French economic outlook

At the start of 2023, inflation differentials between households were accentuated by the sharp rise in food and energy prices

At the beginning of 2023, differences between consumption structures continued to have a significant effect on inflation differentials according to household category (the youngest households compared to the oldest, those living in small municipalities compared to those in large conurbations, the least well-off compared to the most affluent). These differentials, which can be as much as 3 percentage points, are mainly due to energy, especially housing energy, and food. There are also considerable differences within the household categories themselves, with an interquartile differential of 2 to 4 inflation points. However, inflation for the youngest households seems to be relatively uniform compared to that of older households. Finally, it should be noted that inflation differentials only provide information on some of the possible purchasing power differentials, which also depend on changes in income.

In January 2023, inflation differentials could be as high as 3 points between household categories, mainly due to energy and food

Depending on the structure of their consumption basket, which may vary from one situation to another or reflect their own preferences, households are not all exposed in the same way to accelerating prices. The *Economic Outlook* of 24 June 2022[1] showed that the rise in inflation since 2021 had increased disparities between households. While inflation differentials between household categories were no greater than 0.2 points on average between 2015 and 2021, they were more than 1.5 points in April 2022. The greatest disparities were to be found mainly between young households and the oldest households, with the former experiencing, on average, a much lower inflation than the latter, but there were also disparities between households living in rural areas compared to those living in major cities or in the Paris conurbation. Inflation differentials appear less pronounced, however, according to households' standard of living.

The update of this study (▶ **Box 1**) for January 2023, when inflation reached 6.0% year-on-year in Metropolitan France,[2] shows that disparities between categories of household have further intensified. These differentials were more than 2 points in January 2023 from one category of household to another (▶ **Figure 1**). As in April 2022, energy (housing energy[3] and fuel) contributes significantly to the inflation differentials between household categories, but now the contribution of food is just as great. In fact, on average in Metropolitan France, since September 2022, food has made the largest contribution to headline inflation, both because of the high rate of food inflation (+13.4% year-on-year at the beginning of 2023 in Metropolitan France) and its sizeable weight in household consumption (16% on average).

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1 "Depending on their energy and food expenditure, some household categories are exposed to apparent inflation that may differ by more than one point from the average", Focus in *Economic Outlook* of 24 June 2022, INSEE.
2 All figures quoted in this study relate to Metropolitan France
3 Energy consumed mainly for housing corresponds, for example, to energy used for heating, lighting or cooking. It consists of electricity, gas, liquid fuels (e.g. heating oil) or solid fuels (e.g. wood).

▶1. Inflation by household category in January 2023, compared to average inflation in Metropolitan France
(percentage points)
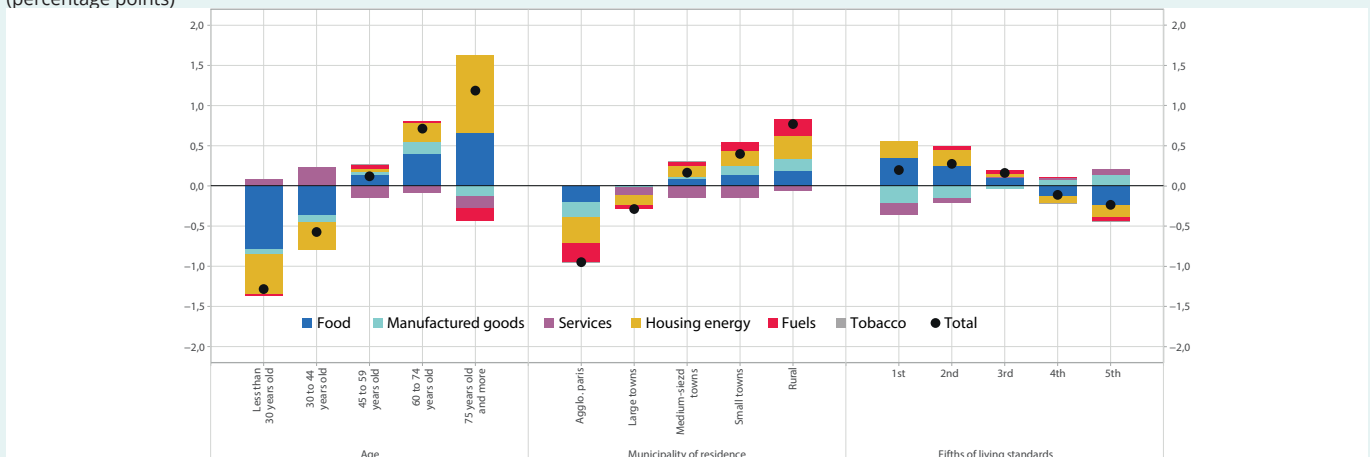
Note: municipality of residence is understood to mean belonging to an urban unit of a certain size.
How to read it: in January 2023, inflation was 1.2 points higher for households where the reference person was over 75 years old. Housing energy contributed +1.0 point to this differential and food contributed +0.7 points.
Scope: households living in ordinary housing in Metropolitan France.
Source: Consumer price indices, Family Budget Survey 2017, INSEE calculations.
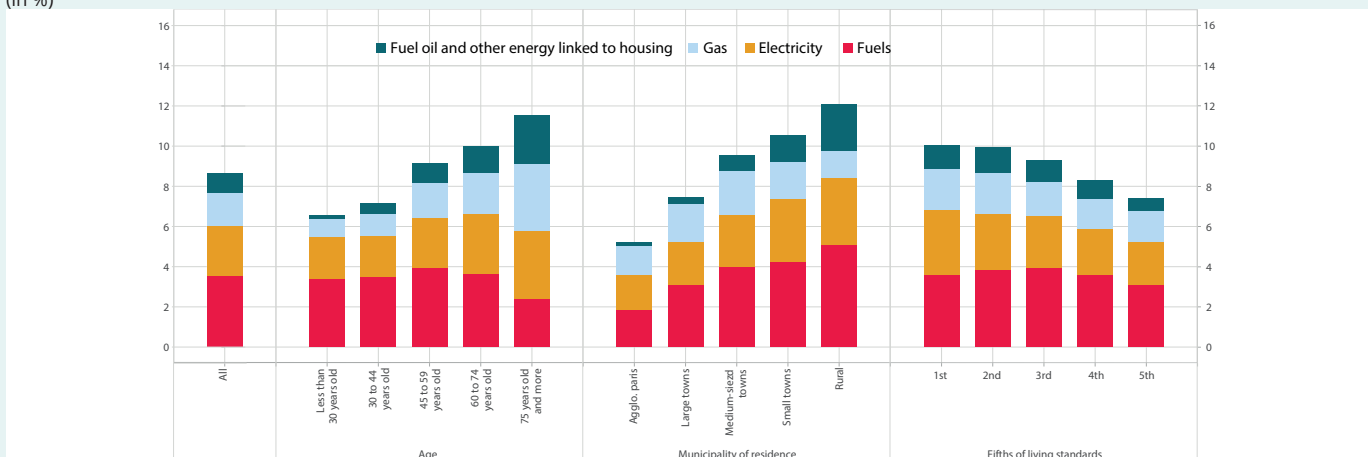
Inflation is higher for the oldest households, for those living in rural municipalities or small towns and also for low-income households

The greatest inflation differentials estimated in January 2023 can generally be found in the same household categories as those identified in the *Economic Outlook* of June 2022: older households compared to younger ones, rural households compared to those living in the largest towns. As was the case in April 2022, differentials are less pronounced in relation to standard of living, even though inflation for the most modest households (the 40% of households with the lowest standard of living) is higher than for the most well-off.

However, inflation differentials between household categories may show up effects of intersecting dimensions, where it is impossible to determine the specific effect of each by simply comparing levels of inflation for the different categories. An analysis with "all other things being equal" confirms the conclusions in Figure 1 (▶ **Box 2**) in this respect. Here, age emerges as an inflation disparity factor between households, including between households where all other sociodemographic characteristics are the same. All other things being equal, inflation is lower for households where the reference person is young: thus, in January 2023, inflation for households with members under 30 years old was on average 2.2 percentage points lower than for households over 75 years old, and this was the same for other given sociodemographic characteristics, including the fact of being a tenant or a homeowner. Being a tenant (which is more often the case for young households) is currently likely to reduce headline inflation, as the weight of rent in the budget automatically reduces the share of other items, including food and energy in particular, where prices have risen sharply.

The type of municipality of residence also plays a significant role in inflation differentials between households, as currently, all other things being equal and given the consumption structure of the inhabitants, inflation is higher in small municipalities. However, the inflation disparities resulting from this factor are less pronounced than those associated with household age: again, all other things being equal, between a household in a rural area and a household in the Paris conurbation, the inflation differential was 0.6 percentage points on average in January 2023.

Standard of living is also an inflation differential factor between households: inflation is currently higher for the most modest households, all other things being equal. With other characteristics the same, in January 2023, inflation for a household in the most modest 20% was on average 0.9 points higher than for a household in the wealthiest 20%.

The high inflation experienced by the oldest households is due mainly, regarding energy, to a greater weight of gas or heating oil in their budget

Among all consumer items, although energy contributes significantly to inflation differentials between household categories, this is due first and foremost to housing energy (▶**Figure 1**).

On average across all households, the year-on-year variation in housing energy prices in January 2023 was 17.7% in Metropolitan France, thus higher than that for fuel (14.0% year-on-year). Housing energy spending, representing on average 5.2% of household consumption, can vary substantially from one household category to another. In particular, weight of this expenditure

▶2. Weight of different energies in the budget, by household category in 2022
(in %)

Note: municipality of residence is understood to mean belonging to an urban unit of a certain size.
How to read it: in 2022, purchases linked to energy represented around 9%, on average, of household consumption spending.
Scope: households living in ordinary housing in Metropolitan France.
Source: Consumer price indices, Family Budget Survey 2017, INSEE calculations.

French economic outlook

increases with household age, regardless of its other sociodemographic characteristics, thereby driving up inflation for older people. While the under-30s devote 3% of their spending to this consumption item, on average, this share is 6% for 60- to 74-year-olds and around 9% for the over-75s (►**Figure 2**). The reason for this is probably partly because the dwellings of older households have larger surface areas, on average, even for equivalent household size.

In addition, the youngest households spend a larger share of their housing energy expenditure on electricity (almost two-thirds spent this way by the under-30s, compared to a little over one third by the over-75s), while older people use more gas or other fuels such as heating oil, which have increased in price much more than electricity prices over the last twelve months.

Regarding fuel, the oldest households spend a slightly smaller proportion of their budget on this item (about 2% of total spending for the over-75s, compared to 3% for the under-30s). Thus fuels contribute to bringing down the inflation experienced by the oldest households, reducing slightly the inflation differentials between them and the youngest households.

Spending on fuel is an inflation disparity factor between households in small towns and those in large conurbations

Housing energy also drives inflation differentials between rural households or those in small towns and households in large towns or the Paris conurbation. On the one hand, the weight of this expenditure is greater in the less urban areas (7% of the household budget in rural areas, compared to a little over 3% in the Paris conurbation), even when all other sociodemographic characteristics are

the same; on the other hand, housing energy more often consists of heating oil or other fuels, whereas households in the Paris conurbation tend to consume more electricity.

However, fuels also make a sizeable contribution to inflation disparities between small municipalities and metropolitan areas. The weight of fuels in household spending is less in major cities or the Paris conurbation (2 to 3% of the household budget) than in smaller towns or rural areas (4 to 5% of the budget). This remains true when checking against other sociodemographic characteristics, including those who own a car – in large towns or the Paris conurbation, the vehicle is probably used less often, even if the household owns one.

Among the oldest and the least well-off households, food occupies a greater proportion of the budget and concerns products affected more by inflation

Between the youngest and the oldest households, food is an inflation differential factor in the same way as energy. This is also the case between low-income and wealthy households, although the disparities appear to be less significant.

The role of food in inflation differentials between household categories is above all due to the variability of the weight that this item represents in the household budget. In fact, the share of the budget spent on food (excluding catering services) increases with age (►**Figure 3**): while the under-30s spend about 11% of their budget on this consumer item, this increases to about 21% for the over-60s. These differentials can also be observed, all other things being equal, when comparing households of the same size or households where the housing status (tenants or homeowners) is the same. For

►3. Weight of food and catering services in the budget, by household category in 2022
(in %)
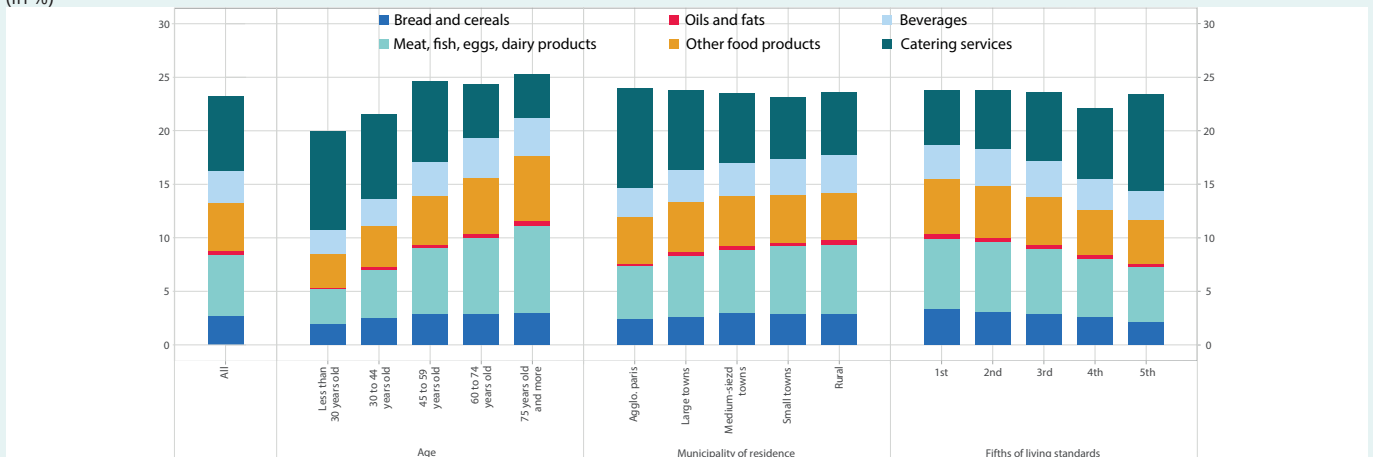
Note: municipality of residence is understood to mean belonging to an urban unit of a certain size.
How to read it: in 2022, food represented around 16%, on average, of household consumption spending. Catering services represented around 7% of household consumption spending.
Scope: households living in ordinary housing in Metropolitan France.
Source: Consumer price indices, Family Budget Survey 2017, INSEE calculations.

the youngest households, however, the weight of catering services, which was less affected by inflation, is greater. These differentials between the youngest and the oldest households regarding the weight of food in the budget, excluding catering services, have been documented (►**Ferret and Demoly, 2019**, and **Herpin and Michel, 2012**) and could be due to a generational effect.

As well as the share of their budget that they spent on food, which is greater than that spent by the youngest households, the oldest households, especially those aged 75 and over, also tend to purchase products that have been more affected by inflation. In their food spending, animal protein products (meat, fish, eggs and dairy products) feature more heavily, and these prices have increased more (between +14% and +19% year-on-year in January 2023) than the price of food products overall (+13.4%).

Like all non-discretionary spending[4] – food also has a greater weight in the budget of the least well-off households (18 to 19% of the budget for the poorest 40% of households) than in that of the wealthiest households (14% of the budget for the wealthiest 20% of households), and this regardless of their other sociodemographic characteristics.

For the most modest-income households, the price of the food basket has increased more rapidly, which may be due to the weight of oils and other fatty products, which figure a little more in their food spending, and whose prices are among the most buoyant among food products (about +30% year-on-year in January 2023).

Within the same category inflation can differ significantly from one household to another

While dimensions as diverse as age, place of residence or standard of living can have a significant impact, inflation can also vary considerably for households within the same category.

For a quarter of all households, inflation in January 2023 was below 4.6% year-on-year, while for another quarter, inflation was over 7.5%, a difference of 2.9 points (►**Figure 4**). There is also a measurable dispersion over the entire population, with a similar variance, when we limit ourselves to a category of the population. Thus the interquartile differential is almost 4 points in households aged over 75. It is still sizeable for the under-30s, although less pronounced (around 2 points).

In general, within the same category, this differential is around 2 to 4 points. Disparities are particularly notable in the oldest households, but also in the least well-off households.

Among the oldest and the least well-off households, the share of spending on energy is less consistent from one household to another

Inflation disparities within each household category stem from consumption structures that differ from one household to another. In particular, with regard to energy, which we have seen is one of the main factors of disparity between categories, the share of spending on this item in the budget can vary considerably between households,

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4 "Non-discretionary" spending refers to consumption items that are difficult to adjust in the short term because they meet essential needs: spending on food, health, education, fuel or transport services.

►4. Inflation dispersion within each household category, in January 2023
(year-on-year change in the consumer price index, in %.)
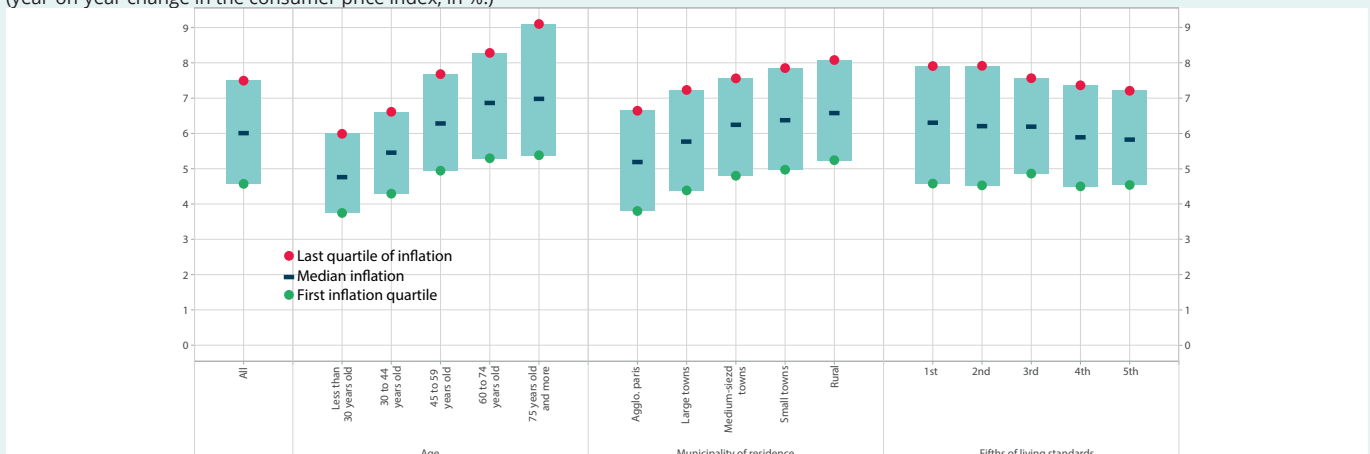
Note: municipality of residence is understood to mean belonging to an urban unit of a certain size.
How to read it: in January 2023, 25% of households where the reference person was under 30 years old faced inflation lower than 3.7% and 25% faced inflation higher than 6.0%. The median inflation rate experienced by these households was 4.8%.
Scope: households living in ordinary housing in Metropolitan France.
Source: Consumer price indices, Family Budget Survey 2017, INSEE calculations.

French economic outlook

and even within each category (▶ **Figure 5**). This variability may reflect disparities in the amounts of energy consumed from one household to another (depending on the surface area of the dwelling, for example) but also variation in the type of energy used (depending on whether electricity, gas or heating oil are used for heating, for example).

Among the under-30s, a quarter of households spend less than 3% of their budget on energy, whereas a quarter spend 11% or more, a difference of around 8 percentage points. For the oldest households, this interquartile differential is even greater, at 11 percentage points for 60-74-year-olds and 14 points for those aged 75 and over.

This greater homogeneity among young households, in terms of the weight of energy in their spending, can be explained by the fact that there are fewer disparities in a certain number of related dimensions. For example, the youngest households are more concentrated in the towns. They are also less well-off financially (about a third of households aged under 30 are in the first standard of living quintile), whereas the distribution of the oldest households is more evenly spread across the standard of living scale. Lastly, the youngest households are also more similar regarding their housing status (84% are tenants). The fact of being a homeowner, all other things being equal, is associated with a greater weight of housing energy in the budget.

In the most modest households, where the interquartile inflation differential is higher than for the wealthiest households, the share of spending on energy is also less homogeneous. In the most modest 20%, a quarter of households spend less than 4% of their budget on energy, while a quarter spend more than about 16%, an interquartile differential of about 12 percentage points.

In comparison, this differential is a little under 9 points in households in the last standard of living quintile. This greater dispersion within the poorest households can be explained in particular by a more balanced distribution among households in the first standard of living quintile between those who own a car and those who do not (36% of households in the first standard of living quintile do not own a car, compared with only 11% of households in the last quintile). It is also linked to less homogeneity in the most modest households regarding their housing status.

The weight of spending on food is also a factor in inflation dispersion within household categories. The oldest households are also the ones where the weight of food in the budget varies most. Among households aged 75 and over, a quarter spend at least a third of their budget, approximately, on food, while a quarter spend less than 13%, a differential of almost 20 percentage points. Among those under 30, this differential is reduced to 13 points. Similarly, among the most modest 20% of households, the interquartile differential is around 20 points, compared to 15 points for the wealthiest 20%. As in the case of energy, this variation in the weight of food in the household budget may be because the quantities eaten vary from one household to another, but also because the basket of goods can vary too. In particular, at the start of 2023, within their basket of food goods, the share of the budget that households spend on categories of products most affected by inflation (animal protein products or oils and other fatty products) varies widely. Thus, within the same category, the diversity of households across other social dimensions that determine the composition of the consumer basket (housing status, owning a car, area of residence, etc.) results in significant variability from one household to another, in the level of inflation they face. ●

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▶5. Dispersion of the share of spending on energy within each household category, in 2022
(in %)
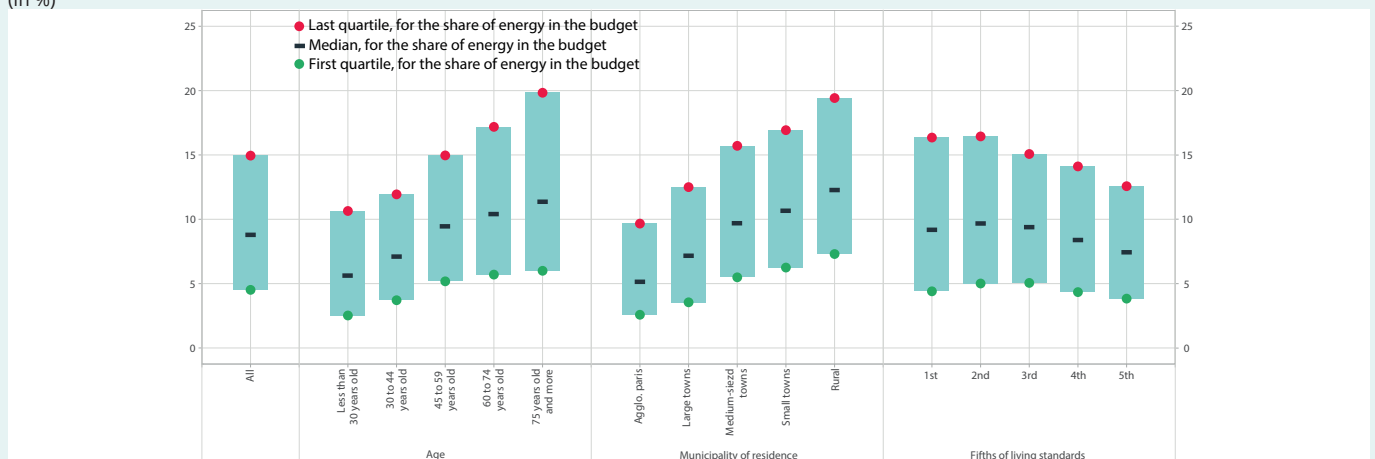
Note: municipality of residence is understood to mean belonging to an urban unit of a certain size.
How to read it: in 2022, 25% of households where the reference person was under 30 years old spent less than 3% of their budget on energy, and 25% spent 11% or more. For these households, the median share of the budget spent on energy was 6%.
Scope: households living in ordinary housing in Metropolitan France.
Source: Consumer price indices, Family Budget Survey 2017, INSEE calculations.

Box 1. Methodology

The methodology used for this Focus is similar to that used for the Focus in the Economic Outlook of 24 June 2022.

The Consumer Price Index (CPI) of January 2023 covers a basket of goods and services, the composition of which reflects the structure of average household consumption in 2022. Based on this average 2022 structure and data collected in the Household Budget Survey 2017, which provides information on different consumption behaviour from one household to another, the method consists in constructing, for each household or household category, its own consumption structure.

More precisely, the consumption structure of the household (or household category) is obtained by calculating, at the level of each group of products in the CPI, the ratio of spending by the household (or household category) on this product to the average spending by households on this same product. To calculate these "budget coefficients", items of consumption are considered at level 3 of the functional classification of household consumption (COICOP), which contains 117 classes.

By applying the CPI of its various expenditure items to the consumption structure for each household (or household category), we can then deduce the CPI experienced by this household (or category).

This method is based on several assumptions:

- For a given group of products at level 3 of the COICOP classification (e.g. the item "Bread and cereals", which notably includes pasta, rice, bread, etc.), change in the prices of products is assumed to be the same from one household to another. The method is therefore not able to take into account changes in price that differ from one area to another, for example, or differ according to the range of products consumed;
- Differences between the consumption structure of a household in a given category and the average consumption structure are assumed to have remained stable since 2017, when data were collected for the Household Budget Survey used in this study;
- In particular, the CPIs estimated for each household do not take into account a possible change in household behaviour during the year, especially if this change results in a reduction in the impact of inflation on its spending.

This methodology is similar to that used by the OFCE in Box no.4 of its *Policy brief* of 22 February 2023, where additional results to those given in this Focus are presented, calculated on the average change in prices across all of 2022.

In addition, the exercise focuses on the impact of the price increase on the budget of each household, understood in terms of its actual consumption spending and not as its disposable income. The study published by France Stratégie in February 2023 ("*Alimentation, logement, transport : sur qui l'inflation pèse-t-elle le plus ?*"), although based on a slightly different methodology from that used here (the consumption structures used are those from 2017, including the average consumption structure), shows that price rises automatically have a greater impact, in percentage terms, on the monetary resources of households with the lowest disposable income. ●

Box 2. Effect of households' sociodemographic characteristics on the rate of inflation experienced in January 2023, all other things being equal

Inflation differentials between household categories may result from the combined effects of their sociodemographic characteristics. To isolate each individual effect, all other things being equal, an econometric model was estimated on the entire sample of households in the 2017 Household Budget Survey covering all of Metropolitan France (approximately 12,000 households). In this model, the inflation that each household faced in January 2023 is explained in terms of the sociodemographic characteristics of the household, including the age of the reference person, the composition of the household, the number of consumption units, socio-professional category, standard of living quintile, housing status, type of municipality of residence and whether they own a car (►Figure 6). Similar models were estimated for housing energy inflation alone and inflation of the food basket.

Being a tenant has a significant effect in lowering the inflation experienced by households in 2023: perhaps the explanation is that food and energy automatically have a lesser weight in a tenant's budget, which also includes their rent. However, even with the same housing status, other sociodemographic characteristics are associated with a higher inflation for the household. In this respect, both the age of the household and its standard of living or the type of municipality of residence can have significant effects on inflation, and this is true for any other given sociodemographic characteristic, including the fact of being a tenant or a homeowner.

The number of consumption units in the household can push its inflation significantly upwards. This is probably the reason why, according to the estimate, the composition of the household (couple with a child, without children, etc.) has very little significant effect, as this is already reflected in the number of consumption units.

Amongst the socio-professional categories, managers, intermediate professions and artisans, shopkeepers, company managers appear to face lower inflation than workers, while farmers would face higher inflation. Concerning the estimated effect for farmers, it should be considered with caution, given the small number of households in the sample and also the relatively coarse mesh used to define the municipality of residence.

The same linear regression applied not to headline inflation but to housing energy inflation in January 2023 also highlights the variables of age of household, composition of household (rather than number of consumption units, which is not significant), socio-professional category and type of municipality of residence. Concerning this last dimension, households living in rural municipalities or small towns experience less vigorous housing energy prices, all other things being equal, than those living in medium-sized municipalities. The reason for this may be the composition of these energies, as households in rural municipalities use more heating oil and other fuels, while those in medium-sized towns use gas; gas prices have increased more sharply year-on-year than the prices of heating oil and other fuels (35.7% year-on-year in January 2023 for gas, 28.7% year-on-year for heating oil and other fuels).

The linear regression applied to food inflation gives fewer significant variables: only household age (over 75 years old) appears significant, also standard of living or the fact of living in a rural municipality. ●

►6. Econometric model of inflation experienced by households in January 2023, according to their sociodemographic characteristics

Household characteristics		Distribution in the population (in %)	Effect on inflation in January 2023 (in points)		
			All products	Housing energy	Food
Age of reference person	Less than 30 years old	10.6	-0.94***	-3.02***	ns
	30 to 44 years old	24.8	-0.45***	-1.72***	ns
	45 to 59 years old	27.6	Ref.	Ref.	Ref.
	60 to 74 years old	23.5	0.48***	ns	ns
	75 years old and more	13.5	1.28***	3.35***	0.18**
Household composition	Person living alone	35.5	Ref.	Ref.	Ref.
	Couple with 3 or more children	4.9	ns	1.88*	ns
	Couple with 2 children	11.6	-0.33*	1.95***	ns
	Couple with 1 child	10.2	ns	1.56***	ns
	Couple without children	26.4	ns	0.68*	0.1*
	Single-parent family	8.8	ns	1.98***	0.17**
	Other	2.5	ns	ns	ns
Number of consumption units (1)		1.5	0.45***	ns	0.16**
Socio-professional category	Manager	14.1	-0.36***	-0.68*	ns
	Employee	14.4	ns	-0.72**	0.12**
	Worker	15.7	Ref.	Ref.	Ref.
	Intermediate profession	15.7	-0.28***	-1.06***	ns
	Artisan, shopkeeper, company manager	4.2	-0.23*	ns	ns
	Farmer	1.1	0.42**	ns	ns
	Retired	34.8	ns	ns	ns
Standard of living quintiles	1st	19.9	0.56***	ns	0.16***
	2nd	20.0	0.18***	ns	ns
	3rd	20.0	Ref.	Ref.	Ref.
	4th	20.0	-0.17**	ns	-0.09*
	5th	20.0	-0.38***	ns	-0.13***
Housing status	Buying property	19.5	1.06***	ns	0.08*
	Tenant	43.3	Ref.	Ref.	Ref.
	Homeowner	37.2	1.64***	1.86***	ns
Municipality of residence (2)	Paris conurbation	16.1	-0.27***	-1.74***	-0.08*
	Large towns	31.0	Ref.	Ref.	Ref.
	Medium-sized towns	13.5	0.21***	0.53*	ns
	Small towns	17.9	0.22***	-0.61**	ns
	Rural	21.5	0.37***	-0.64**	0.11**
Does not own a car		18.9	-0.28***	-0.83***	ns
Owns a car		81.1	Ref.	Ref.	Ref.

*** significance level 1%; ** ... 5%; * ... 10%; ns: not significant
Ref : modality taken as a reference within a given sociodemographic dimension and which generally corresponds to the modality best represented in the sample.
(1) For this line, the value given in the column "Distribution in the population" corresponds to the average number, in the population, of consumption units in the house-hold.
(2) The municipality of residence is understood to mean belonging to an urban unit of a certain size.
How to read it: in January 2023, a household aged under 30 experienced inflation that was on average 0.94 points lower than a household aged 45 to 59 years old, all other sociodemographic character-istics being the same
Scope: households living in ordinary housing in Metropolitan France.
Source: Consumer price indices, Family Budget Survey 2017, INSEE calculations.

French economic outlook

Bibliography

INSEE (2022), "Depending on their energy and food expenditure, some household categories are exposed to apparent inflation that may differ by more than one point from the average", Focus of the *Economic outlook* from 24 June 2022, INSEE.

Ferret A. and Demoly E. (2019), "Consumer behaviour in 2017", *Insee Première* n° 1749.

Herpin N. and Michel C. (2012), *"Avec le passage à la retraite, le ménage restructure ses dépenses de consommation"*, *Insee Références*, France, portrait social, edition 2012.

Madec P., Place M. and R. Sampognaro (2023), *"Une analyse des mesures budgétaires et du pouvoir d'achat en France en 2022 et en 2023"*, *Policy Brief* n° 112 from OFCE, February 2023.

Cusset P.-Y., Trannoy A., (2023), *"Alimentation, logement, transport : sur qui l'inflation pèse-t-elle le plus ?"*, *Note d'analyse* n° 119 from France Stratégie, February 2023. ●