	10			4,9	6,3	+1,4	5,4	4,7	-0,7
Chocolate-flavoured cereals	4,6	4,4	-0,2	3,7	4,1	+0,4	3,5	4,7	+1,2*	4,3	3,8	-0,5	3,6	3,4	-0,2	3,9	3,4	-0,5	3,9	3,4	-0,5*	4	3,2	-0,8**
Crunchy chocolate muesli	16,6	15,8	-0,8	16,3	17,9	+1,6	16,6	17,8	+1,2	15,3	15,4	+0,1	16,1	16,2	+0,04	21,4	19,2	-2,1	15,6	16,2	+0,6	17,9	16,3	-1,6
Crunchy fruit muesli	16,1	15	-1,1	18,2	18,2	+0,05	16,6	17,9	+1,3	15,3	16,5	+1,2*	14,2	14,5	+0,3	16,1	14,4	-1,7	14,4	12,4	-2	16,8	15,2	-1,6
Crunchy muesli with nuts_seeds	14	15,8	+1,8	17	17,7	+0,7	14	15,6	+1,6	15	15,3	+0,3	16,6			22,9	17,1	-5,8*	18,5	20,2	+1,7	16,7	15,7	-1
Filled cereals	15,4	16,4	+1	14,3	14,6	+0,3	15,3	15,3	-0,01	17,1	17,1	0	16,3	17,2	+0,9	16,8	14,7	-2,1	10	15,4	+5,4*	14,5	14,4	-0,2
High-fibre cereals	3,2	3,7	+0,5	2,7	2,4	-0,3	3,1	3,5	+0,4	3,7	3,7	0	4,8	3,1	-1,7	3,9	3,4	-0,5	1,8	6,3	+4,5	3,5	2,8	-0,7
High-fibre fruit cereals	4,4	2,1	-2,3	4,1	4,7	+0,5	3,2	4,4	+1,2	3,2	3	-0,2	3,1	6,8	+3,6	7	4	-3	5	3,7	-1,3	5,3	4,4	-0,9
Honey/caramel cereals	4,8	5,3	+0,5	1,8	2,8	+1,1	5,8	5	-0,8	5,2	3,7	-1,5*	8	7,3	-0,7	3,5	3,2	-0,2	5,4	4,3	-1,1	2,3	2,1	-0,2
Other ready-to-eat cereals	31,6	48,3	+16,7		1,6		20,4	4,1	-16,3	1,3	25,8	+24,5		11,7			1,8			2,6				
Sweet cereal flakes	1,7	1,1	-0,6	0,9	0,9	-0,02	1,8	1,7	-0,05	1,4	1,2	-0,2	2,7	1,2	-1,5	1,5	1	-0,5*	2,2	1,5	-0,7	1,2	1	-0,2
Traditional muesli flakes	8,7	8,7	0	8	10,2	+0,4	8,6	7,1	-1,5*	9,3	9,6	+0,3	7,3	7,6	+0,3	8,4	9,2	+0,8	6,9	7,1	+0,2	7	8	+1

*Significance: *** if p<0,001 ; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

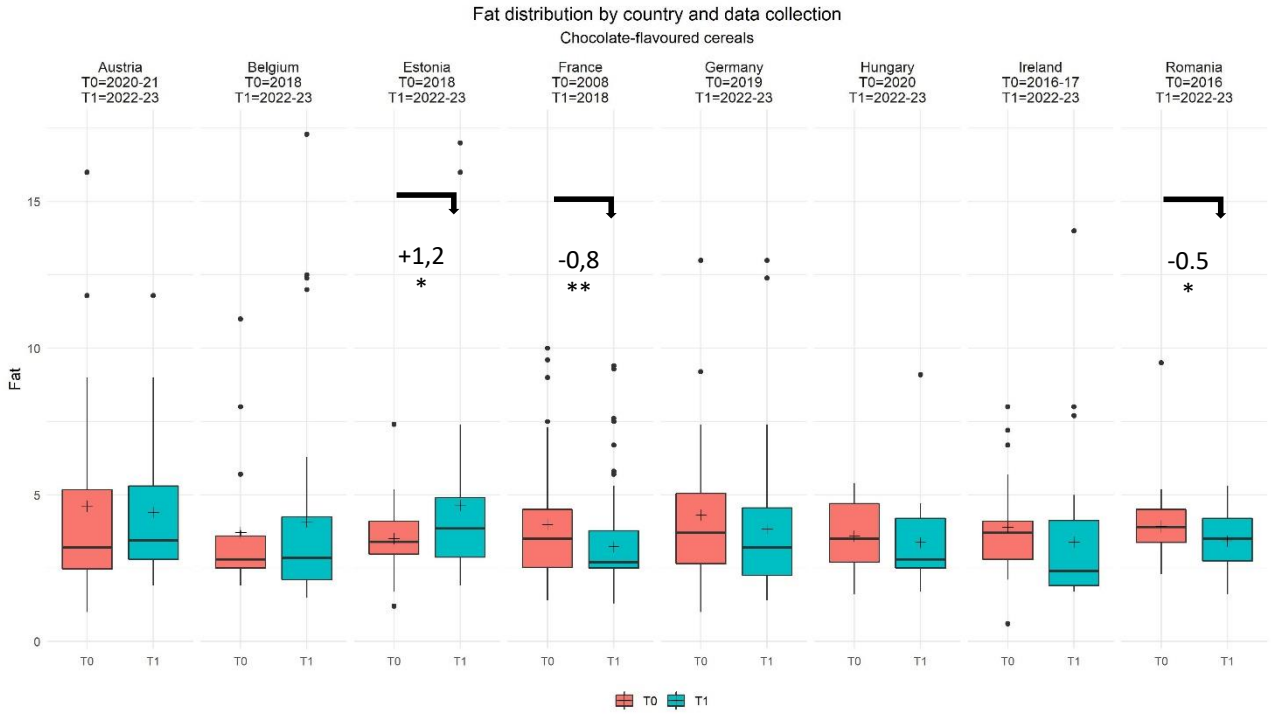

*Figure 15 : Fat distribution of products collected among Chocolate-flavoured cereals subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test))*

7.2.2.2.2. Saturated fat

Table 10 shows the mean saturated fat content (g/100g) of Breakfast cereals subcategories for each data collection (T0 and T1) and country, with associated differences (g/100g).

Overall, for all countries, the mean saturated fat content differs greatly depending on the subcategory, with mean value below 5g/100g for the majority of subcategories and highest mean saturated fat contents observed for Crunchy chocolate muesli, Crunchy fruit muesli, Crunchy muesli with nuts_seeds and Filled cereals (up to 8,8g/100g for Crunchy chocolate muesli in France at T0). It should be noted that the values vary considerably from one subcategory to another, depending on the ingredients added (e.g. chocolate) or the type of cereal (e.g. crunchy muesli).

The evolution of the mean saturated fat content among Breakfast cereals collected across Europe seems to differ according to the country, with significant decreases observed for several subcategories of products in France, Ireland, and Romania and Belgium. .

No significant differences in mean saturated fat content between T0 and T1 are observed in Austria and Hungary.

Significant increases in the mean saturated fat content are only observed in Germany for Cereal flakes with chocolate_nuts (+2,7g/100g) and in Estonia for Cereals without added sugar (+0,4g/100g). It can be noted that the mean saturated fat content in Germany at T1 for Cereal flakes with chocolate_nuts is the highest of all countries at T1 for this subcategory.

Significant decreases in the mean saturated fat content are observed in Belgium for Cereals without added sugar (-0,4g/100g), in Estonia for Traditional muesli flakes (-0,9g/100g), in Germany for Crunchy muesli with nuts_seeds (-0,8g/100g), in Ireland for Crunchy muesli with nuts_seeds, Filled cereals and Sweet cereal flakes (-3,2g/100g, -1,6g/100g and -0,2g/100g respectively), in Romania for Chocolate-flavoured cereals, Crunchy fruit muesli and Honey/caramel cereals (-0,3g/100g, -2,6g/100g and -0,8g/100g respectively) and in France for four subcategories out of 15, ranging from -0,6g/100g (for Chocolate-flavoured cereals) to -3.6g/100g (for Crunchy chocolate muesli). It should be noted that the time gap between T0 and T1 is longer in France (10 years) than in the other countries, which may explain the greater number of significant changes found in the French data.

As an example, Figure 16 gives an overview of the distribution of the saturated fat content of products collected among the Chocolate-flavoured cereals subcategory by country according to the data collection. The variability is comparable for all countries and all mean contents are below 2g/100g. All countries show a decrease in the mean saturated fat content between T0 and T1 but only two countries show a significant decrease : Romania (-0,3g/100g) and France (-0,6g/100g). These evolutions need to be tempered because of the variability of the time gaps between T0 and T1 for the countries and the fact that the year of T1 for France corresponds to the year of T0 for certain countries.

Finally, it can be seen that for all countries, even if the saturated fat content is in average relatively low, there are still opportunities to reformulate some products, which have a higher saturated fat content, to align them with the ones showing the most virtuous formulations in the subcategory.

Table 10 : Summary of mean saturated fat content evolution among Breakfast cereals subcategories, by country

Breakfast cereals Saturated fat (g/100g)	Austria			Belgium			Estonia			Germany			Hungary			Ireland			Romania			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Cereal flakes with chocolate_nuts	0,9	1	+0,1	2,9	3,6	+0,6	1,1	1,6	+0,5	2,2	4,9	+2,7*	2,3	2,1	-0,2	1,6	0,7	-0,9	2	2,3	+0,3	3,7	3,4	-0,3
Cereal flakes with fruit	0,3			0,3	0,3	-0,05	0,6	1,4	+0,8	0,3	0,5	+0,2				0,8	0,4	-0,5	4,1	6,1	+2	0,5	0,3	-0,2
Cereals without added sugar	0,9	1	+0,1	1,3	0,9	-0,4**	0,4	0,8	+0,4**	0,3	0,5	+0,2	1,1	0,9	-0,2	1	1	+0,006	1,1	0,8	-0,3	0,5	0,5	-0,02
Chocolate and caramel cereals	1,2	1,3	+0,1	1,3	1,3	+0,09	1,4	0,9	-0,4	0,9	2,1	+1,2	1,1	1,1	-0,05	4,6			1,4	1,1	-0,3	3	1	-2***
Chocolate-flavoured cereals	1,4	1,2	-0,2	1,1	1,6	-0,003	1,3	1,1	-0,1	1,4	1,3	-0,1	1,1	1,1	-0,03	1,4	1,3	-0,2	1,5	1,2	-0,3**	1,8	1,2	-0,6***
Crunchy chocolate muesli	5,5	5	-0,5	3,7	5,1	+0,6	6,3	6,9	+0,6	5,3	5,1	-0,2	6,6	5,8	-0,8	8,7	6,5	-2,1	7,1	5,8	-1,3	8,8	5,2	-3,6***
Crunchy fruit muesli	4,7	3,9	-0,8	4,4	4,6	-0,2	4,3	4,7	+0,4	4,8	4,6	-0,2	5,4	4,3	-1,1	4,3	3,5	-0,8	6,4	3,8	-2,6**	7,2	4,5	-2,7***
Crunchy muesli with nuts_seeds	2,4	2,7	+0,3	3,4	3	-0,8	3,5	2,9	-0,5	3,7	2,9	-0,8*	4,8			6,5	3,2	-3,2*	6,3	5,6	-0,7	4,3	2,8	-1,5
Filled cereals	3,8	3,9	+0,1	4	3,9	+0,09	3,2	3,2	+0,07	4,5	5,3	+0,8	6	6,8	+0,8	5,2	3,7	-1,6*	3,9	5,7	+1,8	4,9	4,4	-0,5
High-fibre cereals	1	0,8	-0,2	0,6	0,7	-0,09	1	0,9	-0,1	1,2	1	-0,2	1,1	1,1	-0,08	0,9	0,7	-0,3	0,5	0,9	+0,4	0,8	0,8	+0,06
High-fibre fruit cereals	0,3	0,3	0	3,4	2,8	+0,5	1,1	2,2	+1,1	0,6	0,4	-0,2	2	1,7	-0,2	3	1,8	-1,2	2,6	1,9	-0,7	2,8	2,5	-0,4
Honey/caramel cereals	1	0,7	-0,3	0,4	0,5	-0,06	1,5	0,8	-0,6	1,7	1,1	-0,6	1,8	1	-0,8	0,8	0,7	-0,04	1,5	0,7	-0,8*	0,6	0,5	-0,2
Other ready-to-eat cereals	10,3	24	+13,7		0,6		5,7	0,7	-5	0,4	6,4	+6		1,6			0,5			0,8				
Sweet cereal flakes	0,5	0,2	-0,3	0,2	0,2	-0,003	0,6	0,7	+0,06	0,5	0,2	-0,3	1,4	0,3	-1,1	0,4	0,2	-0,2*	0,8	0,5	-0,3	0,3	0,3	-0,04
Traditional muesli flakes	2,1	2,2	+0,1	1,3	1,8	-0,1	2,7	1,8	-0,9**	2,4	2,4	0	2,1	2,2	+0,1	1,8	1,8	-0,04	1,6	1,8	+0,2	1,4	1,8	+0,4

*Significance: *** if p<0,001 ; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

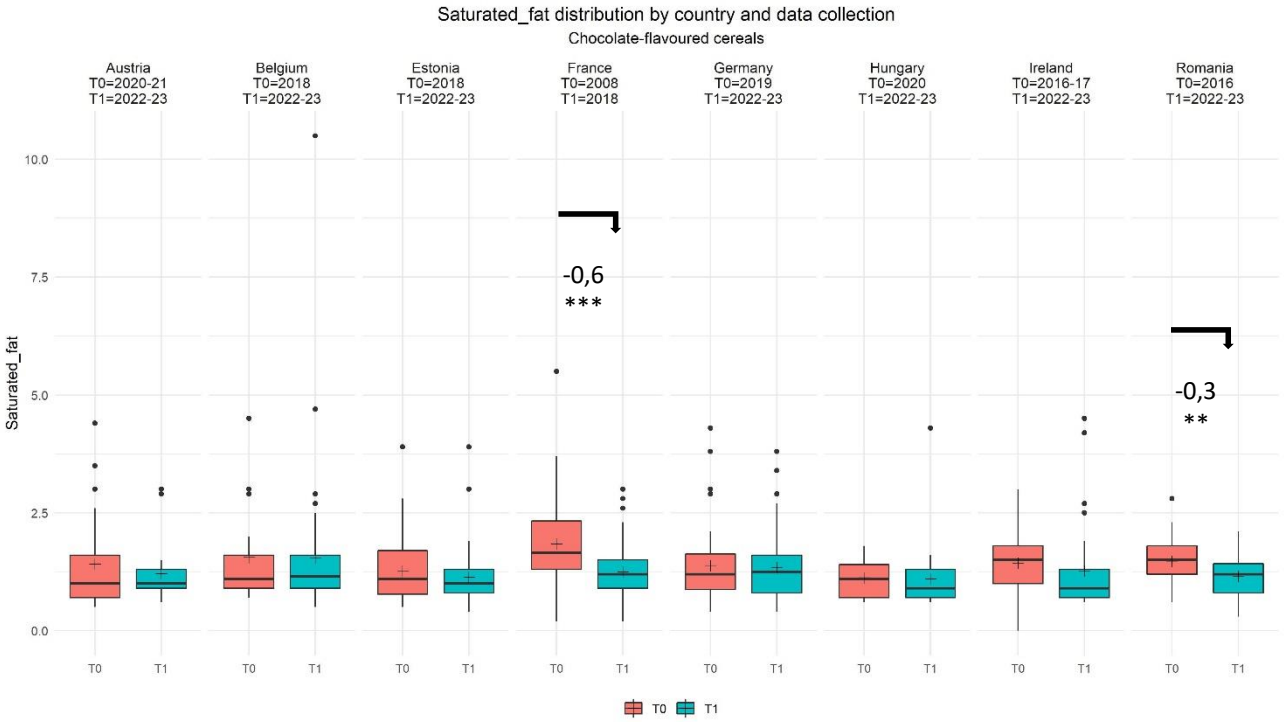

*Figure 16 : Saturated fat distribution of products collected among Chocolate-flavoured cereals subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0, 01; * if p<0, 05 (Statistical tests performed: permutation test))*

7.2.2.2.3. Sugar

Table 11 shows the mean sugar content (g/100g) of Breakfast cereals subcategories for each data collection (T0 and T1) and country, with associated differences (g/100g).

Overall, for all countries, the mean sugar content differs greatly depending on the subcategory, with the highest mean sugar contents observed for Chocolate and caramel cereals, Honey/caramel cereals and Filled cereals (up to 34,1g/100g for Filled cereals in France at T0). It should be noted that the values vary considerably from one subcategory to another, depending on the ingredients added (e.g. chocolate, honey, caramel, etc.).

Significant differences (mainly decreases) in mean sugar content between T0 and T1 are observed in the eight countries studied.

Significant increase in the mean sugar content is only observed in Romania for Filled cereals (+10,2g/100g).

Significant decreases in the mean sugar content are observed in Austria for Crunchy fruit muesli (-2,4g/100g), in Belgium for four subcategories out of 15, ranging from -2,4g/100g (Chocolate and caramel cereals) to 3,5g/100g (Crunchy chocolate muesli), in Estonia for three subcategories, ranging from -0,5g/100g (Cereals without added sugar) to -2,4g/100g (Chocolate and caramel cereals), in Germany for three subcategories, ranging from -2,3g/100g (Crunchy chocolate muesli and Crunchy fruit muesli) to -4,3g/100g (Filled cereals), in Hungary for Crunchy fruit muesli and High-fiber cereals (-5,5g/100g, -5,9g/100g respectively), in Ireland for four subcategories, ranging from -0,4g/100g (Cereals without added sugar) to -6,6g/100g (Chocolate-flavoured cereals) ,in Romania for four subcategories, ranging from -5,8g/100g (Chocolate-flavoured cereals) to -8,3g/100g (Crunchy fruit muesli) and in France for seven subcategories, ranging from -4g/100g (Chocolate-flavoured cereals) to -6.1g/100g (Chocolate and caramel cereals). It should be noted that the time gap between T0 and T1 is longer in France (10 years) than in the other countries, which may explain the greater number of significant changes found in the French data.

As an example, Figure 17 gives an overview of the distribution of the sugar content of products collected among the Chocolate-flavoured cereals subcategory by country according to the data collection. The variability is comparable for all countries and all mean contents are below 25g/100g except for Romania and France at T0. Five countries show a significant decrease in the mean sugar content between T0 and T1 in this subcategory. The biggest decreases between T0 and T1 are observed for Ireland (-6,6g/100g) and Romania (-5,8g/100g) and France (-4g/100g), bringing their mean sugar content in line with the mean sugar content observed in the other countries at T1. These evolutions need to be tempered because of the variability of the time gaps between T0 and T1 for the countries and the fact that the year of T1 for France corresponds to the year of T0 for certain countries.

Finally, it can be seen that for all countries there are still opportunities to reformulate some products, which have a higher sugar content, to align them with the ones showing the most virtuous formulations in the subcategory.

Table 11 : Summary of mean sugar content evolution among Breakfast cereals subcategories, by country

Breakfast cereals Sugar (g/100g)	Austria			Belgium			Estonia			Germany			Hungary			Ireland			Romania			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Cereal flakes with chocolate_nuts	25,5	27,4	+1,9	20,6	18,5	-2,1	27,3	26,2	-1,1	21,6	21,3	-0,3	22,6	25	+2,4	23,9	23,6	-0,3	20,1	21,5	+1,4	23	19,7	-3,3**
Cereal flakes with fruit	12			18	17	-1	15,3	24,4	+9,1	14	20,4	+6,4				17,9	16,8	-1	28	39,4	+11,4	22,7	13,6	-9,1***
Cereals without added sugar	1,2	1	-0,2	1,2	1,3	+0,09	1,5	1	-0,5*	1,5	1,1	-0,4	1,6	0,8	-0,7	1,5	1,1	-0,4*	1,3	1,6	+0,3	11,4	1,5	-9,9
Chocolate and caramel cereals	25,5	25	-0,5	28	25,6	-2,4*	29	26,6	-2,4*	24,7	24,6	-0,1	28	25	-3	24			26,4	25	-1,4	34,8	28,7	-6,1***
Chocolate-flavoured cereals	22,2	21,6	-0,6	24,9	22,1	-2,8*	26,4	24,3	-2,1*	22,5	21	-1,5	24,8	24,5	-0,3	27,5	20,9	-6,6***	32	26,2	-5,8***	30,9	26,9	-4***
Crunchy chocolate muesli	20,3	20,4	+0,1	19,4	15,8	-3,5*	22,9	21,1	-1,8	19,4	17,1	-2,3***	22,8	20,1	-2,7	21,3	21,8	+0,5	23	19,5	-3,5	25,2	20,2	-5***
Crunchy fruit muesli	18,8	16,4	-2,4*	18,5	15,8	-2,7	20,6	18,7	-1,9	18,4	16,1	-2,3***	21,6	16,1	-5,5*	21,4	17,4	-4**	27,9	19,6	-8,3**	25,2	20,4	-4,7**
Crunchy muesli with nuts_seeds	15,5	13,4	-2,1	15,7	13,3	-2,4	12,3	11,7	-0,7	15,8	14,9	-0,9	19,2			16,7	13,9	-2,8	23,7	16,5	-7,2*	22,9	18	-4,9**
Filled cereals	28,5	27,3	-1,2	28,7	27,1	-1,6	31,1	29,6	-1,5	29,6	25,3	-4,3**	32,4	34,5	+2,1	31,8	25,7	-6,1**	22	32,2	+10,2 *	34,1	29,5	-4,7***
High-fibre cereals	13,7	14,6	+0,9	13	11,5	-1,5	13,6	11,1	-2,5	14,4	14	-0,4	16,4	10,5	-5,9*	13,1	11,9	-1,2	15,2	15,2	0	17,3	14,1	-3,2
High-fibre fruit cereals	17	11	-6	19,3	20,6	+1,3	15	20,3	+5,3	16,7	11,4	-5,3	25,4	21,6	-3,7	20,4	20,1	-0,3	25,4	20,6	-4,8	23,1	21,9	-1,2
Honey/caramel cereals	25,5	26,3	+0,8	26,8	24,4	-2,5	25,8	26,8	+0,9	26	24,1	-1,9	26,7	24,5	-2,2	19,5	18	-1,5	30,4	30,2	-0,2	31,2	26,7	-4,5**
Other ready-to-eat cereals	6,9	2,9	-4		27,5		9,8	2,8	-7	22,6	13,9	-8,7		16			16			23,7				
Sweet cereal flakes	8	8,2	+0,2	13,8	19	+5,2	14,2	12,5	-1,7	11,1	7,2	-3,9	16,7	10,3	-6,3	15,7	13,9	-1,8	16	8,4	-7,6*	19,1	15,6	-3,5
Traditional muesli flakes	13,3	13,5	+0,2	17,5	14,7	-2,8	16,4	15,9	-0,4	13,7	13	-0,7	15,3	16,9	+1,6	17,3	18	+0,7	13,7	13	-0,7	16,8	14,6	-2,2

*Significance: *** if p<0,001; ** if p<0, 01; * if p<0, 05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and*

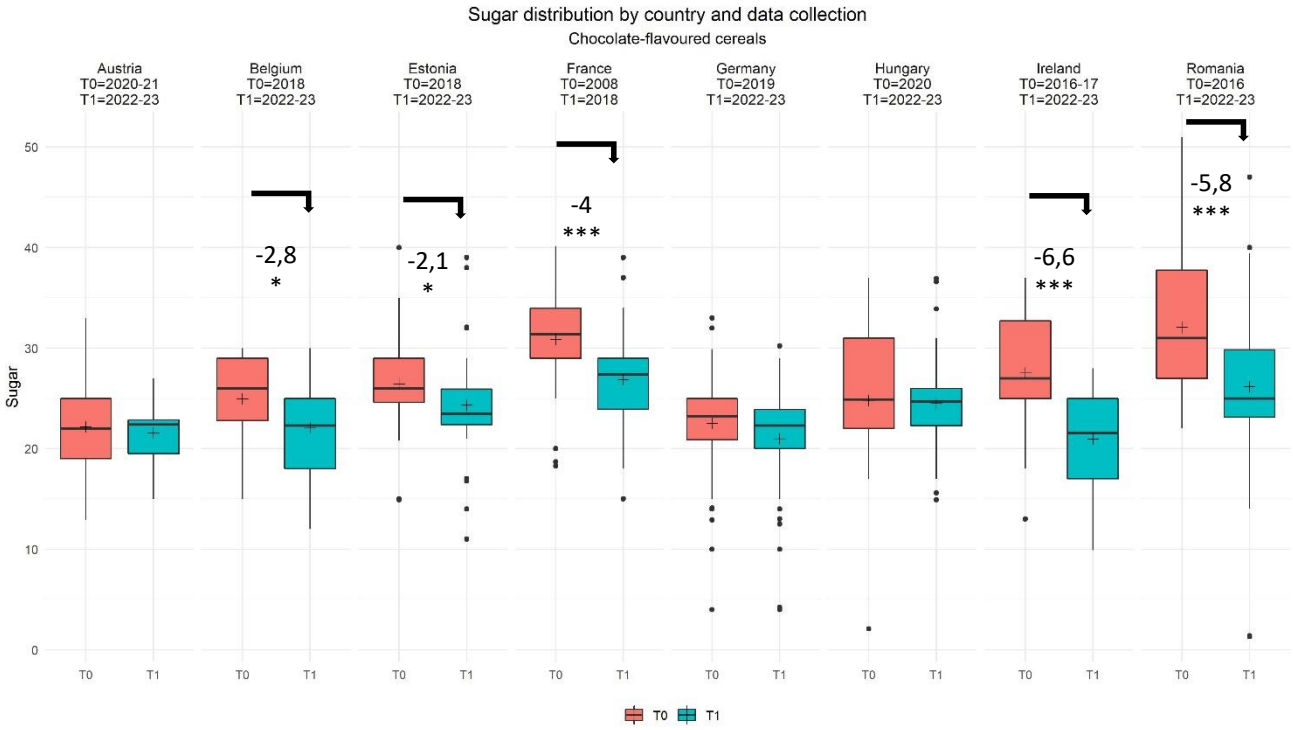

*Figure 17 : Sugar distribution of products collected among Chocolate-flavoured cereals subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0, 01; * if p<0, 05 (Statistical tests performed: permutation test))*

7.2.2.2.4. Salt

Table 12 shows the mean salt content (g/100g) of Breakfast cereals subcategories for each data collection (T0 and T1) and country, with associated differences (g/100g).

The mean salt content differs depending on the subcategory, with the highest mean salt contents observed for Cereal flakes with chocolate_nuts and Sweet cereal flakes (up to 1,71g/100g for Sweet cereal flakes in France at T0).

Overall, the evolution of salt content among Breakfast cereals collected across Europe seems to differ according to the country.

No significant differences in mean salt content between T0 and T1 are observed in Austria, Belgium, Hungary and Ireland.

Significant increases in the mean salt content are only observed in Belgium for Traditional muesli flakes (+0,29g/100g) and in Romania for Filled cereals (+0,42g/100g).

Significant decreases in the mean salt content are observed in Estonia for Crunchy chocolate muesli (-0,37g/100g) and Chocolate-flavoured cereals (-0,1g/100g), in Germany for Crunchy chocolate muesli (-0,08g/100g), in Romania for Cereal flakes with fruit (-0,7g/100g) and Honey/caramel cereals (-0,27g/100g) and in France for eight subcategories out of 15, ranging from -0,21g/100g (Chocolate-flavoured cereals and Traditional muesli flakes) to -0,75g/100g (Cereal flakes with fruit). It should be noted that the time gap between T0 and T1 is longer in France (10 years) than in the other countries, which may explain the greater number of significant changes found in the French data.

As an example, Figure 18 gives an overview of the distribution of the salt content of products collected among the Chocolate-flavoured subcategory by country according to the data collection. All mean salt contents are between 0,38g/100g (Romania at T1) and 0,68g/100g (France at T0). All countries show a decrease in the mean salt content between T0 and T1 but only two countries show a significant decrease : Estonia (-0,1g/100g) and France (-0,21g/100g). The biggest decrease between T0 and T1 is observed for France, bringing its mean salt content in line with the mean salt content observed in the other countries at T1. These evolutions need to be tempered because of the variability of the time gaps between T0 and T1 for the countries and the fact that the year of T1 for France corresponds to the year of T0 for certain countries.

Finally, each country shows great variability in the distribution of salt content in products. This means that there is still room for reformulation in these subcategories to bring products with the highest salt content into line with those with the most virtuous formulations.

Table 12 : Summary of mean salt content evolution among Breakfast cereals subcategories, by country

Breakfast cereals Salt (g/100g)	Asutria			Belgium			Estonia			Germany			Hungary			Ireland			Romania			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Cereal flakes with chocolate_nuts	1,01	0,83	-0,18	0,76	0,71	-0,079	1,11	1,01	-0,1	0,64	0,86	+0,22	0,92	0,94	+0,017	0,63	0,6	-0,031	1,09	1,02	-0,07	1,36	0,78	-0,58***
Cereal flakes with fruit	0,57			0,98	0,84	-0,14	0,81	1	+0,19	0,95	0,93	-0,02				0,69	0,74	+0,053	1,15	0,45	-0,7*	1,56	0,8	-0,75***
Cereals without added sugar	0,09	0,09	0	0,05	0,12	+0,07	0,45	0,08	-0,37***	0,8	0,46	-0,34	0,29	0,09	-0,2	0,07	0,05	-0,023	0,36	0,31	-0,05	0,06	0,72	+0,66
Chocolate and caramel cereals	0,5	0,49	-0,01	0,55	0,46	-0,088	0,53	0,46	-0,066	0,47	0,48	+0,01	0,32	0,45	+0,12	0,29			0,48	0,45	-0,03	0,44	0,49	+0,047
Chocolate-flavoured cereals	0,5	0,45	-0,05	0,49	0,47	-0,02	0,58	0,48	-0,1**	0,48	0,45	-0,03	0,43	0,42	-0,01	0,53	0,48	-0,048	0,47	0,38	-0,09	0,68	0,47	-0,21***
Crunchy chocolate muesli	0,33	0,38	+0,05	0,31	0,23	-0,075	0,32	0,31	-0,0084	0,29	0,21	-0,08***	0,29	0,3	+0,012	0,43	1,26	+0,83	0,41	0,27	-0,14	0,39	0,26	-0,13
Crunchy fruit muesli	0,26	0,3	+0,04	0,22	0,23	+0,015	0,31	0,26	-0,056	0,21	0,18	-0,03	0,28	0,36	+0,081	0,2	0,18	-0,026	0,33	0,32	-0,01	0,33	0,24	-0,09
Crunchy muesli with nuts_seeds	0,43	0,32	-0,11	0,21	0,11	-0,041	0,29	0,39	+0,094	0,34	0,32	-0,02	0,27			0,21	0,26	+0,044	0,32	0,23	-0,09	0,5	0,18	-0,32*
Filled cereals	0,56	0,59	+0,03	0,77	0,7	-0,074	0,54	0,66	+0,12	0,48	0,45	-0,03	0,45	0,57	+0,12	0,45	0,6	+0,15	0,1	0,52	+0,42**	0,6	0,62	+0,022
High-fibre cereals	0,74	0,57	-0,17	0,73	0,75	+0,037	0,7	0,69	-0,013	0,67	0,65	-0,02	0,66	0,93	+0,27	0,59	0,5	-0,093	0,82	0,58	-0,24	1,38	0,73	-0,65**
High-fibre fruit cereals	0,49	0,59	+0,1	0,61	0,62	+0,009	0,52	0,55	+0,029	0,24	0,11	-0,13	0,76	0,62	-0,14	0,37	0,52	+0,15	0,85	0,64	-0,21	1,2	1,06	-0,13
Honey/caramel cereals	0,31	0,44	+0,13	0,42	0,59	+0,11	0,69	0,62	-0,07	0,32	0,27	-0,05	0,77	0,6	-0,18	0,62	0,63	+0,0085	0,73	0,46	-0,27*	0,79	0,47	-0,32**
Other ready-to-eat cereals	0,98	0,1	-0,88		0,74		0,08	1,4	+1,32	0,87	0,16	-0,71*		0,8			0,72			0,01				
Sweet cereal flakes	1,22	1,05	-0,17	1,18	0,88	-0,29	1,35	1,36	+0,0085	1,2	1,08	-0,12	1,22	1,37	+0,15	0,75	0,78	+0,035	1,26	1,07	-0,19	1,71	1,2	-0,5***
Traditional muesli flakes	0,07	0,08	+0,01	0,13	0,09	+0,21	0,2	0,5	+0,29***	0,1	0,11	+0,01	0,38	0,43	+0,051	0,09	0,1	+0,017	0,24	0,23	-0,01	0,32	0,11	-0,21*

*Significance: *** if p<0,001; ** if p<0, 01; * if p<0, 05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

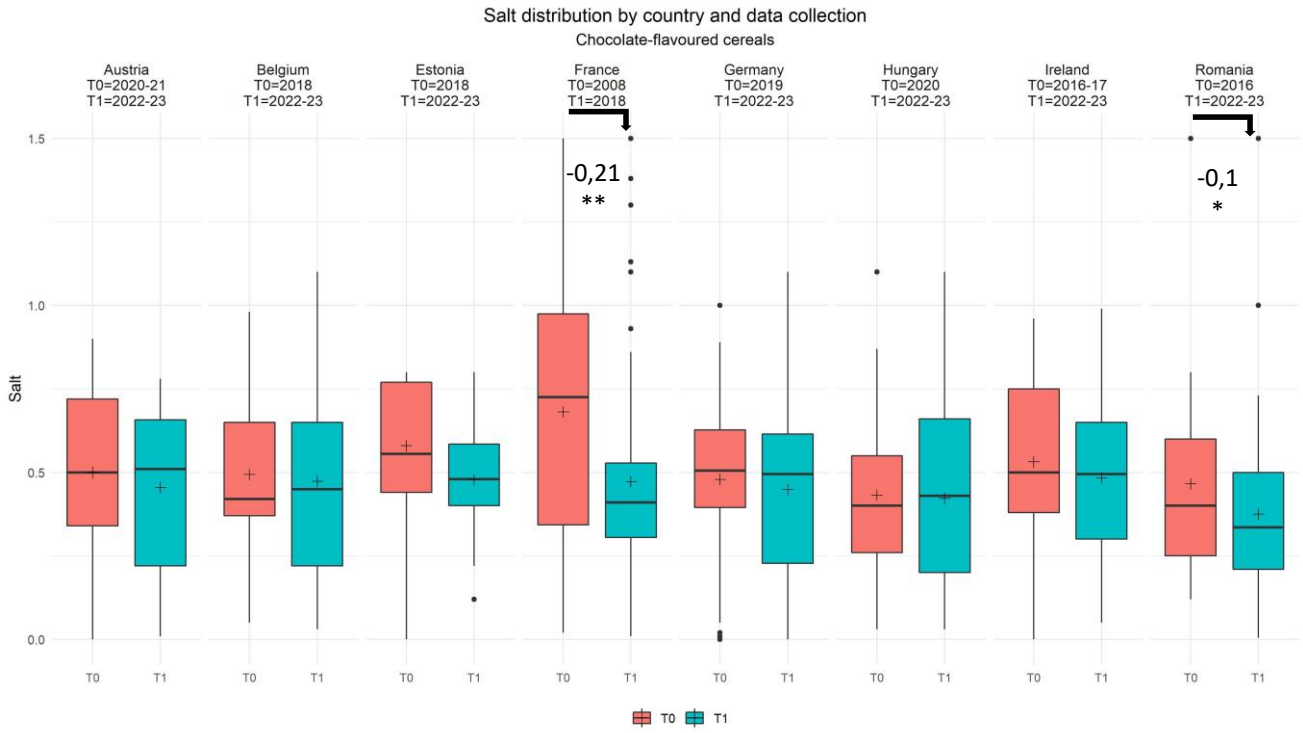

*Figure 18 : Salt distribution of products collected among Chocolate-flavoured cereals subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0, 01; * if p<0, 05 (Statistical tests performed: permutation test))*

7.2.2.3. Delicatessen meats and similar

Relevant nutrients selected to compare Delicatessen meats and similar's nutritional values among concerned countries are: Fat, Saturated fat and Salt.

7.2.2.3.1. Fat

Table 13 shows the mean fat content (g/100g) of Delicatessen meats and similar subcategories for each data collection (T0 and T1) and country, with associated differences (g/100g).

Overall, for all countries, the mean fat content differs greatly depending on the subcategory, and highest mean fat contents are observed for Pork belly and bacon (packaged), Pepperoni, Dry sausage and Chorizo (up to 43,9g/100g for Pork belly and bacon (packaged) in Estonia at T1).

The evolution of the mean fat content among Delicatessen meats and similar collected across Europe seems to differ according to the country.

No significant differences in mean fat content between T0 and T1 are observed in Hungary.

Significant increases in the mean fat content are observed in Belgium for Dried, smoked or cured pork (+6,6g/100g), in Estonia for Cooked beef (packaged) (+8,5g/100g) and in France for Cooked pork ham and roast (packaged) (+0,4g/100g).

Significant decrease in the mean fat content is only observed in Austria for Pâté (-2,9g/100g).

As an example, Figure 19 gives an overview of the distribution of the fat content of products collected among the Sausages subcategory by country according to the data collection. All mean contents are between 17,5g/100g and 24,5g/100g. No significant evolution in mean fat content is observed between T0 and T1 for any country.

Finally, it can be seen that for all countries, there are still opportunities to reformulate some products, which have a higher fat content, to align them with the ones showing the most virtuous formulations in the subcategory.

Table 13 : Summary of mean fat content evolution among Delicatessen meats and similar subcategories, by country

Delicatessen meats and similar Fat (g/100g)	Austria			Belgium			Estonia			Hungary			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Alternative products without animal protein	13,6	14,5	+0,9	10,9	12,5	+1,6		9,4		26,1	17,4	-8,7			
Assortment of delicatessen meats	18,4	22,4	+4	18,7	21,3	+3,1	23,7	23,9	+0,1						
Chorizo	32,8	32,4	-0,4	33,7	34,6	+0,9	33,9	34	+0,1	29	31	+2	36,3	35,1	-1,1
Cooked beef (packaged)	5	5,4	+0,4	11,6	15	+3,4	3,2	11,6	+8,5**		12,8				
Cooked pork ham and roast (packaged)	5,7	5,4	-0,3	3,8	4	+0,3	10,1	10,5	+0,4	6,7	5,8	-0,9	4,2	4,7	+0,4*
Cured ham	14,5	15,9	+1,4	13,5	13,8	+0,3	14,2	13,4	-0,8	14,9	14,2	-0,7	13,1	13,7	+0,6
Dried, smoked or cured beef	3,4	4,3	+0,9	2,5	3,9	+1,3	9,3	6,7	-2,6	3,7	2,5	-1,2			
Dried, smoked or cured pork	13,2	13,8	+0,6	7,8	14,3	+6,6*	13,4	16,7	+3,3	10,2	12,8	+2,5			
Dry sausage	35,5	36,2	+0,7	33,4	32	-1,4	32,8	30,9	-1,5	43,3	42,2	-1,1	33,8	33,2	-0,6
Other cooked meats (packaged)					20		11,3	14,8	+3,5		14,1				
Other cured meats				15,5	10,4	-5,2	9,6	9,5	-0,06	3,2					
Pâté	29,9	27	-2,9*	25,6	26,7	+1,1	19,7	18,7	-1	18,2	19,5	+1,3	31,1	30	-1,1
Pepperoni	33	36,8	+3,8		22,5		31,9	28,9	-3		47				
Pork belly and bacon (packaged)	33,1	34,3	+1,2	20,5	19,3	-1,3	40,2	43,9	+3,7	24,3	36,5	+12,2	22,8	22,3	-0,5
Poultry ham and roast (packaged)	1,9	1,7	-0,1	3,2	2,9	-0,2	4,9	4,8	-0,03	4	3,6	-0,3	2,6	2,3	-0,3
Poultry lardons				3	5,2	+2,2							10	12,3	+2,3
Sausages	20,7	20,4	-0,2	17,7	18	+0,3	22	21,4	-0,6	20,4	20,5	+0,05	24,5	24	-0,5

*Significance: *** if p<0,001; ** if p<0, 01; * if p<0,05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

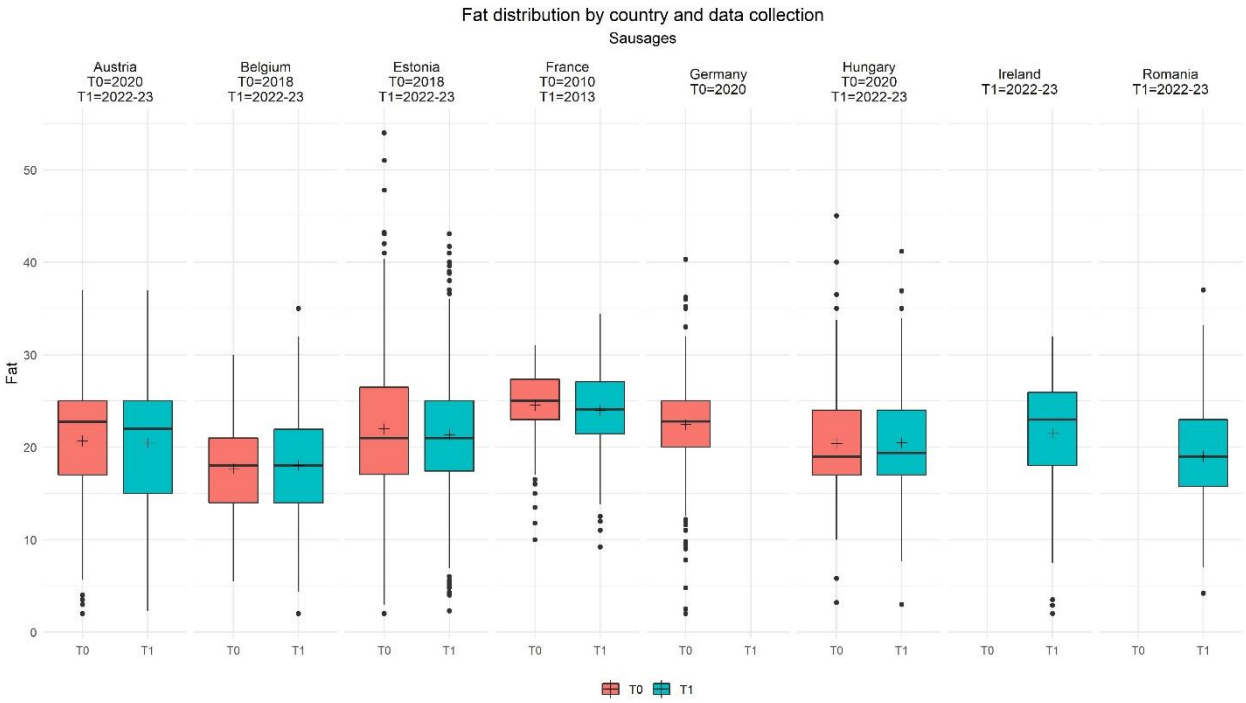

*Figure 19 : Fat distribution of products collected among Sausages subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test))*

7.2.2.3.2. Saturated fat

Table 14 shows the mean saturated fat content (g/100g) of Delicatessen meats and similar subcategories for each data collection (T0 and T1) and country, with associated differences (g/100g).

Overall, for all countries, the mean saturated fat content differs greatly depending on the subcategory and highest mean saturated fat contents are observed for Pork belly and bacon (packaged), Pepperoni, Dry sausage and Chorizo (up to 19,2g/100g for Pepperoni in Hungary at T1).

The evolution of the mean saturated fat content among Delicatessen meats and similar collected across Europe seems to differ according to the country

No significant differences in mean saturated fat content between T0 and T1 are observed in Austria, Belgium, Hungary and France.

The only significant difference observed is a decrease in Estonia for the Cooked beef (packaged) subcategory (+2,9g/100g).

As an example, Figure 20 gives an overview of the distribution of the saturated fat content of products collected among the Sausages subcategory by country according to the data collection. All mean contents are between 6,6g/100g and 9,6g/100g. No significant evolution in mean saturated fat content is observed between T0 and T1 for any country.

Finally, it can be seen that for all countries, there are still opportunities to reformulate some products, which have a higher saturated fat content, to align them with the ones showing the most virtuous formulations in the subcategory.

Table 14 : Summary of mean saturated fat content evolution among Delicatessen meats and similar subcategories, by country

Delicatessen meats and similar Saturated_fat (g/100g)	Austria			Belgium			Estonia			Hungary			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Alternative products without animal protein	3,2	3	-0,2	1,9	1,7	-0,2		2,8		2,6	2,8	+0,2			
Assortment of delicatessen meats	7,6	9,4	+1,9	7,2	8,1	+1,2	9,7	9,4	-0,3						
Chorizo	13	11,1	-1,8	12,6	13,5	+0,9	12,4	13,1	+0,6	11	11,8	+0,8	14,5	13,5	-1
Cooked beef (packaged)	1,9	2,5	+0,6	5,2	7,3	+2	1,5	4,4	+2,9**		4,5				
Cooked pork ham and roast (packaged)	2,3	2,1	-0,2	1,4	1,5	+0,07	3,7	3,7	+0,0001	2,6	2,1	-0,5	1,5	1,7	+0,2
Cured ham	5,6	6,1	+0,5	5,1	5,1	-0,05	5,3	5,3	+0,07	6,1	5,5	-0,6	5	5,4	+0,4
Dried, smoked or cured beef	1,5	1,7	+0,2	1,2	1,6	+0,4	4	2,9	-1	1,4	0,7	-0,7			
Dried, smoked or cured pork	5,4	5,6	+0,2	3,6	5,4	+1,8	6,3	6,5	+0,2	4,2	4,7	+0,5			
Dry sausage	14,7	14,9	+0,2	13,1	12,5	-0,5	12,7	11,8	-0,7	17,5	17,1	-0,4	12,7	13,4	+0,7
Other cooked meats (packaged)					7,9		3,4	5	+1,6		5,1				
Other cured meats				5,6	3,8	-1,8	3,1	3,4	+0,2	1,3					
Pâté	11	9,9	-1,2	9,3	10,2	+0,9	7,2	7	-0,2	6,4	7	+0,6	11,5	11,6	+0,09
Pepperoni	14	12,9	-1,1		8,5		11,5	8,7	-2,8		19,2				
Pork belly and bacon (packaged)	13,1	13,7	+0,6	7,8	7,4	-0,3	15,3	16,3	+1	9,7	14	+4,3	8,3	8,4	+0,06
Poultry ham and roast (packaged)	0,6	0,6	-0,02	1	1	+0,007	1,4	1,6	+0,1	1,4	1,3	-0,2	0,8	0,8	-0,07
Poultry lardons				1	1,6	+0,6							3,5	3,7	+0,2
Sausages	8,3	8,1	-0,1	6,6	6,7	+0,02	8,4	8,2	-0,2	7,8	7,8	-0,03	9,6	9,2	-0,4

*Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

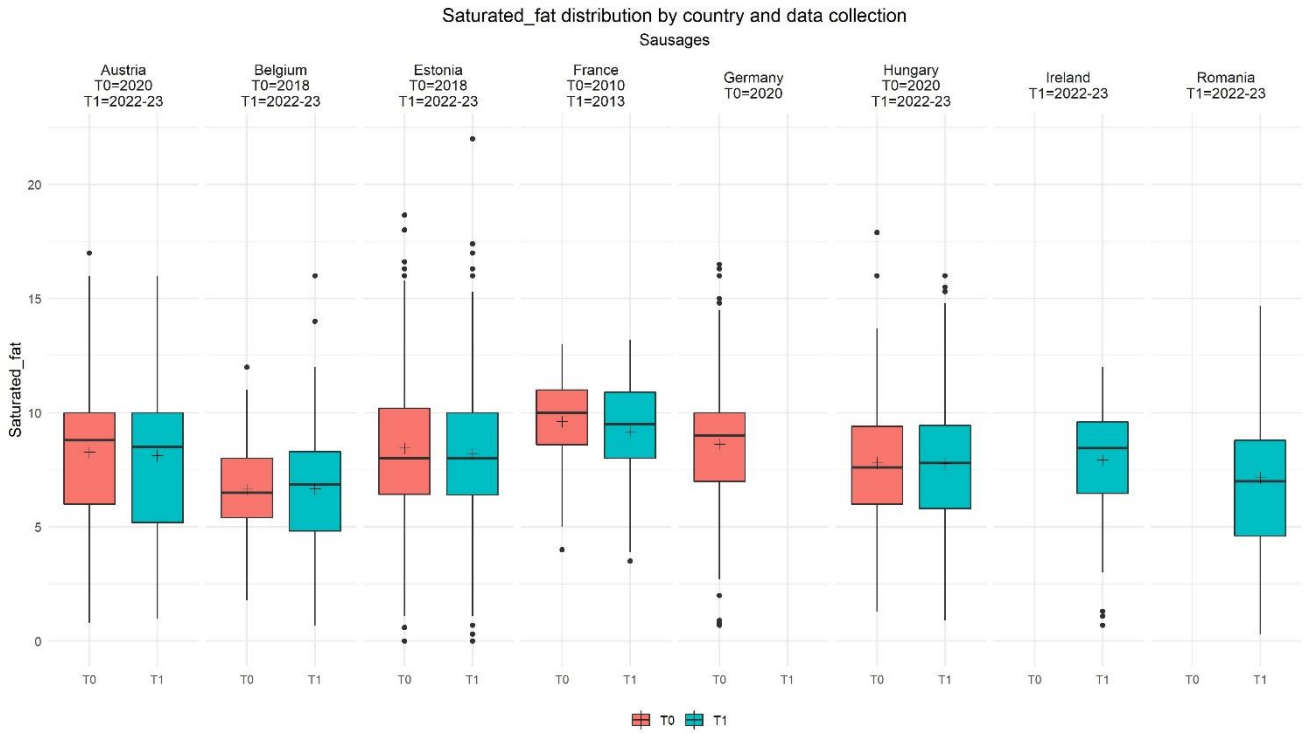

*Figure 20 : Saturated fat distribution of products collected among Sausages subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test))*

7.2.2.3.3. Salt

Table 15 shows the mean salt content (g/100g) of Delicatessen meats and similar subcategories for each data collection (T0 and T1) and country, with associated differences (g/100g).

The mean salt content differs depending on the subcategory, with the highest mean salt contents observed for Cured ham, Dried, smoked or cured beef and Dry sausage (up to 5,56g/100g for Cured ham in France at T0).

Overall, the evolution of salt content among Delicatessen meats and similar collected across Europe seems to differ according to the country.

Significant increases in the mean salt content are observed in Austria for Dry sausage (+0,14g/100g), in Belgium for Sausages (+0,15g/100g) and in Hungary for Dry sausage (+0,17g/100g).

Significant decreases in the mean salt content are observed in Estonia for 4 subcategories out of 17, ranging from -0,11g/100g (Sausages) to -1,18g/100g (Dried, smoked or cured pork), in Hungary for Cooked pork ham and roast (packaged) (-0,33g/100g) and Pork belly and bacon (-1,37g/100g) and in France for Cured ham (-0,27g/100g) and Pâté (-0,12g/100g). These evolutions need to be tempered because of the variability of the time gaps between T0 and T1 for the countries and the fact that the France's T1 year is 10 years earlier than the T1 of other countries.

As an example, Figure 21 gives an overview of the distribution of the salt content of products collected among the Sausages subcategory by country according to the data collection. All mean salt contents are between 1,77g/100g and 2,28g/100g. There are only two significant evolutions in mean salt content between T0 and T1: a significant increase of +0.15g/100g in Belgium and a significant decrease of -0.11g/100g in Estonia.

Finally, it can be seen that for all countries there is room for reformulation for products with high salt content, to align them with the ones showing the most virtuous formulations in the subcategory.

Table 15 : Summary of mean salt content evolution among Delicatessen meats and similar subcategories, by country

Delicatessen meats and similar Salt (g/100g)	Austria			Belgium			Estonia			Hungary			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Alternative products without animal protein	2,05	2,18	+0,14	1,66	1,68	+0,013		1,69		0,93	1,28	+0,35			
Assortment of delicatessen meats	3,13	3,54	+0,41	4,47	4,65	+0,19	3	4,33	+1,33						
Chorizo	3,72	3,72	0	3,98	3,66	-0,32	3,63	3,88	+0,25	3,3	4,05	+0,75	4,18	4,05	-0,13
Cooked beef (packaged)	2,1	1,25	-0,85	1,84	1,62	-0,21	2,22	1,6	-0,62*		1,6				
Cooked pork ham and roast (packaged)	2,17	2,16	-0,016	1,94	1,86	-0,075	2,34	2,22	-0,12	2,59	2,27	-0,33***	1,85	1,88	+0,03
Cured ham	4,4	4,42	+0,017	4,85	4,91	+0,058	3,96	3,91	-0,051	5,3	4,69	-0,61	5,56	5,29	-0,27*
Dried, smoked or cured beef	4,37	3,42	-0,95	3,63	3,74	+0,11	3,76	3,48	-0,28	3,88	4	+0,12			
Dried, smoked or cured pork	2,67	2,75	+0,085	4,09	4,05	-0,034	4,61	3,43	-1,18*	3,31	3,29	-0,023			
Dry sausage	3,95	4,09	+0,14*	4,02	3,98	-0,036	3,63	3,47	-0,17	3,65	3,82	+0,17***	4,61	4,57	-0,036
Other cooked meats (packaged)					2,1		2,1	1,42	-0,68*		1,8				
Other cured meats				3,77	3,04	-0,72	3,65	3,62	-0,02	4,27					
Pâté	1,75	1,68	-0,068	1,74	1,81	+0,065	1,56	1,62	+0,057	1,62	1,62	-0,00062	1,64	1,53	-0,12*
Pepperoni	3,3	4,1	+0,8		3,15		3,18	3,05	-0,13		3,9				
Pork belly and bacon (packaged)	3,03	3,19	+0,16	3,15	2,78	-0,37	2,53	2,62	+0,097	4	2,63	-1,37**	2,68	2,59	-0,095
Poultry ham and roast (packaged)	2,2	2,29	+0,093	1,93	2,03	+0,1	1,84	1,82	-0,018	2,35	2,15	-0,2*	1,86	1,98	+0,12
Poultry lardons				2	2,03	+0,03							2,5	2,48	-0,02
Sausages	2,23	2,28	+0,053	1,77	1,92	+0,15**	2,18	2,06	-0,11**	2,13	2,12	-0,018	2,08	2,08	-0,0025

*Significance: *** if p<0,001 ; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

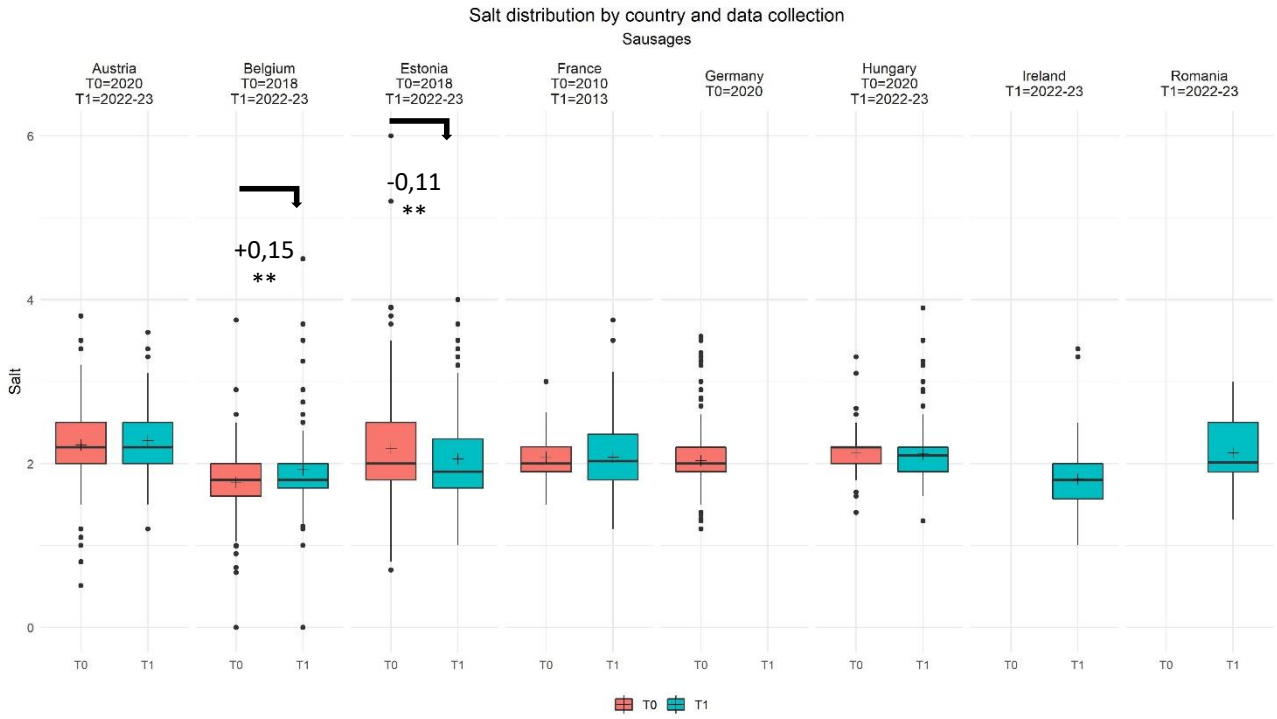

*Figure 21 : Salt distribution of products collected among Sausages subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test))*

7.2.2.4. Fresh dairy products and desserts

Relevant nutrients selected to compare Fresh dairy products and desserts' nutritional values among concerned countries are: Fat, Saturated fat and Sugar.

7.2.2.4.1. Fat

Table 16 shows the mean fat content (g/100g) of Fresh dairy products and desserts subcategories for each data collection (T0 and T1) and country, with associated differences (g/100g).

Overall, for all countries, the mean fat content differs greatly depending on the subcategory, with mean value below 10g/100g for the majority of subcategories and highest mean fat contents observed for Egg-based fresh desserts, Fresh mousse-type desserts and Other dairy products (up to 28/100g for Other dairy products in Ireland at T1). It should be noted that the values vary considerably from one subcategory to another, depending on the ingredients added (e.g. chocolate, eggs, cream, etc.).

The evolution of the mean fat content among Fresh dairy products and desserts collected across Europe seems to differ according to the country.

Significant increases in the mean fat content are observed in Estonia for three subcategories out of 21, ranging from +1,1g/100g (Gourmet sweet fresh cheeses) to +4,9g/100g (Dessert creams and jellied milks), in Germany for Artificially-sweetened fresh cheeses (+0,1g/100g), in Ireland for Classic sweet yoghurts and fermented milks (+0,3g/100g) and in France for six subcategories, ranging from +0,07g/100g (Artificially-sweetened yoghurts and fermented milks) to +2,7g/100g (Fresh mousse-type desserts). These evolutions need to be tempered because of the variability of the time gaps between T0 and T1 for the countries, France for example having an eight-year time gap.

Significant decreases in the mean fat content are observed in Austria for Fresh light and/or artificially-sweetened desserts (-3,3g/100g), in Belgium for Classic sweetened fresh cheeses (-0,5g/100g), in Hungary for Artificially-sweetened yoghurts and fermented milks (-0,9g/100g), in Ireland for Fresh sweetened soy desserts (-1,1g/100g) and in France for Classic-sweetened fresh cheeses (-0,3g/100g).

As an example, Figure 22 gives an overview of the distribution of the fat content of products collected among the Classic sweet yoghurts and fermented milks subcategory by country according to the data collection. The variability is comparable for all countries and all mean contents are between 1,5g/100g and 2,4g/100g. The only significant evolutions are increases observed in Ireland (+0,3g/100g) and France (+0,2g/100g). Ireland has the lowest mean fat content in T0, and the increase at T1 brings its mean fat content into line with that of the other countries in T1. These evolutions, and especially for France, need to be tempered because of the variability of the time gaps between T0 and T1 for the countries and the fact that the year of T1 for France (2017) corresponds to the year of T0 for certain countries.

Finally, it can be seen that for all countries, there is still room for reformulation for products that have a higher fat content, to align them with the ones showing the most virtuous formulations in the subcategory.

Table 16 : Summary of mean fat content evolution among Fresh dairy products and desserts subcategories, by country

Fresh dairy products and desserts Fat (g/100g)	Austria			Belgium			Estonia			Germany			Hungary			Ireland			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Artificially-sweetened fresh cheeses	0,2	0,4	+0,2	0,2	0,2	+0,01	0,3	0,2	-0,1	0,3	0,4	+0,1*		3,3			0,2		0,4	0,1	-0,3
Artificially-sweetened yoghurts and fermented milks	0,5	0,3	-0,2	0,3	0,3	+0,07	0,4	0,7	+0,3	1,5	1,3	-0,2	1,4	0,5	-0,9*	1	0,8	-0,02	0,1	0,2	+0,07**
Classic plain fresh cheeses with no added sugar		0,2		1,2	1,2	-0,06		0,6								1	0,7	-0,3	2	1,9	-0,1
Classic plain yoghurts and fermented milks with no added sugar		2,4		1,6	1,4	-0,2	1	2	+1					2,7		1,7	1,4	-0,3	1,7	2	+0,3
Classic sweet yoghurts and fermented milks	2,4	2,4	+0,05	2,1	2,2	+0,1	2,1	2	-0,1	2,4	2,4	0	2,1	2,1	-0,03	1,5	1,9	+0,3**	2,2	2,4	+0,2***
Classic sweetened fresh cheeses	2,1	2	-0,2	2,9	2,4	-0,5*	1,6	1,6	-0,007	1,9	2	+0,1	2,8	2,5	-0,3	2,4	2,1	-0,3	2,7	2,3	-0,3**
Curdled milks																			3,3	3,1	-0,2
Dessert creams and jellied milks	7,2	8,2	+1	4,9	4,3	-0,6	4,8	9,8	+4,9**				4,2	6,5	+2	7,2	11,3	+4,1	3,3	3,9	+0,6*
Egg-based fresh desserts	13,3	13,3	+0,05	14	16,7	+2,7	23,1	21,9	-1,2								5,3		8,8	8,8	+0,02
Fresh desserts with cereals	4,1	3,4	-0,7	3,1	3,2	+0,007	4,3	4,4	+0,05				3	3,4	+0,3		2,7		3,3	3,6	+0,3
Fresh light and/or artificially-sweetened desserts	5,2	1,8	-3,3**	7,3	4	-3,3	2	2	+0,05				2,1	2,4	+0,3		1,5		2,4	3,6	+1,2
Fresh mousse-type desserts	16,6	10,7	-6	11,8	14,5	+2,7	14,6	9,8	-4,8					10,7			9,8		8,5	11,2	+2,7**
Fresh plain unsweetened soy desserts		2,6			2,5			2,6						2,6		4,6	2,5	-2,1	2,3	2,3	-0,08
Fresh sweetened soy desserts	2,6	2	-0,6	2,2	2,2	-0,04	4,1	3,5	-0,6					2,2		3,2	2,1	-1,1*	2,1	2	-0,1
Gourmet plain fresh cheeses with no added sugar		5		7,9	7,2	-0,7		9,1									4		8,1	7,9	-0,2
Gourmet plain yoghurts and fermented milks with no added sugar		7		7,2	7,4	+0,3		5,5						7,9		7	6,8	-0,2	7,4	7	-0,4
Gourmet sweet fresh cheeses	4,7	4,6	-0,07	5,3	4,8	-0,5	5,9	7	+1,1*	5,3	5,3	0	4,7	4,6	-0,1		6,7		6,1	6,5	+0,5
Gourmet sweet yoghurts and fermented milks	6,4	6,2	-0,2	6,5	6,5	+0,06	5,9	6	+0,08	6,6	6,6	0	5,9	5,3	-0,6	6,7	6,5	-0,1	5,6	6,2	+0,6*
Liégeois desserts and similar	4,4	4,1	-0,3	5,7	6,1	+0,4	5,4	3,1	-2,3					3,8			5		5,8	6,9	+1,1**
Other dairy products							22,3	22,7	+0,4					9,3			28				
Other fresh plant-based desserts	6	4,9	-1	3,6	5,2	+1,6	1,9	5,9	+4*					5		6,4	6,6	+0,2		9,8	

*Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

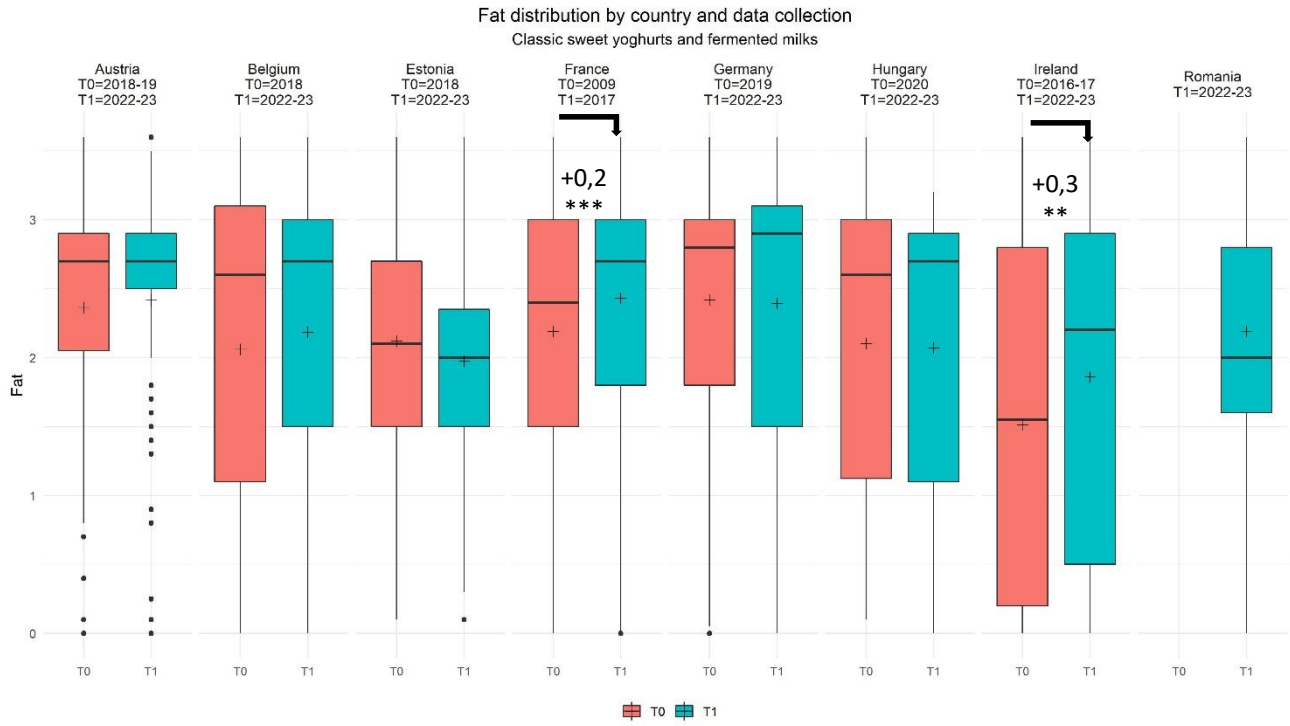

*Figure 22 : Fat distribution of products collected among Classic sweet yoghurts and fermented milks subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test))*

7.2.2.4.2. Saturated fat

Table 17 shows the mean saturated fat content (g/100g) of Fresh dairy products and desserts subcategories for each data collection (T0 and T1) and country, with associated differences (g/100g).

Overall, for all countries, the mean saturated fat content differs greatly depending on the subcategory, with mean value below 5g/100g for the majority of subcategories and highest mean saturated fat contents observed for Egg-based fresh desserts, Fresh mousse-type desserts and Other dairy products (up to 19,4g/100g for Egg-based fresh desserts in Estonia at T0). It should be noted that the values vary considerably from one subcategory to another, depending on the ingredients added (e.g. chocolate, eggs, etc.).

The evolution of the mean saturated fat content among Breakfast cereals collected across Europe seems to differ according to the country.

No significant differences in mean saturated fat content between T0 and T1 are observed in Belgium.

Significant increases in the mean saturated fat content are observed in Austria for Artificially-sweetened fresh cheeses (+0,2g/100g), in Estonia for Dessert creams and jellied milks (+3g/100g) and Gourmet sweet fresh cheeses (+0,8g/100g), in Germany for Artificially-sweetened fresh cheeses (+0,2g/100g), in Ireland for Classic sweet yoghurts and fermented milks (+0,2g/100g) and in France for three subcategories out of 21, ranging from +0,2g/100g (Classic sweet yoghurts and fermented milks) to +1,6g/100g (Fresh light and/or artificially-sweetened desserts).

Significant decreases in the mean saturated fat content are observed in Austria for Artificially-sweetened yoghurts and fermented milks (-0,2g/100g) and Fresh light and/or artificially-sweetened desserts (-2,2g/100g) in Hungary for Artificially-sweetened yoghurts and fermented milks (-0,6g/100g) and in France for Classic sweetened fresh cheeses (-0,3g/100g). It should be noted that the time gap between T0 and T1 is longer in France (eight years) than in the other countries, which may explain the greater number of significant changes found in the French data.

As an example, Figure 23 gives an overview of the distribution of the saturated fat content of products collected among the Classic sweet yoghurts and fermented milks subcategory by country according to the data collection. The mean saturated fat content is below 2g/100g for all countries in this subcategory. Only two countries show a significant evolution in their mean saturated fat content between T0 and T1, which is a significant increase for Ireland (+0,2g/100g) and for France (+0,2g/100g). These evolutions need to be tempered because of the variability of the time gaps between T0 and T1 for the countries and the fact that the year of T1 for France corresponds to the year of T0 for Ireland.

Finally, it can be seen that for all countries, even if the saturated fat content is in average relatively low, there are still opportunities to reformulate some products, which have a higher saturated fat content, to align them with the ones showing the most virtuous formulations in the subcategory.

Table 17 : Summary of mean saturated fat content evolution among Fresh dairy products and desserts subcategories, by country

Fresh dairy products and desserts Saturated fat (g/100g)	Austria			Belgium			Estonia			Germany			Hungary			Ireland			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Artificially-sweetened fresh cheeses	0,1	0,3	+0,2*	0	0,1	+0,06	0,2	0,1	-0,08	0,1	0,3	+0,2**		1,9			0,2		0	0,1	+0,06
Artificially-sweetened yoghurts and fermented milks	0,3	0,1	-0,2*	0,1	0,1	+0,003	0,3	0,4	+0,2	1	0,8	-0,2	0,9	0,3	-0,6*	0,6	0,4	-0,07	0	0,1	+0,03
Classic plain fresh cheeses with no added sugar		0,1		0,8	0,8	-0,04		0,4								0,8	0,4	-0,4	1,3	1,2	-0,1
Classic plain yoghurts and fermented milks with no added sugar		1,5		1	0,9	-0,1	0,7	1,3	+0,6					1,8		1,2	0,9	-0,3	1	1,3	+0,3
Classic sweet yoghurts and fermented milks	1,5	1,6	+0,03	1,3	1,4	+0,05	1,3	1,2	-0,09	1,6	1,6	0	1,4	1,4	-0,005	1	1,2	+0,2*	1,4	1,6	+0,2***
Classic sweetened fresh cheeses	1,4	1,3	-0,1	1,9	1,6	-0,3	1	1	-0,02	1,2	1,3	+0,1	1,8	1,5	-0,2	1,6	1,4	-0,2	1,8	1,5	-0,3**
Curdled milks																			2	2,1	+0,1
Dessert creams and jellied milks	4,8	5,4	+0,6	3,2	2,7	-0,5	3	6	+3**				2,7	4,4	+2	4,7	6,7	+2	2,2	2,5	+0,4
Egg-based fresh desserts	8	8	+0,05	8,7	10,4	+1,8	19,4	14,4	-5								3,2		5,5	5,5	-0,08
Fresh desserts with cereals	2,5	2,3	-0,2	2	2	-0,05	3	2,6	-0,4				2	2,2	+0,2		1,7		2	2,3	+0,3
Fresh light and/or artificially-sweetened desserts	3,4	1,2	-2,2**	4,8	2,4	-2,4	1,2	1,2	+0,01				1,4	1,5	+0,1		1		0,8	2,4	+1,6*
Fresh mousse-type desserts	11,9	7,2	-4,7	7,7	9,2	+1,5	11,3	7,2	-4,2					5,2			6,8		5,5	7,1	+1,6
Fresh plain unsweetened soy desserts		0,4			0,4			0,4						0,4		2,1	0,4	-1,7	0,3	0,4	+0,06
Fresh sweetened soy desserts	0,5	0,4	-0,03	0,4	0,4	-0,005	1,9	1,5	-0,4					0,5		1,8	0,4	-1,5	0,4	0,5	+0,07
Gourmet plain fresh cheeses with no added sugar		3,5		5,3	4,6	-0,7		5,7									2,7		4,9	5,3	+0,4
Gourmet plain yoghurts and fermented milks with no added sugar		4,8		4,7	5	+0,3		3,5						5,6		4,6	4,4	-0,2	5,2	4,8	-0,4
Gourmet sweet fresh cheeses	3	3	+0,02	3,6	3	-0,6	3,6	4,4	+0,8*	3,5	3,5	0	3,1	3	-0,1		3		3,5	4,4	+0,9
Gourmet sweet yoghurts and fermented milks	4,1	4	-0,07	4,2	4,2	+0,05	3,7	3,8	+0,1	4,3	4,3	0	3,8	3,6	-0,3	4,2	4,1	-0,1	3,8	4	+0,2
Liégeois desserts and similar	2,9	2,7	-0,2	3,8	4	+0,3	3,4	2,1	-1,3					2,6			3,4		3,6	4,6	+0,9**
Other dairy products							14,3	14,3	+0,008					6,6			17				
Other fresh plant-based desserts	4,3	3,8	-0,5	3,3	4,1	+0,8	1,1	4	+2,9					3,6		4,6	4,8	+0,2		8,5	

*Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

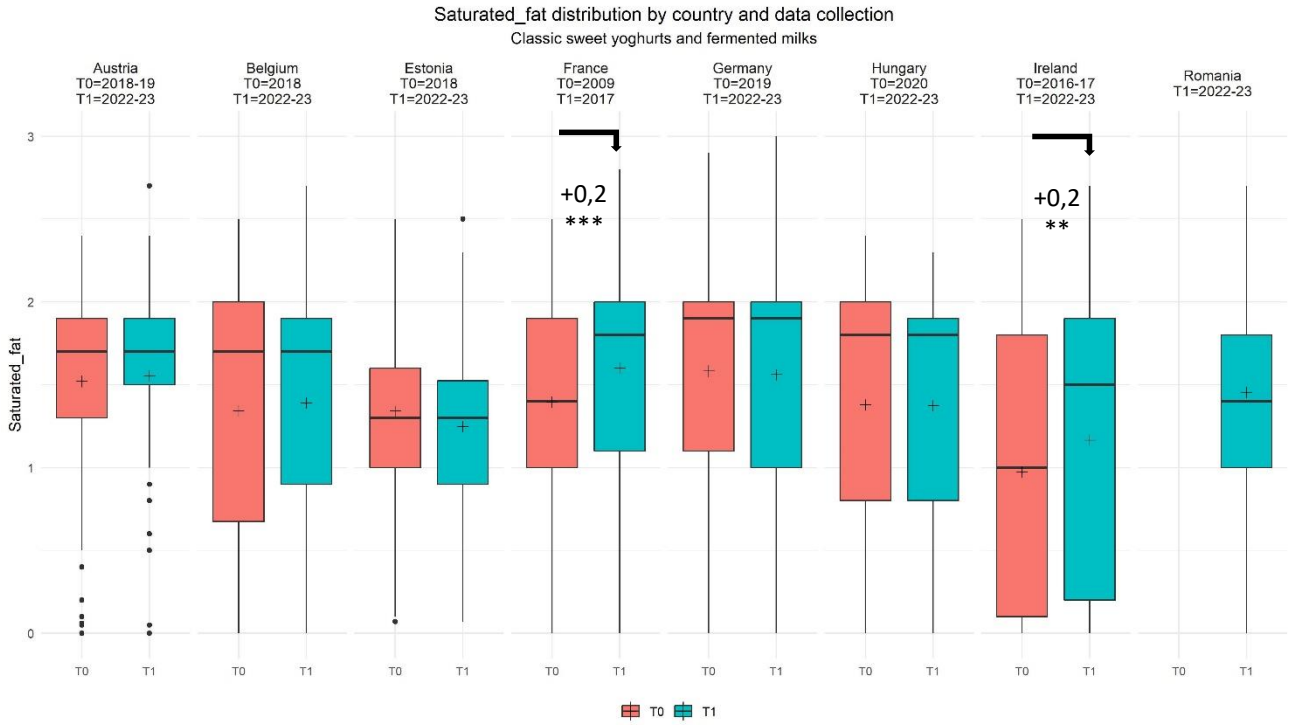

*Figure 23 : Saturated fat distribution of products collected among Classic sweet yoghurts and fermented milks subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test))*

7.2.2.4.3. Sugar

Table 18 shows the mean sugar content (g/100g) of Fresh dairy products and desserts subcategories for each data collection (T0 and T1) and country, with associated differences (g/100g).

Overall, for all countries, the mean sugar content differs greatly depending on the subcategory, with the highest mean sugar contents observed for Curdled milks, Egg-based fresh desserts, Fresh mousse-type desserts and Other dairy products (up to 24,7g/100g for Other dairy products in Estonia at T0).

Significant differences in mean sugar content between T0 and T1 are observed in the seven countries studied and they are all significant decreases.

Significant decreases in the mean sugar content are observed in Austria for seven subcategories out of 21, ranging from -1,3g/100g (Classic sweet yoghurts and fermented milks) to -4g/100g for Fresh light and/or artificially-sweetened desserts, in Belgium for four subcategories, ranging from -0,4g/100g (Classic sweet yoghurts and fermented milks) to -8,9g/100g (Fresh light and/or artificially-sweetened desserts), in Estonia for Gourmet sweet fresh cheeses (-0,8g/100g), in Germany for three subcategories, ranging from -0,7g/100g (Gourmet sweet yoghurts and fermented milks) to -1g/100g (Gourmet sweet fresh cheeses), in Hungary for Classic sweet yoghurts and fermented milks and Gourmet sweet yoghurts and fermented milks (-0,7g/100g and -1,5g/100g respectively), in Ireland for three subcategories, ranging from -0,8g/100g (Artificially-sweetened yoghurts and fermented milks) to -2g/100g (Classic sweetened fresh cheeses and Gourmet sweet yoghurts and fermented milks) and in France for eight subcategories, ranging from -0,5g/100g (Classic plain yoghurts and fermented milks with no added sugar) to -4g/100g (Fresh desserts with cereals). It should be noted that the time gap between T0 and T1 is longer in France (eight years) than in the other countries, which may explain the greater number of significant evolutions found in the French data.

As an example, Figure 24 gives an overview of the distribution of the sugar content of products collected among the Classic sweet yoghurts and fermented milks subcategory by country according to the data collection. Mean sugar content is between 10,3g/100g and 13,3g/100g for all countries, T0 and T1 combined. All countries show a decrease in their mean sugar content between T0 and T1 with five out of seven countries showing a significant decrease : Austria (-1,3g/100g), Belgium (-0,4g/100g), Germany (-0,8g/100g), Hungary (-0,7g/100g) and France (-0,6g/100g). France has the highest mean sugar content at T0 and still the highest mean sugar content at T1, despite the significant decrease. These evolutions need to be tempered because of the variability of the time gaps between T0 and T1 for the countries and the fact that the year of T1 for France corresponds to the year of T0 for certain countries.

Finally, it can be seen that for all countries, there are still opportunities to reformulate some products, which have a higher sugar content, to align them with the ones showing the most virtuous formulations in the subcategory.

Table 18 : Summary of mean sugar content evolution among Fresh dairy products and desserts subcategories, by country

Fresh dairy products and desserts Sugar (g/100g)	Austria			Belgium			Estonia			Germany			Hungary			Ireland			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Artificially-sweetened fresh cheeses	4,7	4	-0,7	3,5	3,8	+0,4	4,2	4,6	+0,4	4,4	3,8	-0,6		3,5			3,2		8,9	5	-3,9
Artificially-sweetened yoghurts and fermented milks	6,1	4,2	-1,8**	5,1	4,9	-0,2	4,7	4,8	+0,1	5	4,8	-0,2	4,7	5	+0,3	6,4	5,6	-0,8*	6,3	5,6	-0,7**
Classic plain fresh cheeses with no added sugar		4		3,8	3,9	+0,09		2,9								4,5	3,9	-0,6	3,9	3,9	+0,05
Classic plain yoghurts and fermented milks with no added sugar		4,4		4,8	4,6	-0,2	1,1	4,2	+3,1					3,9		5,6	5,2	-0,4	4,9	4,3	-0,5***
Classic sweet yoghurts and fermented milks	12,6	11,3	-1,3***	12,1	11,8	-0,4*	11,5	11,2	-0,3	12,7	11,9	-0,8***	12,2	11,5	-0,7**	10,5	10,3	-0,2	13	12,4	-0,6***
Classic sweetened fresh cheeses	12,2	10,5	-1,7**	12,7	11,4	-1,3*	13,6	13,3	-0,3	10,9	10,9	0	17,1	19	+1,9	10,9	9,1	-2***	13	12	-0,9***
Curdled milks																			19,2	14,8	-4,4
Dessert creams and jellied milks	14,2	12,5	-1,7***	16,7	14,8	-1,9**	13,9	15,9	+2				13,1	13,4	+0,3	22,7	23,6	+0,9	16,6	16,6	-0,03
Egg-based fresh desserts	19,8	19,1	-0,7	17,1	19,3	+2,2	14	12,5	-1,5								17,1		17,1	17,5	+0,4
Fresh desserts with cereals	12,4	11,5	-0,9	14	13	-1	11	12,7	+1,7				10,9	11,7	+0,8		11,5		17,9	13,9	-4***
Fresh light and/or artificially-sweetened desserts	8,5	4,5	-4**	14,6	5,7	-8,9**	4,6	4,4	-0,1				3,2	4,3	+1,1		4,4		10,4	11,8	+1,4
Fresh mousse-type desserts	20,1	19,2	-1	19,8	19,8	-0,03	22,1	21,5	-0,6					20,5			18,8		19,7	20	+0,3
Fresh plain unsweetened soy desserts		0,1			0,1			0,4						0		1,9	0,2	-2	0	0,2	+0,2
Fresh sweetened soy desserts	9,5	8,1	-1,4*	7,8	7,9	+0,2	10,4	9,6	-0,8					7,6		10,3	7,5	-3	11,2	12,1	+0,9
Gourmet plain fresh cheeses with no added sugar		3,9		3	3,5	+0,5		3,1									3,5		3,6	3,5	-0,1
Gourmet plain yoghurts and fermented milks with no added sugar		3,9		4,4	4	-0,3		4,3						3,8		4,7	4,8	+0,04	4	3,6	-0,5
Gourmet sweet fresh cheeses	15,2	14,2	-0,9	13,7	12,8	-1	14,1	13,4	-0,7	14,1	13,1	-1**	21,1	17,7	-3,3		9,6		15,3	13,2	-2,1***
Gourmet sweet yoghurts and fermented milks	13,7	13,3	-0,5	13,1	12,9	-0,2	14,1	13,3	-0,8*	13,5	12,8	-0,7***	14,4	12,9	-1,5**	14,7	12,9	-2***	15	12,9	-2,1***
Liégeois desserts and similar	13,4	12,8	-0,6	15,3	14,2	-1,1	12,6	13,8	+1,2					13,5			11,8		14,6	15,9	+1,3*
Other dairy products							24,7	24,5	-0,2					20,7			22				
Other fresh plant-based desserts	8,2	4,4	-3,8**	8,9	5,6	-3,3	6	8	+2					7,7		7,4	9	+2		9,6	

*Significance: *** if p<0,001 ; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

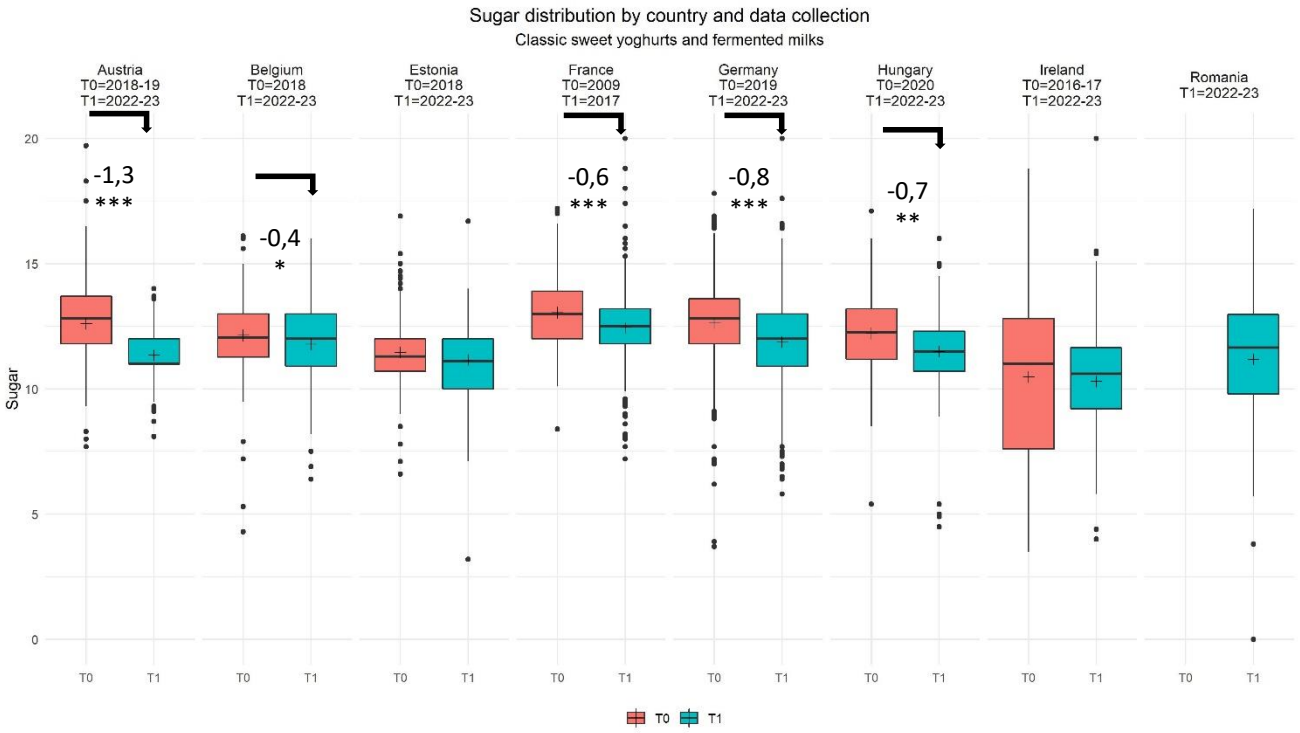

*Figure 24 : Sugar distribution of products collected among Classic sweet yoghurts and fermented milks subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test))*

7.2.2.5. Soft drinks

Relevant nutrient selected to compare Soft drinks' nutritional values among concerned countries is: Sugar.

7.2.2.5.1. Sugar

Table 19 shows the mean sugar content (g/100ml) of Soft drinks subcategories for each data collection (T0 and T1) and country, with associated differences (g/100ml).

Overall, for all countries, the mean sugar content differs greatly depending on the subcategory, with the highest mean sugar contents observed for Sugar-sweetened colas, Sugar-sweetened energy drinks and Fruit beverages with fruit content > or = 50% (up to 12,7g/100ml for Fruit beverages with fruit content > or = 50% in Romania at T0).

It has to be noted that for subcategories corresponding to products without added sugar, the significant evolutions are not the reflection of reformulation but of a change in the way the absence of sugar is labelled (for instance from < 0.5g/100ml to traces).

Significant increases in the mean sugar content are observed in Belgium for Sugar-sweetened and artificially-sweetened colas (+0,2g/100ml) and in Germany for three subcategories out of 27, ranging from +0,6g/100ml (Flavoured sugar-sweetened waters) to +2,1g/100ml (Other sugar-sweetened beverages).

Significant decreases in the mean sugar content are observed in Austria for Flavoured milk beverages (-1g/100ml) and Sugar-sweetened plant-based beverages (-2,3g/100ml), in Belgium for eight subcategories, ranging from -0,8g/100ml (Sugar-sweetened tonics and bitters) to -1,6g/100ml (Sugar-sweetened and artificially-sweetened fruit beverages), in Estonia for Sugar-sweetened tea beverages (-2g/100ml), in Hungary for three subcategories, ranging from -0,5g/100ml (Sugar-sweetened tea beverages) to -7,7g/100ml (Flavoured sugar-sweetened waters), in Romania for Flavoured sugar-sweetened and artificially-sweetened waters (-8,9g/100ml) and for Fruit beverages with fruit content > or = 50% (-5,2g/100ml) and in France for Vegetable beverages (-5,3g/100ml). It should be noted that the time gap between T0 and T1 is longer in France (10 years) than in the other countries and that the year of T1 for France corresponds to the year of T0 for certain countries.

As an example, Figure 25 gives an overview of the distribution of the sugar content of products collected among the Sugar-sweetened colas subcategory by country according to the data collection. Mean sugar contents are between 9,4g/100ml and 11,1g/100ml for all countries in this subcategory, T0 and T1 combined, and no significant evolutions are observed between mean sugar contents at T0 and T1 for any countries. The variability of sugar content varies from one country to another, but there is still room for reformulation in all countries, with the possibility, for products with the highest sugar content, of aligning themselves with products with lower sugar content.

Another example is presented in Figure 26 showing the distribution of the sugar content of products collected among the Sugar-sweetened fruit beverages subcategory by country according to the data collection. Mean sugar contents are between 6,4g/100ml and 10,2g/100ml for all countries in this subcategory, T0 and T1 combined. Significant decreases in mean sugar content between T0 and T1 are observed in two countries: Belgium (-1,5g/100ml) and Hungary (-1,5g/100ml). The variability of sugar content varies from one country to another, but there is still room for reformulation in all countries, with the possibility, for products with the highest sugar content, of aligning themselves with products with lower sugar content.

A last example is presented in Figure 27 showing the distribution of the sugar content of products collected among the Sugar-sweetened tea beverages subcategory by country according to the data collection. Mean sugar contents are between 5,5g/100ml and 8,9g/100ml for all countries in this subcategory, T0 and T1 combined. Significant decreases in mean sugar content between T0 and T1 are observed in two countries: Estonia (-2g/100ml) and Hungary (-0,5g/100ml). The variability of sugar content varies from one country to another, but there is still room for reformulation in all countries, with the possibility, for products with the highest sugar content, of aligning themselves with products with lower sugar content.

Table 19 : Summary of mean sugar content evolution among Soft drinks subcategories, by country

Soft drinks Sugar (g/100ml)	Austria			Belgium			Estonia			Germany			Hungary			Romania			France		
	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0	Mean T0	Mean T1	Delta T1-T0
Alcohol-free beers without added sugar		2,8			0,8		0	1,9	+1,9	4,5	6,1	+1,6		2,3			2,1				
Colas without added sugar	0	0	0	0,1	0	-0,09***	0	0	0	0,1	0,1	0		0		0	0	+0,03***	0,1	0	-0,03
Energy drinks without added sugar	2,9	0,9	-2	4,7	1,1	+1*	4,2	0,8	-3,5*	0,1	0,1	-0,1*	0	0	0		0		2,4	0	-2,4
Flavoured milk beverages	8,9	7,9	-1**	9,4	8,5	-0,9**	9,1	8,4	-0,7	8,4	8,2	-0,2	8,6	8,1	-0,5		7,8			7,3	
Flavoured sugar-sweetened and artificially-sweetened waters	3,6	3,2	-0,4	5,6	5,9	+0,4	4,3	5,8	+1,5	3,3	3,4	+0,1	5,8	4,4	-1,4	12,7	3,8	-8,9**	6,6	5,6	-1
Flavoured sugar-sweetened waters	8	8,4	+0,4	8,6	9,1	-2,3	7,5	7,2	-0,2	6	6,7	+0,6*	11	3,3	-7,7*	8,6	10,5	+1,9	7,3	7,7	+0,4
Flavoured waters without added sugar	0	0	0	0	0	-0,5	0	0	-0,02	0,1	0	-0,1*	0	0	0	0	0	0	0	0	-0,03
Fruit beverages with fruit content > or = 50%	8,6	8,6	0	10,2	9,8	+0,07	9,3	9,3	-0,03	6	5,9	-0,1	11,5	6	-5,6	12,7	7,5	-5,2*	10,5	10,3	-0,2
Fruit beverages without added sugar	2	1	-1**	2,6	1,2	-0,8***	4,6	3,1	-1,6*	2,3	2	-0,3	0,8	0,8	-0,002	0,5	0,9	+0,4	0,9	1,5	+0,7*
Other beverages without added sugar	1,2	1,9	+0,7	3,1			5,1	4,8	-0,3	0,4			0	0	0		2,6			3	
Other sugar-sweetened beverages	7,4	6,4	-1	4,8	5,1	-1	7,8	7,3	-0,6	3,9	6	+2,1**	7	4,9	-2,1	11	6,5	-4,5		5,2	
Plant-based beverages without added sugar	4,7	3	-1,7	3,8	2	-1,6**	4,4	3,9	-0,5				4,6	3,2	-1,5		3,7		2,2	3,3	+1
Sugar-sweetened alcohol-free beers	12	4,8	-7,2		2,7		6,9	6	-1	6	6,3	+0,3		5,8			4,6				
Sugar-sweetened and artificially-sweetened colas	3,1	4,2	+1,1	6,7	6,9	+0,2*	7,3	6,9	-0,4	4,1	3,6	-0,5	4,3	6	+1,7	3,9	3,5	-0,4	7,6	7,1	-0,5
Sugar-sweetened and artificially-sweetened energy drinks	7,6	8,6	+1	4,5	6,7	+2,2	8,3	9,7	+1,4		8,2		6,2	8	+1,8		7,2		5,7	6,9	+1,2
Sugar-sweetened and artificially-sweetened fruit beverages	4,3	5	+0,7	5,8	4,2	-1,6***	5,5	5,3	-0,2	3,7	3,8	+0,1	5,3	5,3	+0,05	4,9	5,2	+0,3	6,8	6	-0,8
Sugar-sweetened and artificially-sweetened tea beverages	4,3	4,4	+0,1	4,3	4	-0,4	4,6	4,2	-0,4	3,8	4,2	+0,4	5,1	4	-1	4,8	4,4	-0,4	3,3	3,9	+0,6
Sugar-sweetened and artificially-sweetened tonics and bitters	4,3	4,6	+0,3	5,1	5,3	-0,5	7,6	9,1	+1,5	3,6	3	+-0,6		6,3					4,4	5,6	+1,2
Sugar-sweetened colas	9,4	9,7	+0,3	10,8	10,6	-0,1	10,3	10,3	+0,05	9,7	9,7	0	11,1	11	-0,1	10,5	10,2	-0,3	10,3	10,3	+0,06
Sugar-sweetened energy drinks	9,4	9,1	-0,3	10,7	11,5	+1,8	10,1	9,7	-0,5	8,6	10	+1,4**	11,2	11,1	-0,1		10,9		11,1	10,9	-0,2
Sugar-sweetened fruit beverages	6,8	6,4	-0,4	9,2	8,4	-1,5**	9,2	8,9	-0,3	7,9	7,8	-0,1	9,3	7,8	-1,5***	10,1	10,2	+0,1	9,2	9,1	-0,1
Sugar-sweetened plant-based beverages	6,4	4,1	-2,3***	4,4	4,8	+0,4	4,6	4,5	-0,1				4,1	4,4	+0,3		4,8		6,4	5,3	-1,1
Sugar-sweetened tea beverages	5,8	6,2	+0,4	6,4	8,9	+2,5	7,5	5,5	-2***	6,1	6,5	+0,4	7,4	6,8	-0,5**	7,4	7	-0,4	6,3	6,5	+0,2
Sugar-sweetened tonics and bitters	8,7	8,8	+0,1	8,5	7,7	-0,8*	8,2	7,9	-0,2	9	9	0		8		9,8	7,8	-2	8,6	8,2	-0,3
Tea beverages without added sugar	1,7	0,7	-1	1,9	0,8	-1,9**	2,6	1,2	-1,4	1,8	1,3	-0,4	0	0	-0,04	0	0	0	0,2	0,7	+0,5
Tonics and bitters without added sugar	0,2	0,1	-0,1	0	0,1	+0,08				0,2	0,1	-0,1		0		0	0	0	0,1	0,1	+0,02
Vegetable beverages	8,7	8,5	-0,2	9	6,8	-0,8	8	8,8	+0,8		5,7		9,2	3,7	-5,5	7,1	12	+4,9	12,9	7,6	-5,3**

*Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test) - Cell in orange: increase of the average content between T0 and T1 - Cell in purple: decrease of the average content between T0 and T1*

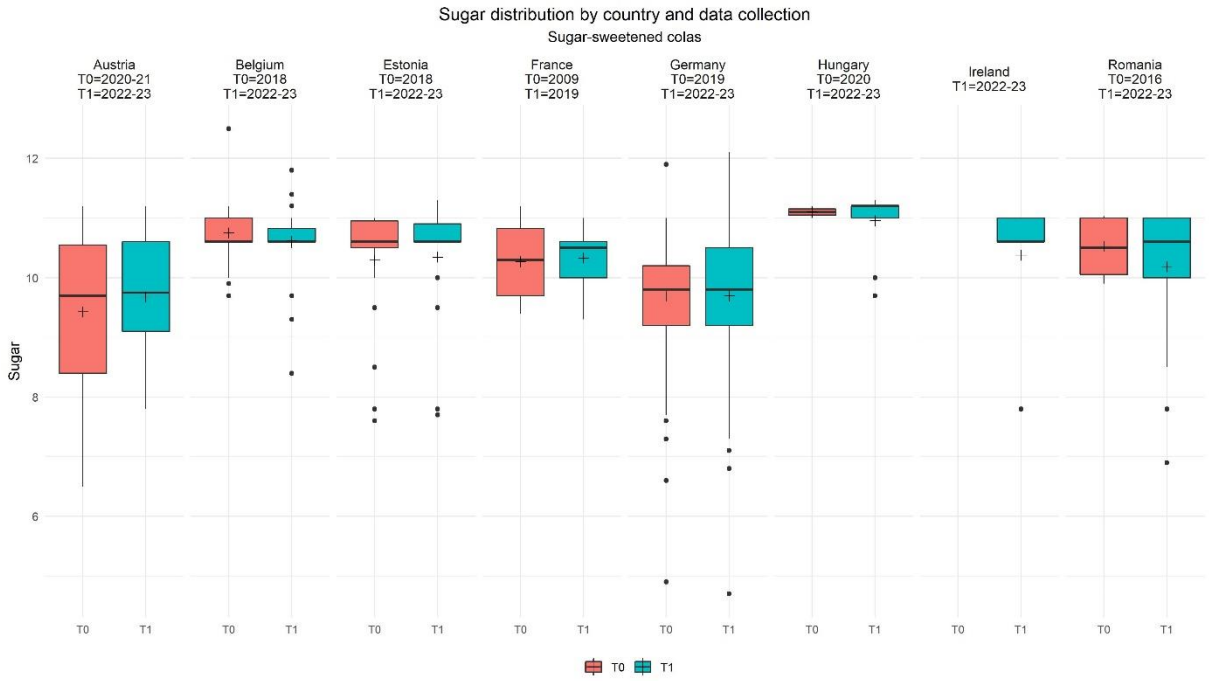

*Figure 25 : Sugar distribution of products collected among Sugar-sweetened colas subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test))*

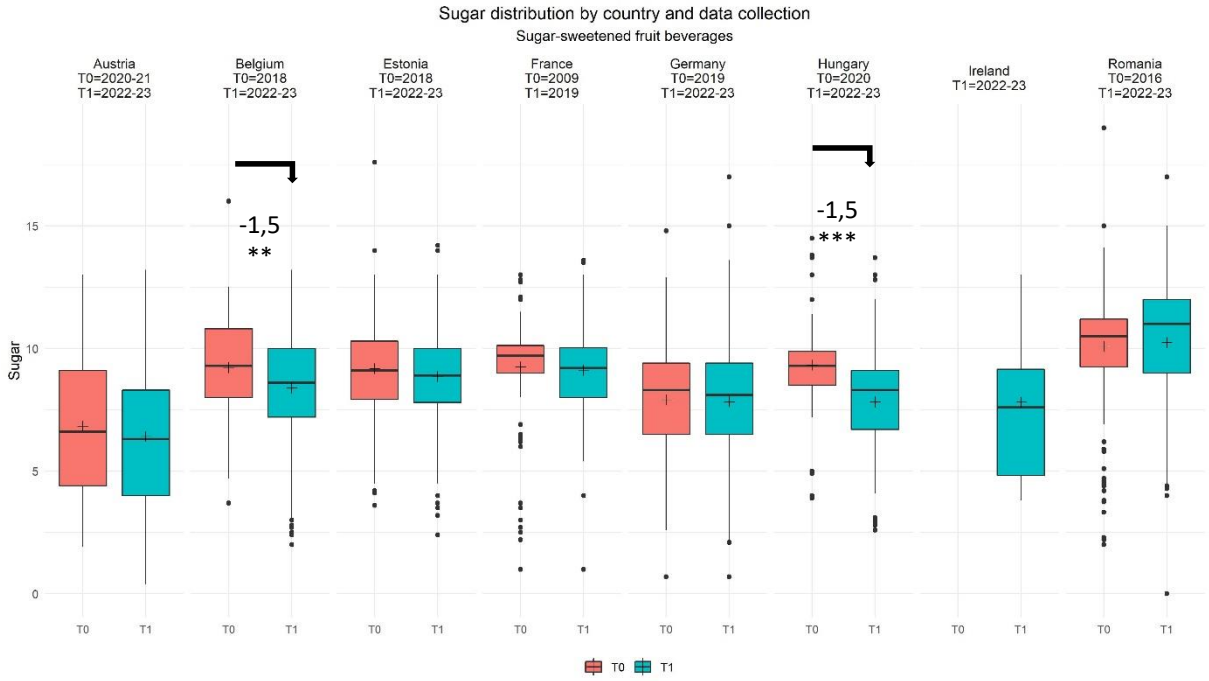

*Figure 26 : Sugar distribution of products collected among Sugar-sweetened fruit beverages subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test))*

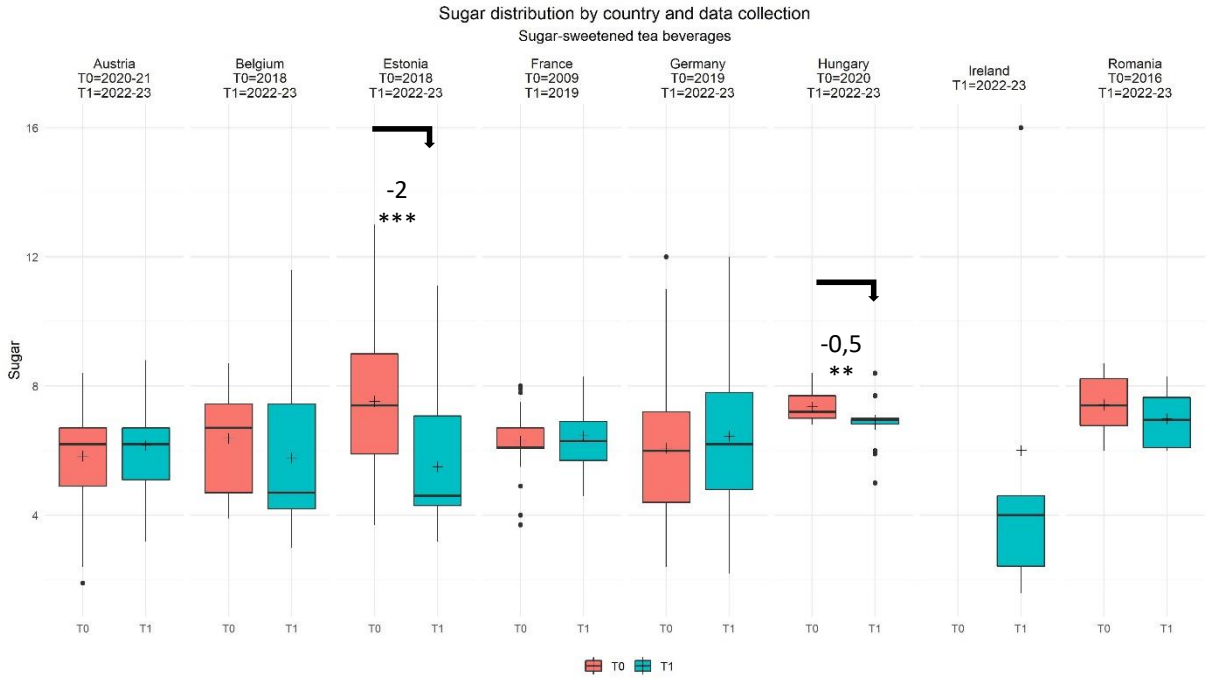

*Figure 27: Sugar distribution of products collected among Sugar-sweetened tea beverages subcategory, by country and data collection (Significance: *** if p<0,001; ** if p<0,01 ; * if p<0,05 (Statistical tests performed: permutation test))*

7.3. Conclusion on the comparison of the evolution of food offer and nutritional composition between countries

Table 20 summarises the number of subcategories for which there is a significant change between T0 and T1 according to country, categories and nutrient of interest.

It appears that, at a global level, there are more significant decreases than increases, especially for salt and sugar, meaning that evolutions are mainly (even not only) in the direction of nutritional recommendations.

Sugar is the nutrient with the highest number of significant evolutions with 78 decreases (mainly observed in Breakfast cereals and Fresh dairy products and desserts with 28 decreases each, and Soft drinks with 22 decreases). The eight significant increases observed for sugar are mainly found in the Soft drink category.

For salt, 25 significant decreases are observed, mainly in Breakfast cereals.

Fat and saturated fat have more mitigated results with approximately as many significant increases as significant decreases but it has to be noted that there is a majority of significant decreases in Breakfast cereals when a majority of significant increases is observed in Fresh dairy products and desserts.

Various trends are observed between countries but it has to be noted that, depending of the category, the date of the data collections were not the same from one country to another, leading to differences in:

- The time gap between country, (i.e. for Breakfast cereals: three years gap in Estonia and Hungary vs.10 years gap in France, giving more opportunity to the food producers to improve the quality of their products) ;
- The years of first (T0) and the second (T1) data collection (i.e. for Breakfast cereals: T1 data collection in France took place in 2018, which correspond rather to the T0 data collection in other countries), meaning that direct comparisons between countries should not be made.

All nutrients combined, the categories that evolve the most are Breakfast cereals (72 significant changes, of which 63 downward), and Fresh dairy products and desserts (56 changes in total, for 37 downward). However, results presented here are just preliminary ones. They enable to have a first trend analysis but more treatments and analyses will be realized during the next joint action Prevent-NCD (that will take place between 2024 and 2027) in order to explain the results and link them with national public policies when possible.

Table 20: Summary of the number of subcategories for which a significant evolution is observed by nutrients, country and category

Best-ReMaP category	Country	Fat		Saturated fat		Salt		Sugar		Total number per country	
		Significant increase	Significant decrease	Significant increase	Significant decrease	Significant increase	Significant decrease	Significant increase	Significant decrease	Significant increase	Significant decrease
Bread products (19 subcategories)	**Belgium**	0	1	0	0	0	0	0	0	0	0
	Estonia	1	1	2	0	0	0	1	0	3	0
	France	2	1	2	1	0	2	1	0	3	3
	Hungary	1	0	0	0	0	0	0	1	0	1
Delicatessen meats and similar (18 subcategories)	**Austria**	0	1	0	0	1	0	-	-	1	1
	Belgium	0	1	0	0	1	0	-	-	1	1
	Estonia	0	1	1	0	0	4	-	-	1	5
	France	0	1	0	0	0	2	-	-	0	3
	Hungary	0	1	0	0	0	3	-	-	0	4
Breakfast cereals (16 subcategories)	**Belgium**	0	1	0	1	0	0	0	3	0	5
	Estonia	2	1	1	1	1	2	0	3	4	7
	Germany	1	1	1	1	0	2	0	3	2	7
	Ireland	0	2	0	3	0	0	0	4	0	9
	France	0	2	0	4	0	8	0	9	0	23
	Romania	1	1	0	3	1	2	1	4	3	10
	Hungary	0	0	0	0	0	0	0	2	0	2
Fresh dairy products and desserts (21 subcategories)	**Austria**	0	1	1	2	-	-	0	7	1	10
	Belgium	0	1	0	0	-	-	0	4	0	5
	Estonia	3	0	2	0	-	-	0	1	5	1
	Germany	1	0	1	0	-	-	0	3	2	3
	Ireland	1	1	1	0	-	-	0	3	2	4
	France	6	1	3	1	-	-	0	8	9	10
	Hungary	0	1	0	1	-	-	0	2	0	4
Soft drinks (27 subcategories)	**Austria**	-	-	-	-	-	-	0	3	0	3
	Belgium	-	-	-	-	-	-	2	8	2	8
	Estonia	-	-	-	-	-	-	0	3	0	3
	Germany	-	-	-	-	-	-	3	2	3	2
	France	-	-	-	-	-	-	1	1	1	1
	Romania	-	-	-	-	-	-	1	2	1	2
	Hungary	-	-	-	-	-	-	0	3	0	3
Total number per nutrient		11	10	15	18	4	25	8	78	44	140

8. First trend analysis of the impact of processed food composition evolution on nutrient intakes (task 5.5.2.)

The objective is to have a first assessment of the potential impact of processed food composition evolution on nutrient intakes within the five priority food categories monitored during Best-ReMaP. This report only includes countries for which both branded preexisting data (see Table 2) and new datasets (see Table 3) were available at the end of April 2023, as well as consumption data: Germany (except for Delicatessen meats and similar and Bread products), Austria (except for Bread products), Belgium, Estonia, Hungary, Romania (except for Fresh dairy products and desserts, Delicatessen meats and similar and Bread products) as well as France and Ireland (except for the latest for Soft drinks, Delicatessen meats and similar and Bread products). This task focuses on intakes for adults (18 to 64 years old), adolescents (10 to 17 years old) and children (3 to 9 years old).

8.1. Methodology

8.1.1 Food consumption data used

As for the task 5.1.1 of WP5 on the prioritization of the processed food categories to monitor, consumption data has been extracted from the EFSA Comprehensive European Food Consumption database (FCD) *(for details see D.5.2 part 7.1.1.)*.

Chronic food consumptions in grams per day (g/day) codified in FoodEx2 (Level7) from the latest dietary surveys available for each participating country and for populations of interest have been selected (Table 21).

Table 21: Selected consumption data for the calculation of intakes, by country of interest

Country	Surveys	Population	Total number of subjects*	Years
Austria	EU Menu Austria: Food consumption data for Austrian adolescents	10/18years old	574	2018
	EU Menu Austria: Food consumption data for Austrian adults	18/64years old	2169	2014
Belgium	Belgian national food consumption survey in children, adolescents and adults	3/64years old	3146	2014
France	The French national dietary survey (INCA3, 2014/2015)	0/79years old	3755	2014
Germany	National Nutrition Survey II	14/80years old	11430	2007
	Eating Study as a KiGGS Module (EsKiMo)	6/11years old	835	2006
Estonia	National Dietary Survey among 11-74 years old individuals in Estonia	11/74years old	2424	2013
	National Dietary Survey among children up to ten years old and breastfeeding mothers in Estonia	0/11years old	765	2013
Hungary	Hungarian national food consumption survey	1/74years old	1594	2018
Ireland	National Adult Nutrition Survey	18/90years old	1274	2008
Romania	Romania national food consumption survey for adolescents, adults and elderly	10/74years old	1096	2019

**Each population of interest have been selected from the latest survey available (exclusion of population not of interest and those of interest that appears in two surveys considered for the analyses)*

8.1.2. Food composition data used

In order to assess the impact of processed food reformulation on nutrient intakes, branded datasets collected at two different times and codified the same way were used (Table 22):

- Brand composition data from preexisting data collected by countries prior to Best-ReMaP and classified with Best-ReMaP subcategories (*task 5.2.2*.). These data have been used to calculate intakes at time T0;
- Brand composition data collected during Best-ReMaP and classified with Best-ReMaP subcategories (task 5.4.1.), used to calculate intakes at time T1.

This table illustrates that, depending on the country, the gap between the two data collections can be either short (for instance for Hungary or Germany) or long for instance for France. This has to be kept in mind when analysing the results as the longer the gap between two data collections, the greater the likelihood of a change in nutritional composition.

Table 22: Branded datasets available by country and year of data collection used to calculate intakes at T0 and T1

<table>
<tr><th rowspan="2">Food category</th><th colspan="2">Austria</th><th colspan="2">Belgium</th><th colspan="2">Estonia</th><th colspan="2">France</th><th colspan="2">Germany</th><th colspan="2">Hungary</th><th colspan="2">Ireland</th><th colspan="2">Romania</th></tr>
<tr><th>T0</th><th>T1</th><th>T0</th><th>T1</th><th>T0</th><th>T1</th><th>T0</th><th>T1</th><th>T0</th><th>T1</th><th>T0</th><th>T1</th><th>T0</th><th>T1</th><th>T0</th><th>T1</th></tr>
<tr><td>Breakfast cereals</td><td>2020
2021</td><td rowspan="3">2022
2023</td><td rowspan="4">2018</td><td rowspan="4">2022
2023</td><td rowspan="4">2018</td><td rowspan="4">2022
2023</td><td>2008</td><td>2018</td><td rowspan="2">2019</td><td rowspan="2">2022
2023</td><td rowspan="4">2020</td><td rowspan="4">2022
2023</td><td>2016
2017</td><td>2021</td><td rowspan="2">2016
(Janpa)</td><td rowspan="2">2022
2023</td></tr>
<tr><td>Soft drinks</td><td>2020</td><td>2009</td><td>2013</td><td colspan="2">no monitoring</td></tr>
<tr><td>Fresh dairy products and desserts</td><td>2018
2019</td><td>2009</td><td>2017</td><td>2016
2017</td><td>2021</td><td colspan="2" rowspan="3">no monitoring</td></tr>
<tr><td>Delicatessen meats and similar</td><td>2020</td><td>2010</td><td>2013</td><td colspan="2" rowspan="2">no monitoring</td><td colspan="2" rowspan="2">no monitoring</td></tr>
<tr><td>Bread products</td><td colspan="2">no monitoring</td><td>2009</td><td>2019</td></tr>
</table>

In order to assess the impact of branded food composition evolution on intakes, we considered branded food composition only for subcategories for which data was available in both datasets (T0 and T1) for each country. For instance if a country had collected dairy products both in 2016 (T0) and 2022 (T1) but data collected in 2016 concerned only yoghurts, we considered brand composition only for yoghurts subcategories. This point is very important as if we do not consider only subcategories collected in both datasets, the results would be biased by the fact that we are not comparing similar products. For instance, for the country which had collected only yoghurts in 2016, if we had compare this data with all dairy products from 2022 (yogurts but also other desserts), the conclusion would not be reliable and would not reflect composition evolution.

In order to assess the total intakes and as branded food composition data is not available for all consumed food, generic food composition was used when branded data could not be considered. Generic composition (for 100g or 100ml) has been borrowed from the French composition database (Anses. 2020. Ciqual French food composition table).When it was not available in the French database, it was borrowed from Estonia (RTU2014) and Netherlands (FCS2016_Core) databases (only datasets available after asking all partners to provide datasets linked to FoodEx2).

8.1.3. Calculation of intakes

Only nutritional values for 100g or 100ml of product were used to calculate intakes (excluding products with nutritional values as consumed only).

Some products may have unquantified nutritional values such as “less than” an X value or “traces”. In these cases, contents were replaced as follows:

- by the value of x divided by 2, for values “<x”,
- by 0.0001/100g, for “traces” values.

8.1.3.1 Combining EFSA consumption data with composition data

After the selection of consumption and composition data, it has been necessary to link them to assess nutrient intakes.

To do so, considered Best-ReMaP subcategories have been codified into FoodEx2 food classification system (only with baseterms as no descriptive facets were available in the consumption data provided by Efsa). It should be noted that sometimes several Best-ReMaP subcategories may have been associated to a same FoodEx2 baseterm, because FoodEx2 is not specific enough to monitor food reformulation (e.g. baseterm A00BT “Brioche type products” is corresponding to all Best-ReMaP brioches subcategories (with or without chocolate, cream-filled, plain,…), or baseterm A00DD “Processed maize-based flakes” does not enable to distinguish breakfast cereals with chocolate from breakfast cereals with fruit, plain breakfast cereals,…) (Table of correspondence between Best-ReMaP and FoodEx2 is provided in Annex 3 uploaded on the Best-ReMaP website: https://bestremap.eu/wp-content/uploads/2023/09/Annexes-D5.3-Report-on-reformulation-monitoring.pdf).

Once the Best-ReMaP subcategories have been codified in FoodEx2, they have been linked with consumption data via their FoodEx2 baseterms. When branded food data was not available, generic food composition dataset has been used (Figure 28). To combine these datasets with consumption data, the same methodology used for the task 5.1.1 on the prioritization of the processed food categories to monitor has been used (*for details see Deliverable 5.2 part 7.1.2.*).

After all consumption data has been linked with composition data (either branded or generic data), an arithmetic mean of all nutritional values per FoodEx2 baseterms has been calculated, as a single baseterm can be linked with several branded food products.

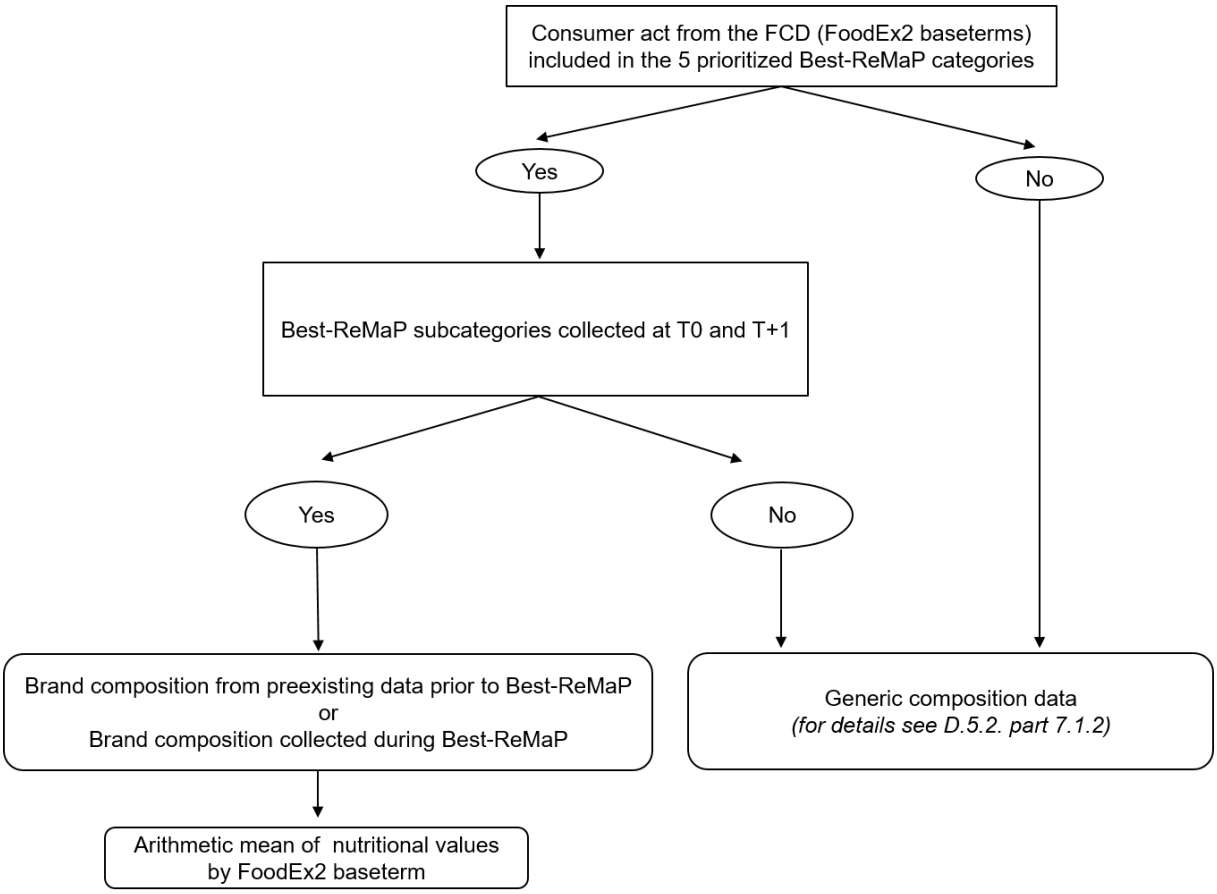

Figure 28: Decision tree to combine consumption data with composition data

8.1.3.2. Calculation of the intakes at times T0 and T1, by country and population

Estimation of intakes at times T0 and T1 have been calculated per country, population of interest and nutrient (Energy, protein, fat, saturated fat, carbohydrates, sugars, fibers and salt) by crossing mean consumption from the EFSA Comprehensive European Food Consumption database with nutritional values aggregated per FoodEx2 baseterm (branded or generic). The calculation used is:

$$intakes(\frac{g}{day}) = \sum \frac{[nutritional\ value\ (\frac{g}{100g}) * consumption\ mean\ (\frac{g}{day})]}{100}$$

Thus, it was possible to calculate:

- Total intakes over the whole diet;
- Intakes per category for the five prioritized categories;
- Percentage of the daily nutrient intake represented by the processed food products monitored within Best-ReMaP.

8.1.4 Trend analysis of the impact of composition evolution on nutrient intake

All generic values are identical in the calculation of intakes at both times and only the branded nutritional values can differ. Therefore, it is possible to evaluate a potential impact of the composition evolution on nutrient intakes between the two times, based on these branded nutritional values. To have a first trend of this impact, differences between intake values at T0 and at T1 have been calculated, for each country, population and nutrient of interest for:

- total intakes;

- intakes per category for the five prioritized categories.

8.1.5. Consideration of socio-economic parameters

In order to have data about the composition evolution impacts on dietary intakes according to the socio economic level, a first analysis was conducted for France.

8.1.5.1. Consumption data with socio-economic parameters used

As socio-economic information is not available in the public EFSA FCD, it was decided to carry out the work only with chronic food consumptions (g/day) from the French INCA 3 survey, for which information about socio-professional situation of the respondents is available (same decision has already been taken for task 5.1.1 on the analysis of priority groups according to socio-economic parameters, *see D5.2*).

The level of education of the interviewee (or his representative for children and adolescents) is used to define the socio-economic level of the consumer. In the French consumption survey, four modalities are used to characterize the level of education:

- Primary school diploma or lower secondary school diploma ;
- High-school leaving certificate ;
- One to three years of higher education ;
- Four or more years of higher education.

8.1.5.2. Composition data used

Branded composition data from the French Food Observatory (Oqali) has been used for the products belonging to the five priority food categories and collected at both times (T0 and T1). To calculate the total intakes, generic composition data has also been used when branded data could not be considered (raw food, processed food not included in the five prioritized food categories or collected at a single time). For this part, French generic composition data (Anses. 2020. Ciqual French food composition table) was used.

8.1.5.3. Calculation at times T0 and T1, by population and level of education

Estimation of intakes has been calculated for each Best-ReMaP category considered and for the whole diet. The intakes per day have been estimated for each nutrient of interest per category, population and level of education, by crossing consumption data (g/day) with composition data (g/100g). Once intakes have been estimated at both times, a comparison has been done between the results at T0 and T1. It was then possible to assess the impact of composition evolution on the nutrient intakes, for the whole population and considering the socio economic level of the consumers.

8.2. First trend analysis of the impact of composition evolution on nutrient intakes

The first results of the assessment of the impact of composition evolution (including reformulation) on nutrients intakes are presented for the whole diet and for each of the five categories considered in the scope of Best-ReMaP. A selection of nutrients to asses is presented in this report depending on their interest for the food category:

- For Bread products and Breakfast cereals : Fat, saturated fat, sugar and salt ;
- For Delicatessen meats and similar : Fat, saturated fat, sugar and salt ;
- For Fresh dairy products and desserts : Fat, saturated fat, sugar ;
- For Soft drinks : Sugar.

It should be noted that since only the food composition data attributed to the five categories above can change over time, the trends observed at the level of the whole diet reflect only the nutrient changes observed among these five categories.

We must also take into account the fact that depending on the food category, the time gap between the first and the second snapshot considered can be very different for a given country between food categories and for a given food category between countries. The greater the difference is, the more likely it is that reformulation has been carried out. This means that the results presented here cannot be used to compare directly the results obtained in different countries. They enable to have a first trend analysis but more treatment and analyses will be realized during the next joint action Prevent-NCD in order to explain the results and link them with national policies when possible.

8.2.1. First trend analyses of the impact of composition evolution on total intakes (whole diet)

Table 23, Table 24 and Table 25 present preliminary results on total intakes for the three populations (children, adolescents and adults) by country and times (T0 and T1). Intakes differences between T0 and T1 are given in g/day and as percentages.

Total intakes differ according to the country, population and nutrient.

Different trends are observed in intakes per country, population and nutrient but some general trends seem to appear for a majority of countries:

- A global increase in the total fat intakes
- A global decrease in total intakes for sugar and salt (except for some countries for each nutrient)

A more balanced situation is observed for saturated fat, with both increases and decreases depending of the population and the country.

Evolutions only reflect changes linked to the consumption of products belonging to the five categories considered, explaining the limited changes at the level of total intakes. We must also take into account the fact that depending on the food category, the time gap between the first and the second snapshot considered can be very different for a given country between food categories and for a given food category between countries. The greater the difference is, the more likely there is an evolution of the nutritional composition (including reformulation). This means that the results presented here cannot be used to compare directly the different countries. They enable to have a first trend analysis but more treatment and analyses will be realized during the next joint action Prevent-NCD in order to explain the results and link them with national policies when possible.

Table 23: Average total children's intakes (g/day) for the state of play (T0) and the first follow-up (T1), by country

Children (3-9 years old)		Belgium	Estonia	France	Germany	Hungary
Fat (g/day)	T0 Intakes	64,4	60,3	77,6	68,0	82,8
	T1 Intakes	65,2	60,4	78,4	68,3	83,8
	Delta (T1-T0)	+0,8	+0,1	+0,8	+0,2	+1,0
	Differences (%)	+1,2	+0,2	+1,0	+0,3	+1,2
Saturated fat (g/day)	T0 Intakes	25,7	25,3	32,9	28,6	31,8
	T1 Intakes	25,7	25,3	32,5	28,8	32,1
	Delta (T1-T0)	-0,02	+0,03	-0,4	+0,2	+0,3
	Differences (%)	-0,1	+0,1	-1,2	+0,7	+1,0
Sugar (g/day)	T0 Intakes	101,0	106,8	104,8	114,9	95,2
	T1 Intakes	100,3	106,9	104,2	114,5	94,6
	Delta (T1-T0)	-0,8	+0,1	-0,6	-0,4	-0,5
	Differences (%)	-0,8	+0,1	-0,6	-0,3	-0,6
Salt (g/day)	T0 Intakes	4,56	3,23	4,97	5,20	6,81
	T1 Intakes	4,50	3,22	4,89	5,21	6,70
	Delta (T1-T0)	-0,06	-0,003	-0,08	+0,01	-0,10
	Differences (%)	-1,24	-0,09	-1,59	+0,17	-1,53

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 24 : Average total adolescents' intakes (g/day) for the state of play (T0) and the first follow-up (T1), by country

Adolescents (10-17 years old)		Austria	Belgium	Estonia	France	Germany	Hungary	Romania
Fat (g/day)	T0 Intakes	70,0	84,0	75,2	87,5	74,7	108,1	75,4
	T1 Intakes	70,0	87,9	75,5	88,7	74,7	109,4	75,6
	Delta (T1-T0)	-0,1	+3,9	+0,2	+1,2	+0,03	+1,3	+0,2
	Differences (%)	-0,1	+4,7	+0,2	+1,4	+0,04	+1,2	+0,3
Saturated fat (g/day)	T0 Intakes	26,5	32,1	29,4	35,6	31,4	40,1	28,6
	T1 Intakes	26,5	31,8	29,5	35,1	31,4	40,5	28,6
	Delta (T1-T0)	-0,04	-0,2	+0,2	-0,5	-0,01	+0,4	+0,04
	Differences (%)	-0,1	-0,7	+0,3	-1,5	-0,03	+1,0	+0,1
Sugar (g/day)	T0 Intakes	70,5	112,1	111,2	103,1	114,8	106,6	72,6
	T1 Intakes	69,7	111,8	111,3	102,8	114,8	106,0	71,8
	Delta (T1-T0)	-0,78	-0,3	-0,3	-0,3	-0,04	-0,6	-0,74
	Differences (%)	-1,1	-0,3	-0,1	-0,1	-0,03	-0,6	-1,0
Salt (g/day)	T0 Intakes	6,03	6,00	4,26	6,05	6,29	9,55	9,51
	T1 Intakes	6,03	5,90	4,26	5,93	6,28	9,42	9,52
	Delta (T1-T0)	+0,01	-0,1	+0,002	-0,1	-0,01	-0,1	+0,01
	Differences (%)	+0,1	-1,6	+0,01	-2,1	-0,12	-1,4	+0,1

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 25 : Average total adults' intakes (g/day) for the state of play (T0) and the first follow-up (T1), by country

Adults (18-64 years old)		Austria	Belgium	Estonia	France	Germany	Hungary	Ireland	Romania
Fat (g/day)	T0 Intakes	88,2	87,8	74,1	96,9	81,9	108,5	77,4	73,0
	Intakes T1	88,2	91,5	74,3	98,8	81,9	110,1	77,2	73,0
	Delta (T1-T0)	-0,1	+3,7	+0,3	+1,9	+0,03	+1,6	-0,2	+0,04
	Differences (%)	-0,1	+4,2	+0,3	+1,9	+0,04	+1,4	-0,3	+0,05
Saturated fat (g/day)	T0 Intakes	35,8	33,9	29,0	38,6	34,8	39,7	29,5	26,4
	Intakes T1	35,8	33,5	29,1	38,2	34,8	40,2	29,3	26,4
	Delta (T1-T0)	-0,1	-0,3	+0,1	-0,4	+0,01	+0,5	-0,2	+0,01
	Differences (%)	-0,1	-1,0	+0,4	-1,0	+0,02	+1,3	-0,5	+0,02
Sugar (g/day)	Intakes T0	93,8	106,6	95,5	99,1	118,3	101,9	96,4	65,8
	Intakes T1	92,3	106,2	95,4	99,5	118,1	101,1	95,9	65,2
	Delta (T1-T0)	-1,4	-0,4	-0,03	+0,4	-0,2	-0,8	-0,5	-0,6
	Differences (%)	-1,5	-0,4	-0,03	+0,4	-0,1	-0,8	-0,5	-0,9
Salt (g/day)	Intakes T0	6,91	6,70	4,57	7,22	6,63	10,84	6,87	9,55
	Intakes T1	6,92	6,61	4,56	7,10	6,62	10,67	6,90	9,55
	Delta (T1-T0)	+0,01	-0,08	-0,01	-0,12	-0,004	-0,17	+0,03	+0,003
	Differences (%)	+0,17	-1,26	-0,13	-1,60	-0,06	-1,57	+0,38	+0,03

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

8.2.2. First example of trend analyses of the impact on nutrient of composition evolution for the categories considered

8.2.2.1. Impact of fat intake

Table 26, Table 27 and Table 28 show first results of the mean fat intakes for the three populations (children, adolescents and adults), each data collection (T0 and T1) and country with details according to the four categories considered for fat intakes. The difference observed between intakes over time is given in g/day and as a percentage. Grey cases represents the countries for which two dataset were not available, and therefore for which no evolution over time could be observed (use of the same generic composition data at T0 and T1).

It appears that for a given category, the fat intake can vary widely depending on the country (i.e. for Bread products it varies from 1,3g/day in Estonia to 6,5g/day in France for children). However, it remains comparable for both children and adolescents for a given country (i.e. fat intakes linked to the consumption of Breakfast cereals in Belgium varies from 0,8g/day (Children) to 1,0g/day (Adolescents)). The intake for adults is in general lower, for all categories of products and all countries.

Overall, intakes slightly differs over time, with limited changes that do not goes in the same direction depending on the country. The directions of the evolutions are the same for children and adolescents but may slightly differ for adults.

It is important to note that, depending on the food category, the gap between the first and the second snapshot considered can be very different for a given country between food categories and for a given food category between countries. The greater the difference is, the more likely there is an evolution of the nutritional composition (including reformulation). This means that the results presented here cannot be used to compare the different countries. They enable to have a first trend analysis but more treatment and analyses will be realized during the next joint action Prevent-NCD in order to explain the results and link them with national policies when possible.

Table 26: Average children's fat intakes (g/day) for the state of play (T0) and the first follow-up (T1), by category and country

Children (3-9 years old)		Belgium	Estonia	France	Germany	Hungary
Bread products (g/day)	T0 Intakes	4,4	1,3	5,9	3,7	5,2
	T1 Intakes	4,0	1,3	6,5	3,7	6,0
	Delta (T1-T0)	-0,4	+0,003	+0,7	-	+0,8
	Intakes differences (%)	-9,1	+0,2	+11,4	-	+16,3
Breakfast cereals (g/day)	T0 Intakes	0,8	1,3	0,5	1,5	0,8
	T1 Intakes	0,8	1,4	0,4	1,8	0,9
	Delta (T1-T0)	+0,01	+0,08	-0,04	+0,24	+0,1
	Intakes differences (%)	+1,8	+6,0	-8,8	+15,6	+14,0
Delicatessen meats and similar (g/day)	T0 Intakes	6,5	6,2	5,6	9,3	11,6
	T1 Intakes	6,4	6,2	5,5	9,3	11,6
	Delta (T1-T0)	-0,1	+0,01	-0,1	-	+0,03
	Intakes differences (%)	-1,6	+0,2	-1,1	-	+0,2
Fresh dairy products and desserts (g/day)	T0 Intakes	2,0	2,7	5,7	2,1	2,9
	T1 Intakes	2,1	2,8	5,9	2,1	2,9
	Delta (T1-T0)	+0,04	+0,05	+0,2	-0,003	+0,04
	Intakes differences (%)	+2,0	+1,7	+4,2	-0,2	+1,5

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 27 : Average adolescents' fat intakes (g/day) for the state of play (T0) and the first follow-up (T1), by category and country

Adolescents (10-17 years old)		Austria	Belgium	Estonia	France	Germany	Hungary	Romania
Bread products	T0 Intakes (g/day)	4,6	5,6	2,0	7,7	4,5	6,7	4,5
	T1 Intakes (g/day)	4,6	5,0	2,0	8,8	4,5	7,8	4,5
	Delta (T1-T0)	-	-0,6	+0,1	+1,1	-	+1,1	-
	Intakes differences (%)	-	-9,9	+2,9	+14,1	-	+16,0	-
Breakfast cereals	T0 Intakes (g/day)	1,0	0,9	1,3	0,7	1,0	0,9	0,8
	T1 Intakes (g/day)	1,0	1,0	1,4	0,6	1,0	1,1	1,0
	Delta (T1-T0)	-0,01	+0,02	+0,09	-0,1	+0,0	+0,1	+0,2
	Intakes differences (%)	-1,0	+2,2	+7,0	-9,1	+3,6	+13,3	+23,8
Delicatessen meats and similar	T0 Intakes (g/day)	7,1	7,9	9,9	6,2	11,2	12,9	7,7
	T1 Intakes (g/day)	7,2	7,8	9,9	6,1	11,2	13,0	7,7
	Delta (T1-T0)	+0,1	-0,1	+0,03	-0,1	-	+0,1	-
	Intakes differences (%)	+1,0	-1,4	+0,3	-1,0	-	+1,0	-
Fresh dairy products and desserts	T0 Intakes (g/day)	1,2	1,6	1,8	4,7	1,8	2,4	2,0
	T1 Intakes (g/day)	1,2	1,7	1,9	5,0	1,8	2,5	2,0
	Delta (T1-T0)	-0,1	+0,04	+0,1	+0,2	+0,0	+0,03	-
	Intakes differences (%)	-6,5	+2,4	+5,9	+5,1	+0,0	+1,4	-

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 28 : Average adults' fat intakes (g/day) for the state of play (T0) and the first follow-up (T1), by category and country

Adults (18-64 years old)		Austria	Belgium	Estonia	France	Germany	Hungary	Ireland	Romania
Bread products (g/day)	T0 Intakes	2,0	1,8	0,7	3,2	1,5	1,7	1,2	1,4
	T1 Intakes	2,0	1,5	0,7	2,8	1,5	2,1	1,2	1,4
	Delta (T1-T0)	-	-0,3	+0,01	-0,4	-	+0,4	-	-
	Intakes differences (%)	-	-16,2	+1,5	-12,9	-	+24,6	-	-
Breakfast cereals (g/day)	T0 Intakes	0,5	0,3	0,3	0,2	0,3	0,2	1,1	0,1
	T1 Intakes	0,5	0,3	0,3	0,1	0,3	0,2	1,0	0,1
	Delta (T1-T0)	+0,01	+0,01	+0,02	-0,05	+0,005	-0,01	-0,1	+0,005
	Intakes differences (%)	+1,5	+4,3	+5,6	-29,8	+1,9	-5,7	-7,2	+7,1
Delicatessen meats and similar (g/day)	T0 Intakes	3,3	3,1	3,5	3,1	4,4	6,9	2,1	3,1
	T1 Intakes	3,3	3,0	3,5	3,1	4,4	7,0	2,1	3,1
	Delta (T1-T0)	+0,03	-0,1	+0,01	-0,04	-	+0,1	-	-
	Intakes differences (%)	+1,0	-1,8	+0,4	-1,2	-	+1,4	-	-
Fresh dairy products and desserts (g/day)	T0 Intakes	1,1	1,3	1,2	2,9	1,7	1,2	1,7	1,1
	T1 Intakes	1,0	1,3	1,2	3,0	1,7	1,2	1,6	1,1
	Delta (T1-T0)	-0,1	+0,01	+0,1	+0,1	+0,002	+0,004	-0,1	-
	Intakes differences (%)	-6,4	+0,4	+5,7	+3,0	+0,1	+0,4	-4,1	-

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

8.2.2.2. Impact on saturated fat intake

Table 29, Table 30 and Table 31 show the mean saturated fat intakes of the three populations (children, adolescents and adults), for each data collection (T0 and T1) and country with details according to the four categories considered for saturated fat intakes. The difference observed between intakes over time is given in g/day and as a percentage. Grey cases represents the countries for which two dataset were not available, and therefore for which no evolution over time could be observed.

It appears that for a given category, the saturated fat intakes can vary widely depending the country (i.e. for Delicatessen meats and similar intakes for children vary from 2,1g/day in France to 4,7g/day in Hungary) but remain comparable for the three population by country (i.e. saturated fat intake linked to the consumption of Fresh dairy products and desserts in France varies from 3,8g/day (Children) to 3g/day (Adults)).

Overall, intakes slightly differ over time, with limited changes that do not goes in the same direction depending on the country and the category.

It is important to note that depending on the food category, the gap between the first and the second snapshot considered can be very different for a given country between food categories and for a given food category between countries. The greater the difference is, the more likely there is an evolution of the nutritional composition (including reformulation). This means that the results presented here cannot be used to compare the different countries. They enable to have a first trend analysis but more treatment and analyses will be realized during the next joint action Prevent-NCD in order to explain the results and link them with national policies when possible.

Table 29 : Average children's saturated fat intakes (g/day) for the state of play (T0) and the first follow-up (T1), by category and country

Children (3-9 years old)		Belgium	Estonia	France	Germany	Hungary
Bread products (g/day)	T0 Intakes	1,4	0,41	2,8	1,1	1,7
	T1 Intakes	1,4	0,41	2,4	1,1	1,9
	Delta (T1-T0)	+0,002	+0,0005	-0,42	-	+0,28
	Intakes differences (%)	+0,2	+0,1	-14,9	-	+16,8
Breakfast cereals (g/day)	T0 Intakes	0,3	0,46	0,2	0,5	0,3
	T1 Intakes	0,3	0,50	0,1	0,7	0,3
	Delta (T1-T0)	+0,005	+0,034	-0,04	+0,21	+0,01
	Intakes differences (%)	+1,6	+7,4	-22,9	+43,4	+1,9
Delicatessen meats and similar (g/day)	T0 Intakes	2,5	2,44	2,2	3,6	4,7
	T1 Intakes	2,5	2,44	2,1	3,6	4,7
	Delta (T1-T0)	-0,04	+0,003	-0,04	-	+0,01
	Intakes differences (%)	-1,6	+0,1	-1,8	-	+0,2
Fresh dairy products and desserts (g/day)	T0 Intakes	1,3	1,7	3,7	1,2	1,6
	T1 Intakes	1,3	1,7	3,8	1,2	1,6
	Delta (T1-T0)	+0,02	-0,01	+0,1	-0,0	+0,03
	Intakes differences (%)	+1,8	-0,6	+3,1	-0,2	+1,9

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 30 : Average adolescents' saturated fat intakes (g/day) for the state of play (T0) and the first follow-up (T1), by category and country

Adolescents (10-17 years old)		Austria	Belgium	Estonia	France	Germany	Hungary	Romania
Bread products (g/day)	T0 Intakes	1,7	1,8	0,6	3,5	1,5	2,2	1,7
	T1 Intakes	1,7	1,7	0,7	3,0	1,5	2,5	1,7
	Delta (T1-T0)	-	-0,2	0,01	-0,5	-	+0,4	-
	Intakes differences (%)	-	-9,3	1,7	-15,1	-	+16,3	-
Breakfast cereals (g/day)	T0 Intakes	0,4	0,4	0,4	0,2	0,3	0,4	0,3
	T1 Intakes	0,4	0,4	0,5	0,2	0,3	0,4	0,4
	Delta (T1-T0)	-0,001	+0,01	0,04	-0,1	-0,01	-0,0002	+0,03
	Intakes differences (%)	-0,3	+2,0	10,0	-21,3	-1,6	-0,1	+10,7
Delicatessen meats and similar (g/day)	T0 Intakes	2,8	3,0	3,9	2,4	4,3	5,2	2,9
	T1 Intakes	2,8	3,0	3,9	2,4	4,3	5,2	2,9
	Delta (T1-T0)	+0,03	-0,05	0,01	-0,03	-	+0,05	-
	Intakes differences (%)	+1,1	-1,6	0,2	-1,5	-	+0,9	-
Fresh dairy products and desserts (g/day)	T0 Intakes	0,5	1,0	1,1	3,1	1,0	1,3	1,2
	T1 Intakes	0,5	1,0	1,1	3,2	1,0	1,3	1,2
	Delta (T1-T0)	-0,05	+0,03	0,1	+0,09	+0,0005	+0,02	-
	Intakes differences (%)	-9,5	+3,3	5,2	+2,7	+0,05	+1,8	-

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 31 : Average adults' saturated fat intakes (g/day) for the state of play (T0) and the first follow-up (T1), by category and country

Adults (18-64 years old)		Austria	Belgium	Estonia	France	Germany	Hungary	Ireland	Romania
Bread products (g/day)	T0 Intakes	2,0	1,8	0,7	3,2	1,5	1,7	1,2	1,4
	T1 Intakes	2,0	1,5	0,7	2,8	1,5	2,1	1,2	1,4
	Delta (T1-T0)	-	-0,3	+0,01	-0,4	-	+0,4	-	-
	Intakes differences (%)	-	-16,2	+1,5	-12,9	-	+24,6	-	-
Breakfast cereals (g/day)	T0 Intakes	0,5	0,3	0,3	0,2	0,3	0,2	1,1	0,1
	T1 Intakes	0,5	0,3	0,3	0,1	0,3	0,2	1,0	0,1
	Delta (T1-T0)	+0,01	+0,01	+0,02	-0,05	+0,005	-0,01	-0,1	+0,005
	Intakes differences (%)	+1,5	+4,3	+5,6	-29,8	+1,9	-5,7	-7,2	+7,1
Delicatessen meats and similar (g/day)	T0 Intakes	3,3	3,1	3,5	3,1	4,4	6,9	2,1	3,1
	T1 Intakes	3,3	3,0	3,5	3,1	4,4	7,0	2,1	3,1
	Delta (T1-T0)	+0,03	-0,1	+0,01	-0,04	-	+0,1	-	-
	Intakes differences (%)	+1,0	-1,8	+0,4	-1,2	-	+1,4	-	-
Fresh dairy products and desserts (g/day)	T0 Intakes	1,1	1,3	1,2	2,9	1,7	1,2	1,7	1,1
	T1 Intakes	1,0	1,3	1,2	3,0	1,7	1,2	1,6	1,1
	Delta (T1-T0)	-0,1	+0,01	+0,1	+0,1	+0,002	+0,004	-0,1	-
	Intakes differences (%)	-6,4	+0,4	+5,7	+3,0	+0,1	+0,4	-4,1	-

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

8.2.2.3. Impact on sugar intake

Table 32, Table 33 and Table 34 show the mean sugar intakes of the three populations (children, adolescents and adults) for each data collection (T0 and T1) and country with details according to the five categories considered for sugar intakes. The difference observed between intakes over time is given in g/day and as a percentage. Grey cases represents the countries for which two dataset were not available, and therefore for which no evolution over time could be observed.

It appears that for a given category, the sugar intake can vary widely depending on the country (i.e. for Bread products it varies from 1,7g/day in Estonia to 7,4g/day in France for children).

Overall, intakes slightly differs over time, with limited changes that do not goes in the same direction depending on the country or the population.

It is important to note that depending on the food category, the gap between the first and the second snapshot considered can be very different for a given country between food categories and for a given food category between countries. The greater the difference is, the more likely there is an evolution of the nutritional composition (including reformulation). This means that the results presented here cannot be used to compare the different countries. They enable to have a first trend analysis but more treatment and analyses will be realized during the next joint action Prevent-NCD in order to explain the results and link them with national policies when possible.

Table 32 : Average children's sugar intakes (g/day) for the state of play (T0) and the first follow-up (T1), by category and country

Children (3-9 years old)		Belgium	Estonia	France	Germany	Hungary
Bread products (g/day)	T0 Intakes	4,8	1,7	6,7	3,1	5,7
	T1 Intakes	4,5	1,7	7,4	3,1	5,6
	Delta (T1-T0)	-0,3	+0,001	+0,7	-	-0,1
	Intakes differences (%)	-5,9	+0,04	+10,0	-	-2,3
Breakfast cereals (g/day)	T0 Intakes	2,7	4,5	2,3	4,0	2,8
	T1 Intakes	2,7	4,6	1,8	3,8	2,7
	Delta (T1-T0)	+0,004	+0,2	-0,4	-0,2	-0,1
	Intakes differences (%)	+0,2	+3,4	-18,9	-4,4	-2,2
Delicatessen meats and similar (g/day)	T0 Intakes	0,2	0,1	0,2	0,3	0,5
	T1 Intakes	0,2	0,1	0,2	0,3	0,5
	Delta (T1-T0)	+0,002	+0,0004	+0,01	-	-0,002
	Intakes differences (%)	+0,9	+0,3	+4,0	-	-0,5
Fresh dairy products and desserts (g/day)	T0 Intakes	5,3	8,3	13,1	7,4	6,3
	T1 Intakes	5,1	8,3	12,3	7,2	6,4
	Delta (T1-T0)	-0,2	+0,03	-0,8	-0,2	+0,1
	Intakes differences (%)	-4,5	+0,4	-6,0	-2,7	+1,5
Soft drinks (g/day)	T0 Intakes	13,4	4,2	5,2	8,5	5,4
	T1 Intakes	13,2	4,1	5,1	8,5	4,9
	Delta (T1-T0)	-0,2	-0,1	-0,1	+0,0	-0,4
	Intakes differences (%)	-1,9	-1,7	-1,0	+0,2	-8,4

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 33 : Average adolescents' sugar intakes (g/day) for the state of play (T0) and the first follow-up (T1), by category and country

Adolescents (10-17 years old)		Austria	Belgium	Estonia	France	Germany	Hungary	Romania
Bread products (g/day)	T0 Intakes	6,0	5,7	2,7	8,2	6,0	7,2	6,7
	T1 Intakes	6,0	5,5	2,7	9,4	6,0	7,1	6,7
	Delta (T1-T0)	-	-0,2	+0,02	+1,2	-	-0,2	-
	Intakes differences (%)	-	-3,3	+0,6	+14,0	-	-2,3	-
Breakfast cereals (g/day)	T0 Intakes	2,3	3,0	3,8	3,1	2,0	3,1	3,8
	T1 Intakes	2,3	3,0	3,9	2,5	1,9	3,0	4,1
	Delta (T1-T0)	+0,01	+0,02	+0,11	-0,6	-0,1	-0,1	+0,3
	Intakes differences (%)	+0,5	+0,5	+2,8	-20,0	-5,4	-3,2	+6,6
Delicatessen meats and similar (g/day)	T0 Intakes	0,2	0,3	0,2	0,3	0,3	0,5	0,3
	T1 Intakes	0,2	0,3	0,2	0,3	0,3	0,5	0,3
	Delta (T1-T0)	-0,002	+0,005	-0,001	+0,01	-	-0,003	-
	Intakes differences (%)	-1,0	+1,8	-0,3	+3,5	-	-0,5	-
Fresh dairy products and desserts (g/day)	T0 Intakes	3,9	4,0	6,1	11,1	6,1	5,5	4,4
	T1 Intakes	3,4	3,8	6,1	10,5	6,1	5,6	4,4
	Delta (T1-T0)	-0,5	-0,20	+0,04	-0,6	-0,04	+0,1	-
	Intakes differences (%)	-13,6	-4,9	+0,6	-5,8	-0,7	+1,4	-
Soft drinks (g/day)	T0 Intakes	7,6	22,7	6,7	7,4	14,0	11,1	4,4
	T1 Intakes	7,3	22,7	6,6	7,2	14,1	10,7	3,4
	Delta (T1-T0)	-0,3	+0,06	-0,07	-0,2	+0,1	-0,4	-1,0
	Intakes differences (%)	-3,3	+0,3	-1,1	-2,2	+0,8	-4,0	-22,4

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 34 : Average adults' sugar intakes (g/day) for the state of play (T0) and the first follow-up (T1), by category and country

Adults (18-64 years old)		Austria	Belgium	Estonia	France	Germany	Hungary	Ireland	Romania
Bread products (g/day)	T0 Intakes	6,9	5,2	2,6	7,6	5,9	6,4	5,3	5,8
	T1 Intakes	6,9	5,0	2,7	9,0	5,9	6,2	5,3	5,8
	Delta (T1-T0)	-	-0,2	+0,01	+1,4	-	-0,2	-	-
	Intakes differences (%)	-	-4,0	+0,5	+18,9	-	-3,0	-	-
Breakfast cereals (g/day)	T0 Intakes	2,7	1,8	2,4	1,1	1,3	1,8	12,2	0,9
	T1 Intakes	2,7	1,8	2,4	0,8	1,3	1,7	11,9	1,0
	Delta (T1-T0)	+0,02	-0,04	+0,01	-0,2	-0,1	-0,1	-0,3	+0,05
	Intakes differences (%)	+0,7	-2,1	+0,2	-20,2	-5,5	-4,2	-2,1	+4,9
Delicatessen meats and similar (g/day)	T0 Intakes	0,3	0,3	0,2	0,4	0,4	0,6	0,2	0,2
	T1 Intakes	0,3	0,3	0,2	0,4	0,4	0,6	0,2	0,2
	Delta (T1-T0)	-0,004	+0,01	+0,00	+0,01	-	-0,01	-	-
	Intakes differences (%)	-1,5	+3,1	+0,2	+3,4	-	-0,9	-	-
Fresh dairy products and desserts (g/day)	T0 Intakes	7,0	5,3	6,5	10,7	9,3	4,4	5,5	3,2
	T1 Intakes	6,2	5,0	6,5	10,0	9,2	4,5	5,3	3,2
	Delta (T1-T0)	-0,8	-0,3	+0,02	-0,7	-0,1	+0,01	-0,2	-
	Intakes differences (%)	-11,3	-4,9	+0,3	-6,6	-1,4	+0,3	-4,3	-
Soft drinks (g/day)	T0 Intakes	9,7	19,5	3,0	6,0	9,0	11,0	9,7	5,5
	T1 Intakes	9,1	19,6	2,9	5,9	9,1	10,5	9,7	4,8
	Delta (T1-T0)	-0,6	+0,1	-0,1	-0,1	+0,04	-0,5	-	-3,4
	Intakes differences (%)	-6,7	+0,4	-2,2	-2,3	+0,5	-4,6	-	-26,6

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

8.2.2.4. Impact on salt intake

Table 35, Table 36 and Table 37 show the mean salt intake of the three populations (children, adolescents and adults) for each data collection (T0 and T1) and country with details according to the three categories considered for salt. The difference observed between intakes over time is given in g/day and as a percentage. Grey cases represents the countries for which two dataset were not available, and therefore for which no evolution over time could be observed.

It appears that the salt intakes can vary depending on the country, the category and the population. However, a general decreasing trend is observed for bread products for all the countries.

It is important to note that depending on the food category, the gap between the first and the second snapshot considered can be very different for a given country between food categories and for a given food category between countries. The greater the difference is, the more likely there is an evolution of the nutritional composition (including reformulation). This means that the results presented here cannot be used to compare the different countries. They enable to have a first trend analysis but more treatment and analyses will be realized during the next joint action Prevent-NCD in order to explain the results and link them with national policies when possible.

Table 35 : Average children's salt intakes (g/day) for the state of play (T0) and the first follow-up (T1), by category and country

Children (3-9 years old)		Belgium	Estonia	France	Germany	Hungary
Bread products (g/day)	T0 Intakes	1,07	0,65	0,97	1,53	1,50
	T1 Intakes	1,03	0,65	0,93	1,53	1,40
	Delta (T1-T0)	-0,05	-0,00003	-0,04	-	-0,1
	Intakes differences (%)	-4,5	-0,004	-3,8	-	-6,3
Breakfast cereals (g/day)	T0 Intakes	0,10	0,17	0,09	0,15	0,11
	T1 Intakes	0,09	0,18	0,06	0,16	0,11
	Delta (T1-T0)	-0,003	+0,003	-0,03	+0,01	-0,0002
	Intakes differences (%)	-2,8	+1,5	-30,5	+8,7	-0,2
Delicatessen meats and similar (g/day)	T0 Intakes	0,98	0,51	0,82	0,96	1,06
	T1 Intakes	0,97	0,51	0,81	0,96	1,05
	Delta (T1-T0)	-0,01	+0,0003	-0,01	-	-0,01
	Intakes differences (%)	-1,1	+0,1	-1,3	-	-0,6

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 36 : Average adolescents' salt intakes (g/day) for the state of play (T0) and the first follow-up (T1), by category and country

Adolescents (10-17 years old)		Austria	Belgium	Estonia	France	Germany	Hungary	Romania
Bread products (g/day)	T0 Intakes	1,36	1,41	0,95	1,47	1,92	1,93	1,88
	T1 Intakes	1,36	1,33	0,95	1,40	1,92	1,81	1,88
	Delta (T1-T0)	-	-0,07	-0,001	-0,07	-	-0,12	-
	Intakes differences (%)	-	-5,28	-0,07	-4,63	-	-6,26	-
Breakfast cereals (g/day)	T0 Intakes	0,07	0,11	0,13	0,13	0,12	0,11	0,17
	T1 Intakes	0,07	0,10	0,13	0,09	0,12	0,11	0,18
	Delta (T1-T0)	-0,003	-0,005	+0,002	-0,04	-0,002	-0,00003	+0,01
	Intakes differences (%)	-3,71	-4,23	+1,40	-29,00	-1,86	-0,02	+6,26
Delicatessen meats and similar (g/day)	T0 Intakes	0,88	1,37	0,84	0,91	1,37	1,25	1,38
	T1 Intakes	0,89	1,36	0,84	0,89	1,37	1,24	1,38
	Delta (T1-T0)	+0,01	-0,01	+0,001	-0,01	-	-0,02	-
	Intakes differences (%)	+0,78	-1,01	+0,09	-1,23	-	-1,36	-

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 37 : Average adults' salt intakes (g/day) for the state of play (T0) and the first follow-up (T1), by category and country

Adults (18-64 years old)		Austria	Belgium	Estonia	France	Germany	Hungary	Ireland	Romania
Bread products (g/day)	T0 Intakes	1,57	1,47	1,06	1,67	1,91	2,13	1,61	1,89
	T1 Intakes	1,57	1,40	1,06	1,58	1,91	1,98	1,61	1,89
	Delta (T1-T0)	-	-0,07	-0,001	-0,08	-	-0,14	-	-
	Intakes differences (%)	-	-4,45	-0,05	-4,96	-	-6,65	-	-
Breakfast cereals (g/day)	T0 Intakes	0,06	0,07	0,10	0,04	0,05	0,09	0,60	0,05
	T1 Intakes	0,06	0,07	0,10	0,02	0,05	0,09	0,60	0,05
	Delta (T1-T0)	-0,0002	-0,004	-0,0002	-0,01	-0,001	-0,0001	+0,002	0,001
	Intakes differences (%)	-0,28	-5,09	-0,19	-33,49	-1,68	-0,15	+0,29	2,34
Delicatessen meats and similar (g/day)	T0 Intakes	1,05	1,48	0,76	1,20	1,42	1,62	1,18	1,20
	T1 Intakes	1,06	1,46	0,76	1,18	1,42	1,58	1,18	1,20
	Delta (T1-T0)	+0,01	-0,02	+0,001	-0,02	-	-0,04	-	-
	Intakes differences (%)	+0,90	-1,02	+0,14	-1,37	-	-2,20	-	-

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

8.2.3. Conclusion of the first trend analyses between countries

In conclusion, there is an impact of nutritional composition evolution (including reformulation) on nutrient intakes but this impact is limited. It can be explained by the fact that the majority of the diet is represented by food categories that are out of scope for Best-ReMaP (50% to 80% of the total intakes depending the country, the nutrient and the population) but also by the fact that depending on the studied food category and the country, the gap between the first and the second snapshot considered can be very limited, meaning that the time to reformulate products is not long enough. Comparison between countries must be made very carefully as the gap between the first and the second snapshot can be very different: from three to five years for Delicatessen meats and similar, three to seven years for Soft drinks, three to 10 years for Breakfast cereals and Bread products and three to eight years for Fresh dairy products and desserts. The greater the difference is, the more likely it is that reformulation has been carried out. **However, these first results allow highlighting the fact that intakes and associated trends differs depending the country, the population (children, adolescents, adults) and the nutrient and that more in depth analysis will be relevant by including other countries and new data if available.**

8.3. Impact on French nutrient intakes by level of education

8.3.1 Impact on total intakes (whole diet)

Table 38, Table 39 and Table 40 present the total intakes for the three populations (children, adolescents and adults) according to the level of education of the respondent (or his representative in case of children and adolescents) (Primary/secondary school; High school; Degree Bac+1/+3; Degree Bac+4/more) and times (T0 and T1). Intakes differences between T0 and T1 are given in g/day and as percentages.

Total intakes differ according to the population and nutrient, but are broadly similar among all social classes when considering a given nutrient, time and population.

The trends in intakes per population and per nutrient suggest that the effects of composition evolution (including reformulation) are the same regardless of education level. Exception can be seen for saturated fat intakes, where an opposite trend is observed:

- For children from Primary/secondary school group, there is a small increase in saturated fat intakes (+0.01g/day) when there is a decrease for the other social groups (from -0.01 to -0.1g/day), but evolutions are barely perceptible on total intakes over time.
- For adults from lowest and highest social groups, there is a decrease in saturated fat intakes (-0.03g/day) when there is an increase for the intermediate groups (from +0.02 to 0.11g/day). Moreover, a biggest increase is observed for adults with level of education Degree Bac+1/+3 (+0.11g/day), involving that positive composition evolution does not target only the highest social classes.

Results observed, between T0 and T1, per population and nutrients suggest that the socio economic level seems not to affect the way in which the composition evolution (including reformulation) impact the nutrient intakes, but a more detailed analysis of the results by category is necessary in order to conclude on the impact for products included in the five categories considered during Best-ReMaP.

It has to be noticed that the impact of composition evolution on the total intakes seems to be very limited (less than 2% of the intakes for sugar and less than 1% for the other nutrients), although food categories studied are major contributors of these nutrients intakes. This is explained both by the fact that the five targeted food categories are not covering the whole diet and that their composition evolution may not be sufficient to observe a more important impact on the total intake.

Table 38 : Average total intakes (g/day) for the state of play (T0) and the first follow-up (T1) depending on levels of education among children (3-9 years old) in France

Children (3-9 years old) Education level		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Fat (g/day)	**T0**	60,3	64,8	61,6	63,3
	T1	60,8	65,3	62,1	63,7
	Differences (g/day)	+0,5	+0,6	+0,4	+0,4
	Differences (%)	+0,80	+0,89	+0,73	+0,63
Saturated fat (g/day)	**T0**	28,0	29,6	28,6	30,0
	T1	28,0	29,6	28,6	29,9
	Differences (g/day)	+0,01	-0,01	-0,03	-0,1
	Differences (%)	+0,03	-0,04	-0,1	-0,2
Sugar (g/day)	**T0**	96,6	99,7	96,6	95,8
	T1	95,2	98,1	95,1	94,4
	Differences (g/day)	-1,4	-1,7	-1,5	-1,4
	Differences (%)	-1,4	-1,7	-1,6	-1,5
Fibre (g/day)	**T0**	15,7	15,7	16,4	16,5
	T1	15,7	15,8	16,4	16,5
	Differences (g/day)	+0,1	+0,03	+0,01	+0,03
	Differences (%)	+0,4	+0,2	+0,04	+0,2
Salt (g/day)	**T0**	4,4	4,7	4,7	4,4
	T1	4,4	4,7	4,7	4,4
	Differences (g/day)	-0,01	-0,03	-0,02	-0,01
	Differences (%)	-0,3	-0,6	-0,4	-0,2

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 39 : Average total intakes (g/day) for the state of play (T0) and the first follow-up (T1) depending on levels of education among adolescents (10-17 years old) in France

Adolescents (10-17 years old) Education level		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Fat (g/day)	T0	74,5	70,9	76,8	72,6
	T1	75,0	71,5	77,2	72,8
	Differences (g/day)	+0,5	+0,6	+0,4	+0,3
	Differences (%)	+0,69	+0,91	+0,56	+0,38
Saturated fat (g/day)	T0	32,8	31,3	34,2	31,9
	T1	32,6	31,2	34,0	31,6
	Differences (g/day)	-0,15	-0,12	-0,19	-0,31
	Differences (%)	-0,46	-0,39	-0,56	-0,98
Sugar (g/day)	T0	96,1	95,0	106,4	102,5
	T1	94,4	93,6	104,7	100,8
	Differences (g/day)	-1,66	-1,39	-1,70	-1,72
	Differences (%)	-1,73	-1,47	-1,60	-1,68
Fibre (g/day)	T0	19,1	18,4	20,0	20,1
	T1	19,1	18,5	20,0	20,1
	Differences (g/day)	+0,06	+0,05	+0,01	+0,02
	Differences (%)	+0,33	+0,28	+0,05	+0,12
Salt (g/day)	T0	5,9	5,5	6,3	5,7
	T1	5,9	5,5	6,3	5,7
	Differences (g/day)	-0,04	-0,04	-0,04	-0,05
	Differences (%)	-0,60	-0,71	-0,65	-0,84

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 40 : Average total intakes (g/day) for the state of play (T0) and the first follow-up (T1) depending on levels of education among adults (18-64 years old) in France

Adults (18-64 years old) Education level		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Fat (g/day)	T0	79,4	79,2	83,0	84,0
	T1	80,0	79,8	83,7	84,5
	Differences (g/day)	+0,6	+0,6	+0,7	+0,5
	Differences (%)	+0,75	+0,76	+0,81	+0,60
Saturated fat (g/day)	T0	33,9	34,1	35,7	36,8
	T1	33,9	34,1	35,8	36,8
	Differences (g/day)	-0,03	+0,02	+0,11	-0,03
	Differences (%)	-0,09	+0,05	+0,32	-0,09
Sugar (g/day)	T0	89,1	95,0	98,8	96,6
	T1	88,2	93,9	97,6	95,5
	Differences (g/day)	-0,87	-1,18	-1,13	-1,02
	Differences (%)	-0,97	-1,24	-1,14	-1,06
Fibre (g/day)	T0	21,1	21,6	23,1	22,8
	T1	21,1	21,7	23,1	22,9
	Differences (g/day)	+0,03	+0,03	+0,06	+0,06
	Differences (%)	+0,15	+0,13	+0,28	+0,28
Salt (g/day)	T0	6,9	7,0	7,2	7,2
	T1	6,9	7,0	7,2	7,2
	Differences (g/day)	-0,02	-0,02	-0,02	-0,03
	Differences (%)	-0,29	-0,31	-0,22	-0,37

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

8.3.2. Impact per categories considered

8.3.2.1. Impact on sugar intakes

Table 41, Table 42 and Table 43 show the mean sugar intakes of the three populations (children, adolescents and adults) according to the level of education of the respondent (or his representative in case of children and adolescents), with details according to the five categories considered and for products outside the scope of Best-ReMaP. The differences observed between intakes from T0 and T1 is given in g/day and as a percentage. The contribution of each category to the total sugar intakes is given as a percentage for each time point.

Overall, it appears that, regardless of the population or the level of education, the category contributing the most to the total sugar intakes is Fresh dairy products and desserts (between 8 and 16% of the total intake), followed by Soft drinks (from 1,9 to 8,9% of the total intakes). For populations of highest social classes, Soft drinks have a lower contribution to the sugar intake compared to lowest classes.

A decrease in sugar intakes is observed for all education levels within the three populations for Breakfast cereals, Fresh dairy products and desserts and Soft drinks categories. These variations are comparable for all social classes.

Conversely, an increase in sugar intakes is observed for the Delicatessen meats and similar and Bread products categories.

The decrease observed for the categories contributing the most to the global intakes of sugar (Soft drinks and Fresh dairy products and desserts) explains the decrease observed at the whole diet level, for all social classes, showing that nutritional composition evolution (including reformulations) impact all social classes indifferently.

Products not covered by Best Remap represent between 70 and 80% of the total intake for sugar for all the populations (and even 85% for adults), explaining the limited impact of the observed composition evolution for the five categories studied.

Table 41 : Average sugar intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among children (3-9 years old) in France

Children 3-9 years old		Sugar (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	2,7	3,8	2,9	2,5
	Intakes T1	3,0	4,1	3,1	2,7
	Delta (T1-T0)	+0,3	+0,3	+0,2	+0,2
	Intakes difference (%)	+10,4	+7,1	+7,3	+6,1
	Contribution to total intakes at T0 (%)	2,8	3,8	3,0	2,6
	Contribution to total intakes at T1 (%)	3,1	4,2	3,3	2,8
Breakfast cereals	Intakes T0	3,0	2,8	1,9	2,9
	Intakes T1	2,6	2,4	1,6	2,5
	Delta (T1-T0)	-0,5	-0,4	-0,3	-0,5
	Intakes difference (%)	-15,5	-14,9	-14,5	-16,0
	Contribution to total intakes at T0 (%)	3,1	2,8	1,9	3,1
	Contribution to total intakes at T1 (%)	2,7	2,4	1,7	2,6
Delicatessen meats and similar	Intakes T0	0,2	0,2	0,2	0,1
	Intakes T1	0,2	0,2	0,2	0,1
	Delta (T1-T0)	+0,02	+0,01	+0,02	+0,02
	Intakes difference (%)	+13,5	+8,0	+12,0	+18,9
	Contribution to total intakes at T0 (%)	0,2	0,2	0,2	0,1
	Contribution to total intakes at T1 (%)	0,2	0,2	0,2	0,2
Fresh dairy products and desserts	Intakes T0	14,9	16,3	14,5	13,6
	Intakes T1	14,0	15,0	13,3	12,6
	Delta (T1-T0)	-0,9	-1,2	-1,2	-1,0
	Intakes difference (%)	-6,3	-7,6	-8,1	-7,4
	Contribution to total intakes at T0 (%)	15,4	16,3	15,0	14,2
	Contribution to total intakes at T1 (%)	14,7	15,3	14,0	13,3
Soft drinks	Intakes T0	4,4	5,7	4,2	1,9
	Intakes T1	4,1	5,3	3,9	1,8
	Delta (T1-T0)	-0,3	-0,3	-0,3	-0,1
	Intakes difference (%)	-6,3	-5,6	-7,0	-6,1
	Contribution to total intakes at T0 (%)	4,6	5,7	4,3	2,0
	Contribution to total intakes at T1 (%)	4,3	5,4	4,1	1,9
Out of scope	Intakes T0	71,3	71,0	73,0	74,8
	Intakes T1	71,3	71,0	73,0	74,8
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	73,9	71,2	75,6	78,0
	Contribution to total intakes at T1 (%)	74,9	72,4	76,8	79,2

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 42 : Average sugar intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among adolescents (10-17 years old) in France

Adolescents 10-17 years old		Sugar (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	3,2	3,4	3,2	3,3
	Intakes T1	3,6	3,8	3,5	3,6
	Delta (T1-T0)	+0,4	+0,4	+0,2	+0,3
	Intakes difference (%)	+11,0	+10,4	+7,7	+8,9
	Contribution to total intakes at T0 (%)	3,3	3,6	3,1	3,2
	Contribution to total intakes at T1 (%)	3,8	4,0	3,3	3,6
Breakfast cereals	Intakes T0	4,1	3,2	4,3	5,1
	Intakes T1	3,4	2,7	3,7	4,3
	Delta (T1-T0)	-0,6	-0,5	-0,7	-0,8
	Intakes difference (%)	-15,5	-14,7	-15,2	-15,3
	Contribution to total intakes at T0 (%)	4,2	3,4	4,1	4,9
	Contribution to total intakes at T1 (%)	3,6	2,9	3,5	4,3
Delicatessen meats and similar	Intakes T0	0,2	0,2	0,1	0,1
	Intakes T1	0,2	0,2	0,2	0,1
	Delta (T1-T0)	+0,02	+0,02	+0,02	+0,02
	Intakes difference (%)	+12,3	+12,1	+14,2	+17,6
	Contribution to total intakes at T0 (%)	0,2	0,2	0,1	0,1
	Contribution to total intakes at T1 (%)	0,2	0,2	0,2	0,1
Fresh dairy products and desserts	Intakes T0	10,8	11,9	12,4	10,8
	Intakes T1	10,0	11,2	11,5	9,8
	Delta (T1-T0)	-0,8	-0,7	-0,9	-1,0
	Intakes difference (%)	-7,2	-5,9	-7,0	-8,9
	Contribution to total intakes at T0 (%)	11,2	12,6	11,7	10,5
	Contribution to total intakes at T1 (%)	10,6	12,0	11,0	9,7
Soft drinks	Intakes T0	8,5	8,3	7,0	4,5
	Intakes T1	7,9	7,7	6,6	4,2
	Delta (T1-T0)	-0,6	-0,6	-0,4	-0,3
	Intakes difference (%)	-7,4	-7,2	-6,3	-6,8
	Contribution to total intakes at T0 (%)	8,9	8,7	6,6	4,4
	Contribution to total intakes at T1 (%)	8,4	8,2	6,3	4,1
Out of scope	Intakes T0	69,4	68,0	79,3	78,8
	Intakes T1	69,4	68,0	79,3	78,8
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	72,2	71,6	74,5	76,8
	Contribution to total intakes at T1 (%)	73,5	72,6	75,7	78,1

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 43 : Average sugar intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among adults (18-64 years old) in France

Adults 18-64 years old		Sugar (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	2,2	2,2	1,8	1,8
	Intakes T1	2,5	2,5	2,2	2,1
	Delta (T1-T0)	+0,3	+0,3	+0,3	+0,2
	Intakes difference (%)	+15,8	+12,9	+16,8	+13,2
	Contribution to total intakes at T0 (%)	2,4	2,4	1,9	1,9
	Contribution to total intakes at T1 (%)	2,9	2,7	2,2	2,2
Breakfast cereals	Intakes T0	0,6	1,2	1,2	1,6
	Intakes T1	0,5	1,0	1,0	1,3
	Delta (T1-T0)	-0,1	-0,2	-0,2	-0,3
	Intakes difference (%)	-17,2	-16,9	-17,3	-17,0
	Contribution to total intakes at T0 (%)	0,7	1,2	1,3	1,6
	Contribution to total intakes at T1 (%)	0,6	1,0	1,1	1,3
Delicatessen meats and similar	Intakes T0	0,2	0,2	0,2	0,1
	Intakes T1	0,2	0,2	0,2	0,2
	Delta (T1-T0)	+0,03	+0,03	+0,03	+0,02
	Intakes difference (%)	+13,5	+15,8	+15,5	+14,3
	Contribution to total intakes at T0 (%)	0,2	0,2	0,2	0,1
	Contribution to total intakes at T1 (%)	0,3	0,2	0,2	0,2
Fresh dairy products and desserts	Intakes T0	9,3	10,1	10,1	8,7
	Intakes T1	8,6	9,3	9,3	8,0
	Delta (T1-T0)	-0,7	-0,8	-0,8	-0,7
	Intakes difference (%)	-8,0	-8,0	-8,3	-8,5
	Contribution to total intakes at T0 (%)	10,5	10,6	10,3	9,0
	Contribution to total intakes at T1 (%)	9,7	9,9	9,5	8,3
Soft drinks	Intakes T0	4,5	6,0	4,3	2,8
	Intakes T1	4,1	5,5	3,9	2,5
	Delta (T1-T0)	-0,4	-0,5	-0,4	-0,3
	Intakes difference (%)	-8,6	-8,1	-9,4	-9,8
	Contribution to total intakes at T0 (%)	5,0	6,3	4,4	2,9
	Contribution to total intakes at T1 (%)	4,6	5,9	4,0	2,6
Out of scope	Intakes T0	72,2	75,3	81,0	81,5
	Intakes T1	72,2	75,3	81,0	81,5
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	81,1	79,2	82,0	84,4
	Contribution to total intakes at T1 (%)	81,9	80,2	83,0	85,3

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

8.3.2.2. Impact on fat intakes

Table 44, Table 45 and Table 46 show the mean fat intakes of the three populations (children, adolescents and adults) according to the level of education of the respondent (or his representative in case of children and adolescents), with details according to the four categories considered for this nutrient and for products outside the scope of Best-ReMaP. The delta observed between T0 and T1 intakes is given in g/day and as a percentage. The contribution of each category to the total fat intakes is given as a percentage for each time point.

Overall, it appears that, regardless of the population or the level of education, the categories contributing the most to the total fat intakes are Fresh dairy products and desserts, and to a lower extent Bread products and Delicatessen meats and similar.

An increase in fat intakes is observed, for all education levels within the three populations, for the categories Fresh dairy products desserts and Bread products, leading to an increase of fat at the global diet level.

Concerning Delicatessen meats and similar, there is an overall decrease of the fat intakes among all social classes for children and among three of the four social classes of adolescents and adults. Opposite trends are observed among adolescents from the “High school” group and adults from “Degree bac+4/more” group, with a slight increase in fat intakes.

Finally, for Breakfast cereals, a decreasing fat trend is observed for all social classes within the three populations.

The increase observed at the global intakes level is probably linked to the composition evolution (including reformulation) observed in Fresh dairy products and in Bread products. It impacts all social groups.

Table 44 : Average fat intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among children (3-9 years old) in France

Children 3-9 years old		Fat (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	2,7	3,8	2,9	2,5
	Intakes T1	2,8	3,9	3,0	2,7
	Delta (T1-T0)	+0,1	+0,2	+0,1	+0,1
	Intakes difference (%)	+4,18	+4,1	+4,9	+5,4
	Contribution to total intakes at T0 (%)	4,5	5,8	4,6	4,0
	Contribution to total intakes at T1 (%)	4,6	6,0	4,8	4,2
Breakfast cereals	Intakes T0	0,5	0,5	0,4	0,7
	Intakes T1	0,4	0,5	0,3	0,6
	Delta (T1-T0)	-0,1	-0,05	-0,03	-0,1
	Intakes difference (%)	-11,3	-8,9	-8,9	-7,5
	Contribution to total intakes at T0 (%)	0,8	0,8	0,6	1,1
	Contribution to total intakes at T1 (%)	0,7	0,7	0,5	1,0
Delicatessen meats and similar	Intakes T0	2,1	2,3	2,1	1,4
	Intakes T1	2,1	2,3	2,1	1,4
	Delta (T1-T0)	-0,02	-0,03	-0,03	-0,01
	Intakes difference (%)	-0,7	-1,5	-1,3	-0,4
	Contribution to total intakes at T0 (%)	3,6	3,5	3,5	2,2
	Contribution to total intakes at T1 (%)	3,5	3,4	3,4	2,2
Fresh dairy products and desserts	Intakes T0	4,9	5,9	5,7	6,2
	Intakes T1	5,4	6,4	6,1	6,5
	Delta (T1-T0)	+0,4	+0,5	+0,4	+0,3
	Intakes difference (%)	+8,9	+8,4	+6,3	+5,1
	Contribution to total intakes at T0 (%)	8,2	9,2	9,3	9,8
	Contribution to total intakes at T1 (%)	8,8	9,8	9,8	10,3
Out of scope	Intakes T0	50,0	52,2	50,6	52,4
	Intakes T1	50,0	52,2	50,6	52,4
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	82,9	80,6	82,1	82,8
	Contribution to total intakes at T1 (%)	82,3	79,9	81,5	82,3

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 45 : Average fat intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among adolescents (10-17 years old) in France

Adolescents 10-17 years old		Fat (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	3,2	3,6	3,2	3,1
	Intakes T1	3,5	3,9	3,4	3,3
	Delta (T1-T0)	+0,3	+0,3	+0,2	+0,18
	Intakes difference (%)	+8,02	+8,9	+6,7	+5,8
	Contribution to total intakes at T0 (%)	4,3	5,0	4,1	4,3
	Contribution to total intakes at T1 (%)	4,6	5,4	4,4	4,5
Breakfast cereals	Intakes T0	0,8	0,8	1,0	1,3
	Intakes T1	0,8	0,7	0,9	1,2
	Delta (T1-T0)	-0,1	-0,1	-0,1	-0,1
	Intakes difference (%)	-9,7	-8,0	-8,1	-7,6
	Contribution to total intakes at T0 (%)	1,1	1,1	1,3	1,8
	Contribution to total intakes at T1 (%)	1,0	1,0	1,2	1,7
Delicatessen meats and similar	Intakes T0	2,1	2,5	1,9	1,5
	Intakes T1	2,0	2,6	1,9	1,5
	Delta (T1-T0)	-0,01	+0,01	-0,03	-0,01
	Intakes difference (%)	-0,4	+0,5	-1,5	-0,5
	Contribution to total intakes at T0 (%)	2,8	3,6	2,5	2,1
	Contribution to total intakes at T1 (%)	2,7	3,6	2,4	2,1
Fresh dairy products and desserts	Intakes T0	4,1	4,6	5,1	4,8
	Intakes T1	4,4	5,0	5,4	5,0
	Delta (T1-T0)	+0,34	+0,4	+0,3	+0,2
	Intakes difference (%)	+8,2	+8,0	+6,2	+4,2
	Contribution to total intakes at T0 (%)	5,5	6,5	6,6	6,6
	Contribution to total intakes at T1 (%)	5,9	6,9	7,0	6,9
Out of scope	Intakes T0	64,2	59,4	65,6	61,7
	Intakes T1	64,2	59,4	65,6	61,7
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	86,3	83,8	85,4	85,0
	Contribution to total intakes at T1 (%)	85,7	83,0	84,9	84,7

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 46 : Average fat intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among adults (18-64 years old) in France

Adults 18-64 years old		Fat (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	2,3	2,2	1,9	1,7
	Intakes T1	2,7	2,5	2,2	2,1
	Delta (T1-T0)	+0,4	+0,3	+0,4	+0,3
	Intakes difference (%)	+17,5	+14,7	+19,8	+18,0
	Contribution to total intakes at T0 (%)	2,9	2,8	2,2	2,1
	Contribution to total intakes at T1 (%)	3,3	3,2	2,7	2,4
Breakfast cereals	Intakes T0	0,2	0,4	0,5	0,7
	Intakes T1	0,2	0,4	0,5	0,6
	Delta (T1-T0)	-0,01	-0,02	-0,02	-0,04
	Intakes difference (%)	-6,8	-5,5	-4,8	-5,7
	Contribution to total intakes at T0 (%)	0,2	0,5	0,6	0,8
	Contribution to total intakes at T1 (%)	0,2	0,5	0,6	0,8
Delicatessen meats and similar	Intakes T0	2,5	2,5	2,0	1,8
	Intakes T1	2,5	2,5	2,0	1,9
	Delta (T1-T0)	-0,001	-0,005	-0,01	+0,001
	Intakes difference (%)	-0,05	-0,2	-0,4	+0,1
	Contribution to total intakes at T0 (%)	3,2	3,1	2,4	2,2
	Contribution to total intakes at T1 (%)	3,2	3,1	2,4	2,2
Fresh dairy products and desserts	Intakes T0	4,4	4,4	4,7	4,6
	Intakes T1	4,6	4,7	5,0	4,9
	Delta (T1-T0)	+0,2	+0,3	+0,4	+0,2
	Intakes difference (%)	+5,0	+7,1	+7,7	+5,0
	Contribution to total intakes at T0 (%)	5,5	5,6	5,6	5,5
	Contribution to total intakes at T1 (%)	5,7	5,9	6,0	5,8
Out of scope	Intakes T0	70,0	69,6	73,8	75,0
	Intakes T1	70,0	69,6	73,8	75,0
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	88,1	87,9	88,9	89,3
	Contribution to total intakes at T1 (%)	87,5	87,2	88,2	88,8

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

8.3.2.3. Impact on saturated fat intakes

Table 47, Table 48 and Table 49 show the mean saturated fat intakes of the three populations (children, adolescents and adults) according to the level of education of the respondent (or his representative in case of children and adolescents), with details according to the four categories considered for this nutrient and for products outside the scope of Best-ReMaP. The delta observed between T0 and T1 intakes is given in g/day and as a percentage. The contribution of each category to the total saturated fat intakes is given as a percentage for each time point.

Overall, it appears that categories contributing the most to the saturated fat intakes are Fresh dairy products and desserts and to a lower extent Bread products and Delicatessen meats and similar, for all populations and levels of education.

Between T0 and T1, saturated fat intakes associated to the consumption of Fresh dairy products and desserts have increased for all populations regardless of the education level. This is explained in particular because for some of the most consumed products in France, partly skimmed milk has been replaced by whole milk, for which the saturated fat content is higher.

Conversely, intakes associated to the consumption of Bread products and Breakfast cereals have decreased for all consumers, the decrease for Breakfast cereals being the highest for children and adolescents from education level group primary/secondary school. This decrease is relatively important regarding the overall intakes linked to this food category.

For Delicatessen meats and similar, trends observed are more variable depending of the population and the level of education:

- For children, there is an overall slight decreasing trend of the saturated fat intakes for all social classes;
- Conversely, for adolescents and adults, there is a global slight increasing trend. However, there are exceptions among adolescents from “Degree Bac+1/+3” and adults from “High school” education level group, for which saturated fat intakes have decreased. However, it has to be noted that these decreases affect different classes according to the population. A positive impact (decreasing trend) is not observed for the highest social class (Degree Bac +4/more) and the lowest (Primary/secondary school) for both population.

In conclusion, regarding the four food categories considered for saturated fat intakes, the majority of the impacts observed affects mostly all consumers in the same way meaning that the impact of composition evolution (including reformulation) affects all social classes.

Table 47 : Average saturated fat intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among children (3-9 years old) in France

Children 3-9 years old		Saturated fat (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	1,4	2,0	1,4	1,3
	Intakes T1	1,2	1,7	1,2	1,1
	Delta (T1-T0)	-0,2	-0,3	-0,2	-0,2
	Intakes difference (%)	-15,9	-14,8	-15,0	-15,7
	Contribution to total intakes at T0 (%)	5,0	6,7	5,0	4,2
	Contribution to total intakes at T1 (%)	4,2	5,7	4,3	3,5
Breakfast cereals	Intakes T0	0,2	0,2	0,1	0,3
	Intakes T1	0,1	0,1	0,1	0,2
	Delta (T1-T0)	-0,1	-0,1	-0,0	-0,1
	Intakes difference (%)	-38,7	-28,9	-30,1	-31,6
	Contribution to total intakes at T0 (%)	0,8	0,7	0,5	0,9
	Contribution to total intakes at T1 (%)	0,5	0,5	0,3	0,6
Delicatessen meats and similar	Intakes T0	0,8	0,9	0,8	0,5
	Intakes T1	0,8	0,8	0,8	0,5
	Delta (T1-T0)	-0,004	-0,02	-0,02	-0,01
	Intakes difference (%)	-0,5	-2,3	-2,1	-1,1
	Contribution to total intakes at T0 (%)	2,9	2,9	2,8	1,8
	Contribution to total intakes at T1 (%)	2,9	2,9	2,8	1,8
Fresh dairy products and desserts	Intakes T0	3,2	3,8	3,7	4,1
	Intakes T1	3,5	4,2	4,0	4,3
	Delta (T1-T0)	+0,3	+0,4	+0,2	+0,2
	Intakes difference (%)	+9,9	+9,2	+6,2	+5,5
	Contribution to total intakes at T0 (%)	11,4	13,0	13,1	13,7
	Contribution to total intakes at T1 (%)	12,5	14,2	13,9	14,4
Out of scope	**Intakes T0**	22,3	22,7	22,4	23,8
	Intakes T1	22,3	22,7	22,4	23,8
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	79,9	76,6	78,5	79,4
	Contribution to total intakes at T1 (%)	79,8	76,7	78,6	79,6

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 48 : Average saturated fat intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among adolescents (10-17 years old) in France

Adolescents 10-17 years old		Saturated fat (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	1,6	1,8	1,5	1,5
	Intakes T1	1,3	1,6	1,3	1,3
	Delta (T1-T0)	-0,2	-0,2	-0,2	-0,3
	Intakes difference (%)	-14,7	-12,2	-15,4	-16,6
	Contribution to total intakes at T0 (%)	4,8	5,8	4,4	4,7
	Contribution to total intakes at T1 (%)	4,1	5,1	3,8	4,0
Breakfast cereals	Intakes T0	0,3	0,3	0,4	0,5
	Intakes T1	0,2	0,2	0,3	0,4
	Delta (T1-T0)	-0,1	-0,1	-0,1	-0,1
	Intakes difference (%)	-31,5	-25,7	-26,7	-26,4
	Contribution to total intakes at T0 (%)	1,1	1,0	1,1	1,6
	Contribution to total intakes at T1 (%)	0,7	0,7	0,8	1,2
Delicatessen meats and similar	Intakes T0	0,8	1,0	0,7	0,6
	Intakes T1	0,8	1,0	0,7	0,6
	Delta (T1-T0)	+0,001	+0,01	-0,01	+0,002
	Intakes difference (%)	+0,2	+1,3	-1,9	+0,3
	Contribution to total intakes at T0 (%)	2,4	3,1	2,1	1,8
	Contribution to total intakes at T1 (%)	2,4	3,2	2,1	1,9
Fresh dairy products and desserts	Intakes T0	2,7	3,1	3,4	3,2
	Intakes T1	2,9	3,2	3,5	3,3
	Delta (T1-T0)	+0,2	+0,2	+0,1	+0,1
	Intakes difference (%)	+6,6	+5,3	+4,4	+2,1
	Contribution to total intakes at T0 (%)	8,3	9,8	9,9	10,1
	Contribution to total intakes at T1 (%)	8,9	10,4	10,4	10,4
Out of scope	Intakes T0	27,3	25,1	28,2	26,1
	Intakes T1	27,3	25,1	28,2	26,1
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	83,4	80,2	82,4	81,7
	Contribution to total intakes at T1 (%)	83,8	80,5	82,9	82,5

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 49 : Average saturated fat intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among adults (18-64 years old) in France

Adults 18-64 years old		Saturated fat (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	1,0	1,0	0,8	0,7
	Intakes T1	0,9	0,9	0,7	0,6
	Delta (T1-T0)	-0,1	-0,1	-0,1	-0,1
	Intakes difference (%)	-13,66	-11,9	-11,7	-14,8
	Contribution to total intakes at T0 (%)	3,0	3,0	2,3	2,0
	Contribution to total intakes at T1 (%)	2,6	2,6	2,0	1,7
Breakfast cereals	Intakes T0	0,1	0,2	0,2	0,3
	Intakes T1	0,1	0,1	0,1	0,2
	Delta (T1-T0)	-0,02	-0,04	-0,05	-0,1
	Intakes difference (%)	-27,31	-28,9	-28,3	-28,8
	Contribution to total intakes at T0 (%)	0,2	0,5	0,5	0,7
	Contribution to total intakes at T1 (%)	0,1	0,3	0,3	0,5
Delicatessen meats and similar	Intakes T0	1,0	1,0	0,8	0,7
	Intakes T1	1,0	1,0	0,8	0,7
	Delta (T1-T0)	+0,01	-0,001	+0,01	+0,02
	Intakes difference (%)	+0,6	-0,1	+0,7	+2,2
	Contribution to total intakes at T0 (%)	2,9	2,8	2,1	1,9
	Contribution to total intakes at T1 (%)	2,9	2,8	2,2	1,9
Fresh dairy products and desserts	Intakes T0	2,9	2,9	3,1	3,1
	Intakes T1	3,0	3,1	3,3	3,2
	Delta (T1-T0)	+0,1	+0,2	+0,3	+0,1
	Intakes difference (%)	+4,2	+6,2	+8,4	+4,4
	Contribution to total intakes at T0 (%)	8,5	8,6	8,6	8,4
	Contribution to total intakes at T1 (%)	8,9	9,1	9,3	8,7
Out of scope	Intakes T0	28,9	29,0	30,8	32,0
	Intakes T1	28,9	29,0	30,8	32,0
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	85,3	85,1	86,4	87,0
	Contribution to total intakes at T1 (%)	85,4	85,1	86,1	87,1

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

8.3.2.4. Impact on fibre intakes

Table 50, Table 51 and Table 52 show the mean fibre intakes of the three populations (children, adolescents and adults) according to the level of education of the respondent (or his representative in case of children and adolescents), with details according to the four categories considered for this nutrient and for products outside the scope of Best-ReMaP. The delta observed between T0 and T1 intakes is given in g/day and as a percentage. The contribution of each category to the total fibre intakes is given as a percentage for each time point.

Results show that among the four categories considered for fibre intakes, the one that contributes the most to it is Bread products for all population and education levels. Breakfast cereals contribute to the fibre intake for children and adolescents to a lower extent.

Same trends of fibre intakes are observed for children and adolescents of all social classes. A global increase of fibre intakes in Breakfast cereals, Fresh dairy products and desserts and Soft drinks and a global decrease in Bread products can be noticed. The evolution might be slightly different depending on the social classes. However, there is no comparable trend for a given social class across the three populations.

Evolutions among adults are quite different, with an overall increase of fibre intakes associated to all food categories considered with exception of adults from education level « High school » group. For those, there is a small decrease in the fibre content for Bread products and Fresh dairy products.

In conclusion, fibre intakes of children and adolescents are affected in the same way by the composition evolution (including reformulation) between T0 and T1, regardless of the education level. Regarding the intakes for the adults population, they do not seem to be systematically influenced by the social classes even if small differences can be observed for Fresh dairy products and desserts and Bread products.

Table 50 : Average fibre intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among children (3-9 years old) in France

Children 3-9 years old		Fibre (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	1,1	1,3	1,2	1,1
	Intakes T1	1,1	1,3	1,2	1,0
	Delta (T1-T0)	-0,05	-0,1	-0,04	-0,07
	Intakes difference (%)	-4,34	-5,2	-3,6	-6,6
	Contribution to total intakes at T0 (%)	7,0	8,6	7,5	6,5
	Contribution to total intakes at T1 (%)	6,7	8,1	7,3	6,0
Breakfast cereals	Intakes T0	0,5	0,5	0,3	0,5
	Intakes T1	0,5	0,5	0,3	0,6
	Delta (T1-T0)	+0,1	+0,1	+0,04	+0,1
	Intakes difference (%)	+13,2	+12,7	+12,9	+10,5
	Contribution to total intakes at T0 (%)	3,0	2,9	1,8	3,2
	Contribution to total intakes at T1 (%)	3,4	3,2	2,0	3,6
Fresh dairy products and desserts	Intakes T0	0,4	0,4	0,4	0,3
	Intakes T1	0,4	0,5	0,4	0,4
	Delta (T1-T0)	+0,05	+0,04	+0,01	+0,04
	Intakes difference (%)	+13,0	+8,6	+2,1	+12,6
	Contribution to total intakes at T0 (%)	2,4	2,7	2,2	2,0
	Contribution to total intakes at T1 (%)	2,7	2,9	2,3	2,3
Soft drinks	Intakes T0	0,0	0,0	0,0	0,0
	Intakes T1	0,1	0,1	0,0	0,0
	Delta (T1-T0)	+0,02	+0,02	+0,02	+0,01
	Intakes difference (%)	+49,1	+53,8	+56,1	+48,9
	Contribution to total intakes at T0 (%)	0,2	0,3	0,2	0,1
	Contribution to total intakes at T1 (%)	0,3	0,4	0,3	0,1
Out of scope	Intakes T0	13,7	13,4	14,4	14,5
	Intakes T1	13,7	13,4	14,4	14,5
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	87,0	85,3	87,9	88,0
	Contribution to total intakes at T1 (%)	86,7	85,1	87,9	87,8

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 51 : Average fibre intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among adolescents (10-17 years old) in France

Adolescents 10-17 years old		Fibre (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	1,6	1,8	1,6	1,5
	Intakes T1	1,6	1,8	1,5	1,4
	Delta (T1-T0)	-0,04	-0,02	-0,06	-0,05
	Intakes difference (%)	-2,57	-1,0	-3,8	-3,5
	Contribution to total intakes at T0 (%)	8,5	9,7	7,9	7,5
	Contribution to total intakes at T1 (%)	8,3	9,5	7,6	7,2
Breakfast cereals	Intakes T0	0,7	0,5	0,7	1,0
	Intakes T1	0,8	0,6	0,8	1,1
	Delta (T1-T0)	+0,1	+0,05	+0,05	+0,07
	Intakes difference (%)	+11,7	+9,5	+7,3	+7,2
	Contribution to total intakes at T0 (%)	3,5	2,8	3,6	4,9
	Contribution to total intakes at T1 (%)	3,9	3,1	3,9	5,3
Fresh dairy products and desserts	Intakes T0	0,3	0,4	0,3	0,3
	Intakes T1	0,3	0,4	0,3	0,3
	Delta (T1-T0)	+0,01	+0,01	+0,00	+0,00
	Intakes difference (%)	+4,5	+3,7	+0,9	+0,2
	Contribution to total intakes at T0 (%)	1,7	2,0	1,7	1,5
	Contribution to total intakes at T1 (%)	1,8	2,1	1,7	1,5
Soft drinks	Intakes T0	0,1	0,0	0,0	0,0
	Intakes T1	0,1	0,1	0,1	0,1
	Delta (T1-T0)	+0,02	+0,02	+0,02	+0,01
	Intakes difference (%)	+32,9	+45,5	+37,9	+20,2
	Contribution to total intakes at T0 (%)	0,3	0,2	0,2	0,2
	Contribution to total intakes at T1 (%)	0,4	0,4	0,3	0,3
Out of scope	Intakes T0	16,3	15,6	17,2	17,2
	Intakes T1	16,3	15,6	17,2	17,2
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	85,7	84,9	86,3	85,7
	Contribution to total intakes at T1 (%)	85,4	84,7	86,3	85,6

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 52 : Average fibre intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among adults (18-64 years old) in France

Adults 18-64 years old		Fibre (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	1,9	1,5	1,6	1,5
	Intakes T1	1,9	1,5	1,6	1,6
	Delta (T1-T0)	+0,01	-0,003	+0,03	+0,02
	Intakes difference (%)	+0,78	-0,2	+1,9	+1,3
	Contribution to total intakes at T0 (%)	8,9	7,0	6,8	6,7
	Contribution to total intakes at T1 (%)	8,9	7,0	6,9	6,8
Breakfast cereals	Intakes T0	0,1	0,3	0,4	0,5
	Intakes T1	0,2	0,4	0,4	0,5
	Delta (T1-T0)	+0,01	+0,03	+0,03	+0,03
	Intakes difference (%)	+9,0	+8,5	+6,9	+6,5
	Contribution to total intakes at T0 (%)	0,7	1,5	1,7	2,1
	Contribution to total intakes at T1 (%)	0,8	1,6	1,8	2,2
Fresh dairy products and desserts	Intakes T0	0,3	0,3	0,3	0,3
	Intakes T1	0,3	0,3	0,3	0,3
	Delta (T1-T0)	+0,004	-0,002	+0,001	+0,004
	Intakes difference (%)	+1,6	-0,7	+0,3	+1,6
	Contribution to total intakes at T0 (%)	1,3	1,5	1,4	1,2
	Contribution to total intakes at T1 (%)	1,3	1,4	1,4	1,2
Soft drinks	Intakes T0	0,0	0,1	0,1	0,1
	Intakes T1	0,0	0,1	0,1	0,1
	Delta (T1-T0)	+0,01	+0,01	+0,01	+0,01
	Intakes difference (%)	+13,6	+20,1	+18,0	+15,3
	Contribution to total intakes at T0 (%)	0,2	0,3	0,3	0,2
	Contribution to total intakes at T1 (%)	0,2	0,3	0,4	0,3
Out of scope	Intakes T0	18,7	19,3	20,7	20,5
	Intakes T1	18,7	19,3	20,7	20,5
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	88,6	89,5	89,6	89,6
	Contribution to total intakes at T1 (%)	88,5	89,3	89,4	89,4

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

8.3.2.5. Impact on salt intakes

Table 53, Table 54 and Table 55 show the mean salt intakes of the three populations (children, adolescents and adults) according to the level of education of the respondent (or his representative in case of children and adolescents), with details according to the five categories considered for this nutrient and for products outside the scope of Best-ReMaP. The delta observed between T0 and T1 intakes is given in g/day and as a percentage. The contribution of each category to the total salt intakes is given as a percentage for each time point.

Results show that among the five categories considered for salt, Bread products and Delicatessen meats and similar contribute the most to salt intakes for all populations and education levels.

Salt intakes of all population and education levels are impacted in the same way:

- A decreasing salt trend in Bread products, Breakfast cereals and Soft drinks;
- An increasing salt trend in Delicatessen meats and similar and Fresh dairy products and desserts.

An opposite trend is observed in Soft drinks for intakes of adults within the highest education level, for which a small increase between T0 and T1 contrasts with the other evolutions.

In conclusion, salt intakes associated to the categories that contribute the most to the total intakes at both times are affected in the same way for all social classes.

Table 53 : Average salt intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among children (3-9 years old) in France

Children 3-9 years old		Salt (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	0,32	0,41	0,36	0,31
	Intakes T1	0,31	0,40	0,35	0,31
	Delta (T1-T0)	-0,01	-0,01	-0,01	-0,0004
	Intakes difference (%)	-3,09	-2,0	-3,6	-0,1
	Contribution to total intakes at T0 (%)	7,3	8,7	7,8	7,0
	Contribution to total intakes at T1 (%)	7,1	8,6	7,5	7,0
Breakfast cereals	Intakes T0	0,07	0,07	0,04	0,07
	Intakes T1	0,06	0,05	0,03	0,05
	Delta (T1-T0)	-0,01	-0,02	-0,01	-0,02
	Intakes difference (%)	-16,83	-24,7	-23,4	-23,8
	Contribution to total intakes at T0 (%)	1,5	1,5	0,9	1,5
	Contribution to total intakes at T1 (%)	1,3	1,1	0,7	1,2
Delicatessen meats and similar	Intakes T0	0,34	0,32	0,33	0,28
	Intakes T1	0,35	0,33	0,34	0,28
	Delta (T1-T0)	+0,01	+0,01	+0,01	+0,01
	Intakes difference (%)	+3,18	+1,8	+2,5	+2,0
	Contribution to total intakes at T0 (%)	7,6	6,9	7,1	6,3
	Contribution to total intakes at T1 (%)	7,9	7,1	7,3	6,4
Fresh dairy products and desserts	Intakes T0	0,13	0,14	0,13	0,14
	Intakes T1	0,14	0,15	0,14	0,15
	Delta (T1-T0)	+0,01	+0,01	+0,003	+0,004
	Intakes difference (%)	+5,36	+4,8	+2,5	+3,0
	Contribution to total intakes at T0 (%)	3,0	3,1	2,8	3,2
	Contribution to total intakes at T1 (%)	3,2	3,2	2,9	3,3
Soft drinks	Intakes T0	0,02	0,03	0,02	0,01
	Intakes T1	0,02	0,02	0,01	0,01
	Delta (T1-T0)	-0,01	-0,014	-0,007	-0,004
	Intakes difference (%)	-37,8	-46,9	-35,7	-37,8
	Contribution to total intakes at T0 (%)	0,6	0,6	0,4	0,2
	Contribution to total intakes at T1 (%)	0,3	0,3	0,3	0,1
Out of scope	Intakes T0	3,6	3,7	3,8	3,6
	Intakes T1	3,6	3,7	3,8	3,6
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	80,0	79,2	81,0	81,8
	Contribution to total intakes at T1 (%)	80,3	79,6	81,3	82,0

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 54 : Average salt intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among adolescents (10-17 years old) in France

Adolescents 10-17 years old		Salt (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	0,46	0,50	0,46	0,45
	Intakes T1	0,45	0,48	0,44	0,43
	Delta (T1-T0)	-0,01	-0,01	-0,02	-0,01
	Intakes difference (%)	-2,87	-2,7	-3,5	-3,2
	Contribution to total intakes at T0 (%)	7,8	9,0	7,3	7,8
	Contribution to total intakes at T1 (%)	7,6	8,8	7,1	7,6
Breakfast cereals	Intakes T0	0,09	0,07	0,11	0,13
	Intakes T1	0,08	0,06	0,09	0,10
	Delta (T1-T0)	-0,02	-0,01	-0,02	-0,03
	Intakes difference (%)	-16,63	-19,9	-18,3	-23,7
	Contribution to total intakes at T0 (%)	1,6	1,3	1,8	2,3
	Contribution to total intakes at T1 (%)	1,3	1,1	1,5	1,7
Delicatessen meats and similar	Intakes T0	0,31	0,34	0,33	0,27
	Intakes T1	0,32	0,34	0,33	0,27
	Delta (T1-T0)	+0,01	+0,002	+0,004	+0,002
	Intakes difference (%)	+1,73	+0,6	+1,2	+0,8
	Contribution to total intakes at T0 (%)	5,3	6,1	5,2	4,6
	Contribution to total intakes at T1 (%)	5,4	6,2	5,3	4,7
Fresh dairy products and desserts	Intakes T0	0,11	0,11	0,12	0,11
	Intakes T1	0,11	0,12	0,13	0,12
	Delta (T1-T0)	+0,01	+0,01	+0,005	+0,003
	Intakes difference (%)	+5,12	+6,4	+3,7	+2,6
	Contribution to total intakes at T0 (%)	1,8	2,0	2,0	2,0
	Contribution to total intakes at T1 (%)	1,9	2,1	2,1	2,0
Soft drinks	Intakes T0	0,05	0,04	0,04	0,03
	Intakes T1	0,03	0,02	0,03	0,03
	Delta (T1-T0)	-0,02	-0,02	-0,01	-0,01
	Intakes difference (%)	-37,93	-45,6	-30,3	-23,8
	Contribution to total intakes at T0 (%)	0,8	0,8	0,7	0,6
	Contribution to total intakes at T1 (%)	0,5	0,4	0,5	0,4
Out of scope	Intakes T0	4,9	4,5	5,2	4,8
	Intakes T1	4,9	4,5	5,2	4,8
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	82,7	80,8	83,1	82,7
	Contribution to total intakes at T1 (%)	83,2	81,4	83,7	83,4

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

Table 55 : Average salt intakes (g/day) for the state of play (T0) and the first follow-up (T1) per category and level of education among adults (18-64 years old) in France

Adults 18-64 years old		Salt (g/day)			
		Primary/secondary school	High school	Degree Bac +1/+3	Degree Bac+4/more
Bread products	Intakes T0	0,47	0,40	0,38	0,38
	Intakes T1	0,45	0,38	0,37	0,36
	Delta (T1-T0)	-0,02	-0,01	-0,01	-0,02
	Intakes difference (%)	-3,67	-3,4	-3,2	-4,1
	Contribution to total intakes at T0 (%)	6,8	5,7	5,3	5,3
	Contribution to total intakes at T1 (%)	6,6	5,5	5,1	5,1
Breakfast cereals	Intakes T0	0,02	0,03	0,03	0,05
	Intakes T1	0,01	0,02	0,02	0,03
	Delta (T1-T0)	-0,01	-0,01	-0,01	-0,02
	Intakes difference (%)	-26,96	-34,6	-33,1	-36,5
	Contribution to total intakes at T0 (%)	0,3	0,4	0,4	0,6
	Contribution to total intakes at T1 (%)	0,2	0,3	0,3	0,4
Delicatessen meats and similar	Intakes T0	0,43	0,44	0,37	0,32
	Intakes T1	0,44	0,45	0,37	0,33
	Delta (T1-T0)	+0,01	+0,01	+0,01	+0,001
	Intakes difference (%)	+1,92	+1,8	+1,4	+0,5
	Contribution to total intakes at T0 (%)	6,3	6,3	5,1	4,5
	Contribution to total intakes at T1 (%)	6,4	6,4	5,2	4,5
Fresh dairy products and desserts	Intakes T0	0,11	0,11	0,11	0,11
	Intakes T1	0,11	0,12	0,12	0,11
	Delta (T1-T0)	+0,003	+0,004	+0,006	+0,004
	Intakes difference (%)	+3,18	+3,5	+4,9	+3,6
	Contribution to total intakes at T0 (%)	1,6	1,6	1,6	1,5
	Contribution to total intakes at T1 (%)	1,6	1,7	1,7	1,5
Soft drinks	Intakes T0	0,03	0,04	0,03	0,02
	Intakes T1	0,02	0,03	0,03	0,02
	Delta (T1-T0)	-0,01	-0,009	-0,004	+0,0008
	Intakes difference (%)	-32,86	-24,3	-12,4	+3,9
	Contribution to total intakes at T0 (%)	0,4	0,5	0,4	0,3
	Contribution to total intakes at T1 (%)	0,3	0,4	0,4	0,3
Out of scope	Intakes T0	5,8	6,0	6,3	6,3
	Intakes T1	5,8	6,0	6,3	6,3
	Delta (T1-T0)	-	-	-	-
	Intakes difference (%)	-	-	-	-
	Contribution to total intakes at T0 (%)	84,6	85,5	87,1	87,8
	Contribution to total intakes at T1 (%)	84,9	85,7	87,3	88,2

Cell in orange: increase of the intake between T0 and T1 - Cell in purple: decrease of the intake between T0 and T1

8.3.3. Conclusion of the impact of composition evolution by level of education on French nutrient intakes

In conclusion, the observed impacts among the five categories studied are limited, as the majority of the diet is represented by food categories that are out of scope for Best-ReMaP (70% to 90% of the total intakes depending on the population). Moreover, depending on the food category, the gap between the first and the second snapshot considered can be very different : from three years for Delicatessen meats and similar and four years for Soft drinks to 10 years for Breakfast cereals and Bread products. The greater the difference is, the more likely it is that reformulation has been carried out. However, the results highlight the fact that intakes can be impacted broadly in the same direction by the evolution of the food composition between two time points, with some variations linked to the populations but globally no noticeable trend linked to socio economic levels **meaning that overall, changes in nutritional composition (including reformulation) affect the entire population, regardless of socio-professional category, and may thus contribute to the reduction of social inequities.**

9. General conclusion

Data collections have been implemented in 18 European countries in order to collect composition data at the brand level for five food categories (Breakfast cereals, Delicatessen meats and similar, Fresh dairy products and desserts, Soft drinks and Bread products) allowing to gather more than 50 000 products codified within Best-ReMaP subcategories (in addition to 20 000 preexisting products recodified in Best Remap subcategories). Important quality checks have also been carried out to ensure the reliability of the data.

For 14 countries, data collected have been linked to preexisting data in order to follow the evolution of food offer and nutritional composition over time. To assess impact of composition evolution on nutrient intakes, the five Best-ReMaP subcategories have also been linked with EFSA FoodEx2 classification.

The use of a common methodology to collect, codify, verify and analyse the data makes it possible to compare the results between European countries, to establish benchmarks and to identify best reformulations for the first time. In addition to that, the training of local teams and the dissemination of the methodology makes it possible to continue the monitoring after the end of the Joint Action, in order to cover the missing food categories and to regularly monitor all of them.

The short time remaining to carry out the statistical analyses at the end of the project limited the work that could have been realized on the collected data and the different time gaps between collections observed between countries call for caution to interpret the results. However, the preliminary results show that there are important differences in the food offer between the participating countries, and that the subcategories of products have very different nutritional characteristics, leading to the conclusion that it is absolutely necessary to work at the subcategory and at the country level when following reformulations, as analyses conducted at the category level could translate differences in the food offer rather than in the nutritional content.

First analysis of the impact on nutrients intake has been evaluated and shows that composition evolution (including reformulation) lead to a modification of the nutrients intake for the three populations (children, adolescents and adults) and the four nutrients studied (salt, sugar, fat and saturated fat). Case study carried out on the French data shows that the change (reduction of saturated fat, salt and sugar and increase of fibers) in nutrient intakes benefits all social categories and may thus contribute to the reduction of health inequities. It has to be noted that this impact is somehow limited, depends on the country, and is not always in the direction of nutritional recommendations. Nevertheless, this evaluation is limited to the five food categories that have been prioritized in Best Remap and the time gap between the 2 data collections may be too short to observe statistically significant reformulations for some countries (it is estimated that between three and four years are necessary).

In the next Joint Action Prevent-NCD (2014-2017), more in depth analysis will be realized, in order to consider all data gathered in a harmonized way at the European level to compare nutritional composition across countries, assess the impact on nutrient intakes and link the results with national public policies.

The work realized by the WP5 about food reformulation monitoring has reached its goal by creating an EU network, sharing a common methodology and common tools and by feeding the open European database at the brand level developed by the JRC (Joint Research Center - FABLE database).

Efforts have to be continued to ensure the sustainability of these actions. The main challenges of the future will be to create a context in which data collections continue in trained countries and start in countries which were not partners in order both to extend the monitoring to other food categories but also to monitor all subcategories on a regular basis. Countries shall continue to use the Best-ReMaP categories and subcategories in order to feed the FABLE database. On the long term, a technical cooperation structure, at the European level, should be implemented in order to support countries in the use of guidelines, coordinate the implementation of the database and also enable to share experiences.