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# The impact of the COVID-19 crisis on the actual and necessary expenditures of low-income families in Belgium

*Ilse Cornelis, Tess Penne & Bérénice Storms*  
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## 1 INTRODUCTION

The impact of the COVID-19 crisis on the purchasing power of low-income households can be studied from different angles. Firstly, since 13 March 2020, the Belgian government has taken a number of policy measures to prevent the spread of the COVID-19 virus. The most drastic measures were the obligation to work from home whenever possible, the restriction of the number of close contacts, the partial/full closure of schools, the closure of non-essential shops (online shopping with home delivery still possible), the shutdown of restaurants and bars and the ban on organised sports, cultural and youth activities. In addition, the government introduced several social protection measures to limit the loss of income for families and entrepreneurs. Governmental restrictions, the loss of income that incurred in many households and the uncertainty brought about by the COVID-19 crisis led to shifts in household purchasing power.

In this working paper we focus solely on the impact of the crisis on household consumption expenditures without taking into account the impact on household incomes. We study both the changed composition of household expenditures and changes in average expenditures as a result of this crisis. In a first part, we discuss the impact of the COVID-19 crisis on the composition and the height of average household expenditures. In the second part, we discuss the impact of the health crisis on the amount of necessary expenditures, which are captured in a reference budget. In the third part, we present the main conclusions.

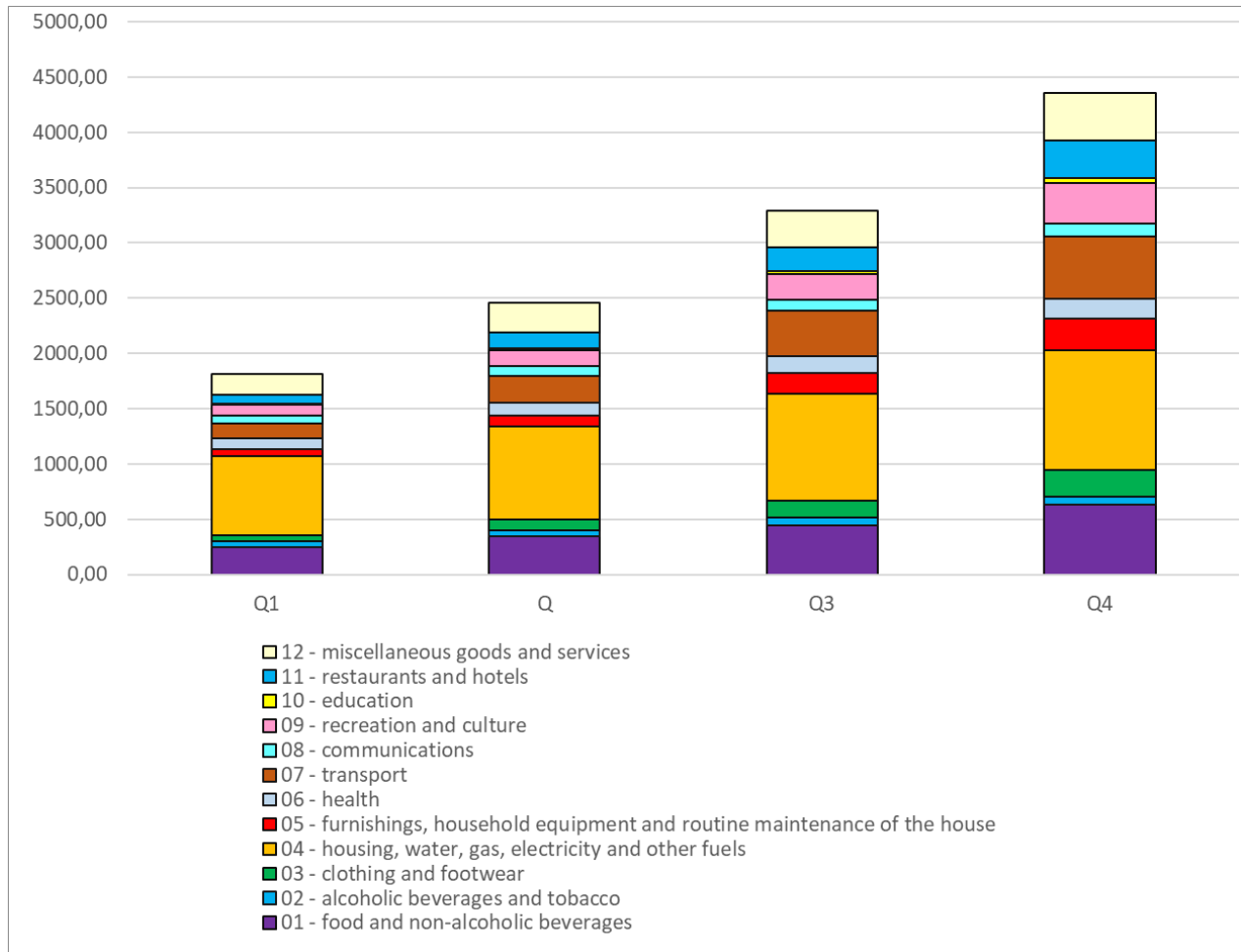
## 2 THE IMPACT OF THE COVID-19 CRISIS ON THE ACTUAL EXPENDITURE OF HOUSEHOLDS

According to calculations from the National Bank of Belgium, household consumption expenditure declined sharply in 2020, falling by 8.6% compared to the previous year (NBB, 2021). In this section, we demonstrate that the government measures that were largely responsible for this decline not only changed the composition of total household expenditure, but also had a differential impact on households depending on household income.

Figure 1 shows household expenditure by expenditure category and income, based on the Household Budget Survey data for Belgium (Statbel, 2018). In this graph, Belgian households are divided into four income quartiles (Q1 represents the 25% lowest income households and Q4 the 25% highest income households). The household expenditures are classified by purpose (COICOP) in 12 consumption categories. First of all, the graph clearly shows that the total amount of household expenditures rises sharply with income. The total amount of expenditures for the 25% richest families is 2.4 times higher than that of the 25% poorest families. Secondly, for some spending categories, different consumption patterns according to income level are striking. While housing accounts for the largest share of household spending in all income groups, housing expenditures tend to increase less strongly than household income, so its relative share in total household expenditure decreases when income increases (from 39% of total expenditure in the first income quintile to 25% in the fourth income quintile). In addition, there are some other expenditure categories whose relative share clearly increases with household income. These are: clothing (from 3% in Q1 to 6% in Q4), furniture (from 3% in Q1 to 6% in Q4), transport (from 7% in Q1 to 13% in Q4), entertainment (from 6% in Q1 to 8% in Q4)

and restaurants and hotels (from 4% in Q1 to 8% in Q4). Finally, food also comprises a large share in household expenditure, with an average 14% of the total budget spent on food. However, this share does not vary with income, as does the relative share of household health expenditure (5%).

Figure 1: Household expenditures by purpose (COICOP) and income quintile, monthly amounts 2018



Source: Statbel (2018)

Due to the temporary closure of shops and the ban on socio-cultural activities in Belgium, several goods and services could no longer be purchased during an extensive period of time. Examples of such goods and services are travel, restaurants, hairdressers, cafes, car sales, sports and cultural activities .... Additionally, there were very strict restrictions on social interactions between members of different households, effectively prohibiting families and friends from visiting each other. While there was a variation on the degree of closure and restrictions depending on the type of activity, shop or service, on average this meant an affective unavailability of certain goods and services for six months during 2020. As it may often not be possible or unlikely to catch up with these expenses later, this mainly entails a reduction of the necessary household expenditure.

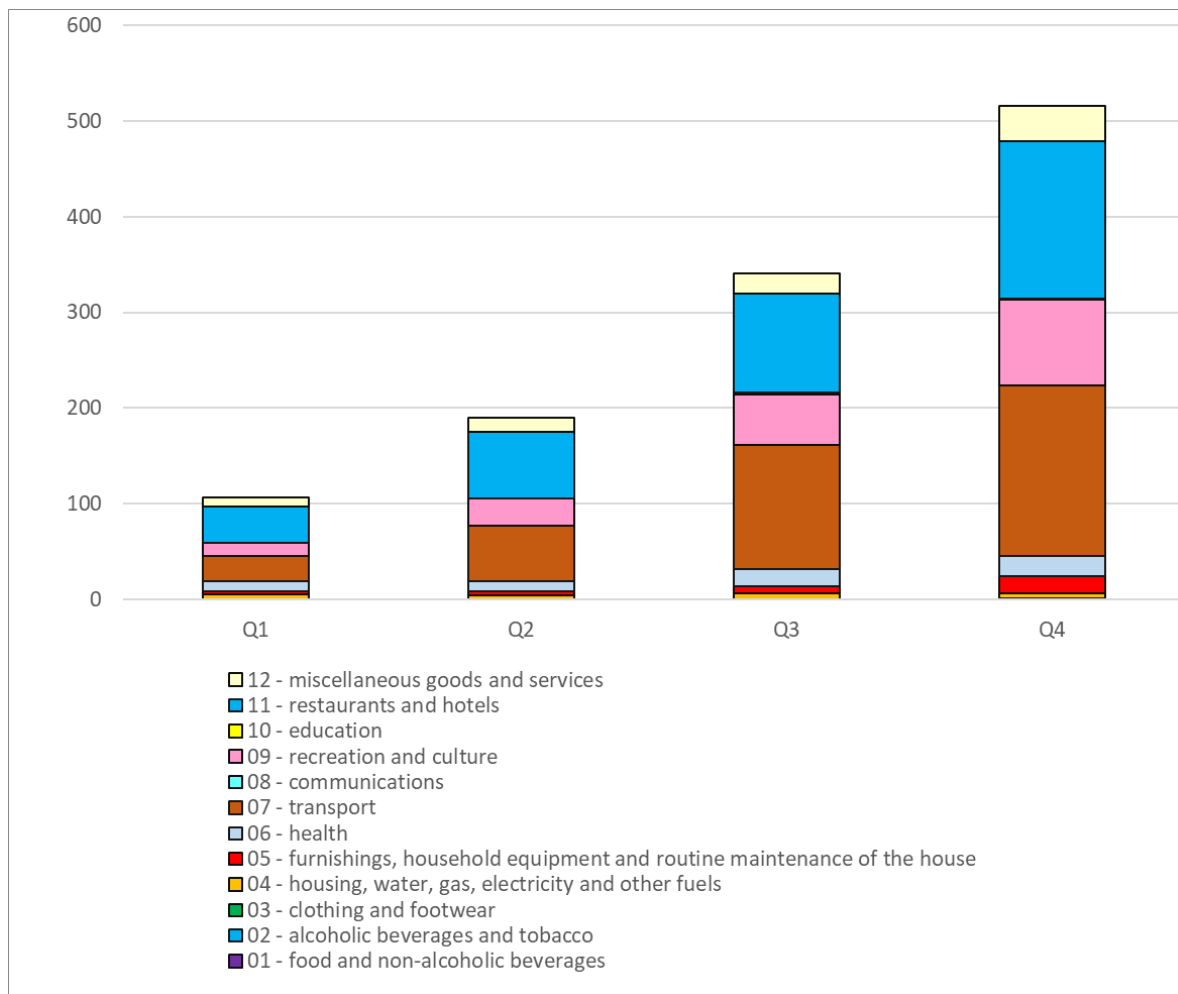
In Figure 2, these 'restricted' expenses are isolated from total household expenditure<sup>1</sup>. Removing these unavailable expenses causes the total household expenditure to decrease by 10% (simulated on

<sup>1</sup> Since at the moment there are no available data for 2020, our calculations are simulations based on household expenditure patterns from 2018.

expenditures from 2018). However, in reality the reduction in household expenses due to the COVID19 crisis in 2020 was somewhat more limited, as estimated by the calculations from the National Bank of Belgium (see above). This difference (10% vs 8.6%) could be attributed to the fact that households also incurred additional (COVID19 related or not) expenditures (see below).

Not surprisingly, Figure 2 shows that mainly the high-income groups were limited in their spending due to the COVID-19 measures. While Q1 households were unable to spend 6% of their total household expenditure, this increases to 8% for Q2 families and to 10% and 12% respectively for Q3 and Q4 families.

Figure 2: Level and composition of temporarily unavailable household expenditure (goods and services that were not available for households because of COVID-19 measures, by purpose and income quintile, monthly amounts 2018

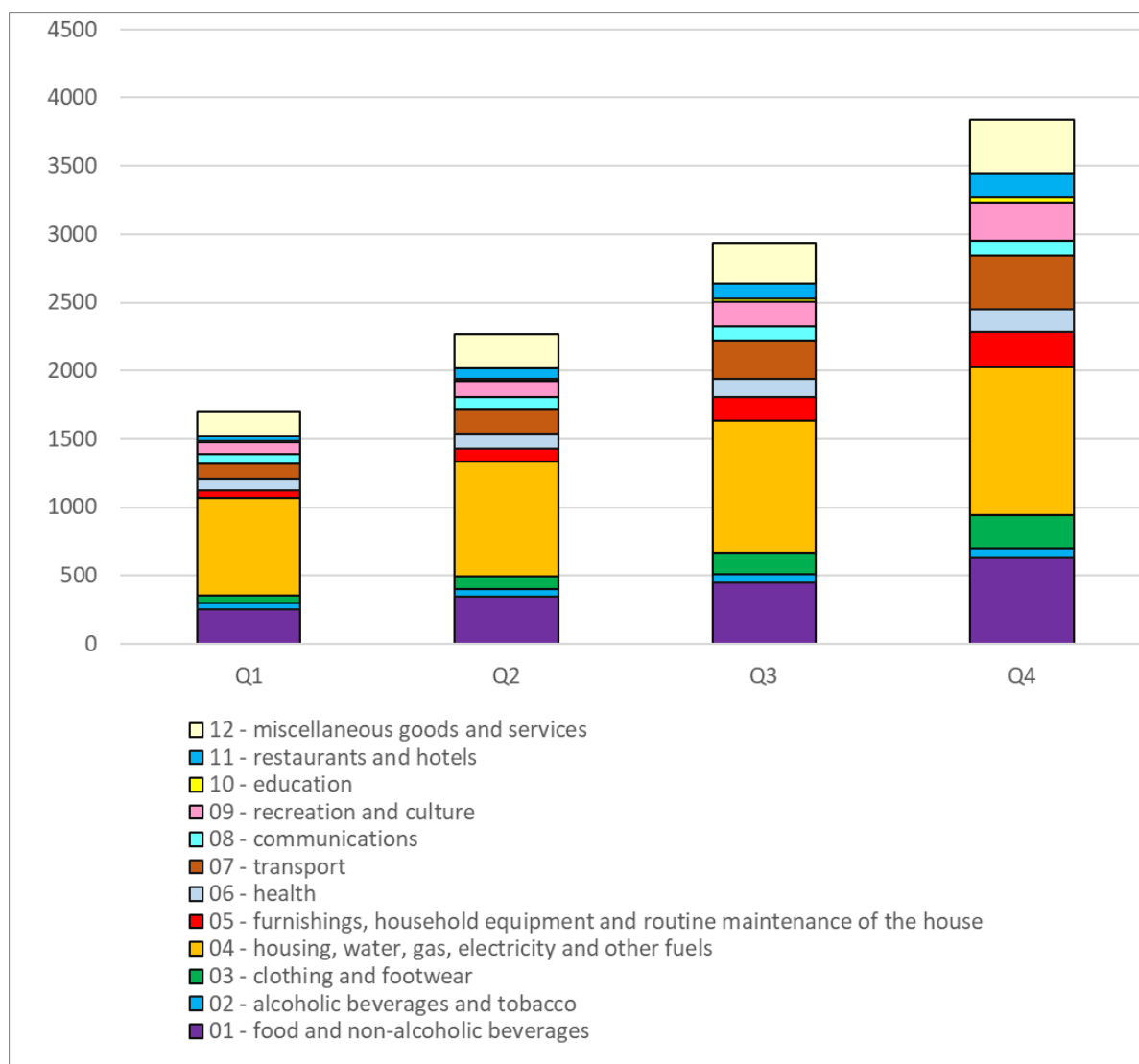


Source: Statbel (2018), own calculations

Since the products and services affected by COVID19 restrictions are mainly those consumed relatively more by higher income categories, the health crisis has somewhat smoothed the differential expenditure patterns between lower and higher income household. This is illustrated in Figure 3. The additional expenditure of households from Q4 compared with that of Q1 is slightly lower than before (2.2 versus 2.4), but the composition of household expenditure of the higher income groups in

particular shows now more similarities with that of the lower income groups. For example, the share of food in family expenditure has now risen to 15% in the first three income quintiles and even to 16% in Q4. The share of housing expenditure increases sharply from 39% to 42% for Q1 and from 25% to 28%. The share of spending on transport, entertainment and restaurants and cafes decreased from 17% to 14% in Q1, from 22% to 17% in Q2, from 26% to 20% in Q3 and from 29% to 22% in Q4.

Figure 3 : Residual household expenditures (after removal of COVID19 related unavailable expenditure) by purpose (COICOP) and income quintile, monthly amounts 2018



Source: Statbel (2018), own calculations

In addition to the impact of the COVID-19 crisis on Belgian household expenditure, this crisis has also had a, rather limited, impact on the prices of consumer goods and services. Here, we rely on the price observations of the Belgian Price Observatory<sup>2</sup> (2021a, 2021b). In Figure 4, the evolution of the price

<sup>2</sup> The National Price Observatory was established in 2009 under the directorate of the Institute of National Accounts. It has the task of analyzing (consumption) price pattern, as well as price levels, market dynamics and margins.

index of goods and services is depicted for the period between March 2019 and March 2020<sup>3</sup> and between March 2020 and March 2021 for the different COICOP categories.

While the overall consumer price index (CPI) increased very slightly in both periods (by 0.7% and 0.8%)<sup>4</sup>, some sub-indices evolved markedly differently. For example, in the first period, the housing sub-index decreased by 2.15% and the communication sub-index by 1.9%. For other COICOP categories, however, the sub-index increased more than the general index during the first period, namely for 'alcohol and tobacco' (+3.8%), 'food and non-alcoholic beverages' (+2.3%) and 'recreation and culture' (+2.33%). In the second period from March 2020 to March 2021, the greater increase in prices in the categories 'alcohol and tobacco' (+3.8%) and 'transport' (+3.25%) is particularly noticeable. The prices of health-related products and services decreased by 1.5%.

In general, it has to be concluded that the COVID-19 crisis did not significantly affect the prices of consumer goods and services. In fact, the overall inflation rate in both periods was remarkably lower than the periods before<sup>5</sup>. According to the Price Observatory (2021a, 2021b), this relative status quo of the rate of price increase is mainly explained by the decline in inflation for energy products (and to a lesser extent for non-energy industrial goods) and the increase in inflation for processed and (especially) unprocessed food.

The prices of liquid fuels and gas, and to a lesser extent motor fuels and electricity, experienced a relatively sharp decline in 2020. The COVID-19 crisis caused a sharp drop in the average price of crude oil in euro, so that prices for motor fuels and heating oil also decreased from February 2020 onwards. The consumer price of natural gas also fell sharply in 2020, mainly due to a decrease in the energy component. Energy prices stabilized in the first quarter of 2021. As far as higher food inflation is concerned, according to the Price Observatory (2021a), the impact of the COVID-19 crisis can be clearly seen for some products, such as peeled shrimps or some vegetables during spring, but the observed developments depend mainly on other cyclical factors (e.g. weather fluctuations or African swine fever) and government measures (e.g. the increase in excise duties on tobacco in early 2021) rather than being directly related to the COVID19 crisis.

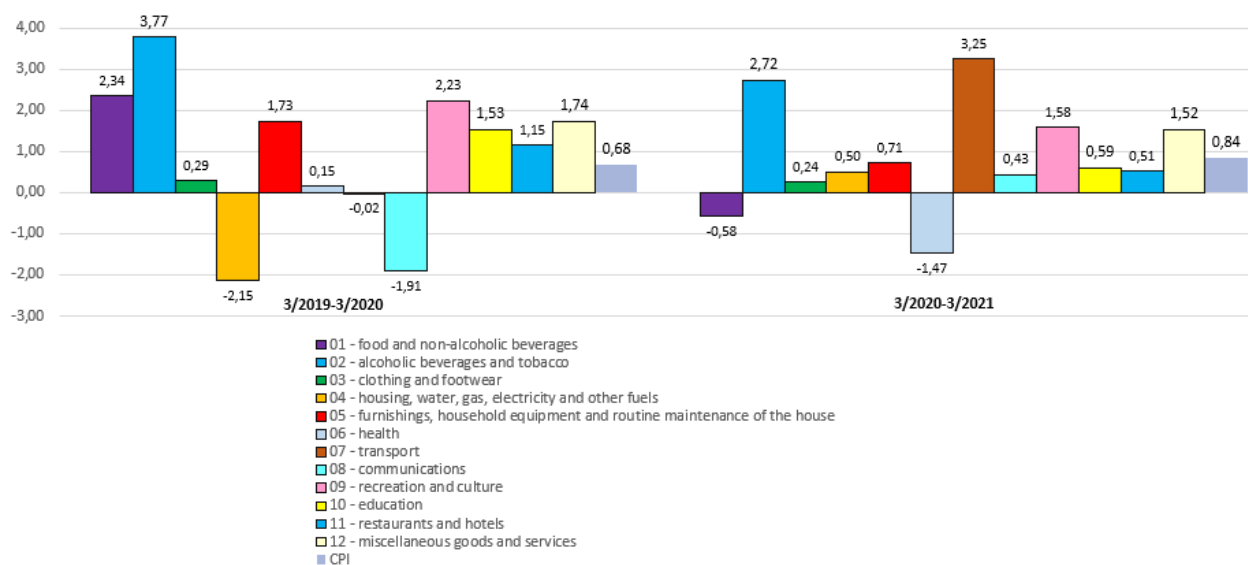
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<sup>3</sup> We use March 2020 as the reference month for Belgium because although the first outbreak in Wuhan became apparent in January 2020, and the first infections in Belgium were detected on 4 February 2020, the restrictions and measures to limit the further spread of the COVID-19 virus took effect starting 13<sup>th</sup> of March 2020 (obligation to work from home, restriction of the number of close contacts, closure of schools, the closure of non-essential shops, shutdown of restaurants and bars and the ban on organised sports, cultural and youth activities).

<sup>4</sup> The general consumer price index (reference year 2013) for March 2019, 2020 and 2021 was 108.85; 109.59 and 110.51 respectively. This slight increase is not only the result of the evolution of prices of products and services, but also of changes in product weights during these periods. Most striking is the slight increase in the weights of the categories "food and non-alcoholic beverages" in the general index (from 167 ‰ in 2019 to 176 ‰ in 2020, to 179 ‰ in 2021) and the decrease of the category "housing, water, electricity, gas and other fuels" (from 188 ‰ in 2019 to 176 ‰ in 2020 and 171 ‰ in 2021).

<sup>5</sup> In the three previous years, the inflation rate was 2.3% (3/2018-3/2019), 1.4% (3/2017-3/2018) and 2.3% (3/2016-3/2017).

Figure 4 : Evolution of the general consumer price index and sub-indices



### 3 THE IMPACT OF THE COVID-19 CRISIS ON THE MINIMUM NECESSARY EXPENDITURE OF HOUSEHOLDS

In this section, we examine the impact of the covid-19 crisis on the level of minimum necessary household expenditure. We do this by making use of reference budgets. Reference budgets are priced baskets of goods and services that illustrate how much households minimally need to be able to participate fully in society<sup>6</sup>. In order to assess a lower limit of what households need, reference budgets are calculated on the basis of universal needs<sup>7</sup> for well-defined household types<sup>8</sup>. In Belgium, the budgets are priced annually (in the months May and June) and adjusted every five years according to changes in the institutional, socio-economic and cultural context.

As discussed earlier, governments at different levels in Belgium installed COVID-19-related policy measures with a clear impact on the level and composition of household expenditures. Similar to the exercise reported above, in this section we look at the impact of these measures on the minimum necessary household expenditures. For this purpose, we divide the necessary household expenditures into four broad expenditure categories.

Firstly, due to the temporary closure of shops and the ban on socio-cultural activities, several essential goods and services could no longer be purchased. Examples of such '*necessary goods and services that can no longer be purchased in the midst of the COVID-19 crisis*' are a hairdresser's visit, drinks and snacks for celebrations or to invite friends and relatives at home, a sports training or match, a family day trip or an evening out. In 2020, these goods and services were unavailable for purchase for an

<sup>6</sup> Full societal participation is defined as the ability of people to play the different social roles that one should be able to play (take and make) as a member of society, given dominant social expectations. (Goedemé et al., 2019; Storms, 2012).

<sup>7</sup> The theoretical framework of the Belgian reference budgets is based on the Theory of Human Needs of Doyal & Gough (1991). In order to be able to participate fully in society, there are two universal needs that need to be fulfilled, health and autonomy. These are further concretised into 11 intermediate needs: adequate food, housing, security, clothing, personal care, healthcare, a safe childhood, mobility, social relations, rest and leisure (Storms, 2012; Storms & Van den Bosch, 2009).

<sup>8</sup> We assume that all family members are in good health, able to spend their budget economically and rent a high-quality dwelling located in a region easily accessible by public transport.

average of six months. As it may not be possible or is very unlikely that people catch up with these expenses later, this results in a reduction of necessary household expenditures<sup>9</sup>.

Secondly, we distinguish a group of COVID-19-sensitive expenses as *'necessary products that can only be purchased online during the COVID-19 crisis'* due to the physical closure of shops. Examples of such products are clothing, kitchen equipment or furniture. In this study, we assume that households have actually incurred these expenditures during the period under study, although studies show that the strong increase in online purchases is much less prevalent among low-income households<sup>10</sup>. However, because of the minimal necessity of these goods and services, we assume that households have possibly postponed these expenditures but eventually made them. A third group of expenses involves *'necessary, COVID-19 insensitive expenses'*. This category includes products and services that are not purchased through physical shops, e.g., house rent, energy or water costs or association membership fees. It also includes products and services that belong to the so-called 'essential goods and services', such as food products, take-away meals, personal care products, newspapers and magazines or public transport.

Finally, there is another category of expenditure that families make explicitly for the purpose of COVID-19. These *'necessary, additional COVID-19 related goods and services'* concern the purchase of sanitary products and services (additional hand soap, hand gel, mouth masks, paper handkerchiefs and additional doctor visits), as well as ICT-related costs for families whose children are obliged to attend classes online due to the (partial) closure of schools. This includes the purchase of a laptop, a headset, and the costs for more intensive use of the Internet. Finally, there are the shipping costs for buying goods and services online during periods when non-essential shops were compulsorily closed<sup>11</sup>.

If we rearrange the reference budgets for 2020<sup>12</sup> according to these four categories (see Figure 5), we can show that the socio-economic measures had only a limited impact on the amount of the total reference budget during 2020. The largest share of the necessary expenditures for an average family are not affected (83%) by the COVID-19 measures, or only partially in the form of the modified mode of purchase (11%). When the measures did have an impact on the content of the reference budgets, they entailed both a reduction in the necessary family expenses (by 7%) caused by the group of *'necessary goods and services that can no longer be purchased during the COVID-19 crisis'* and an increase in expenses (by 2%) caused by the *'necessary, additional COVID-19 related goods and services'*. In net terms, this means a 5% decrease in the original reference budget for an average family. This percentage hardly varies with family size and composition. Since the additional expenditure is mainly individual and some of it only affects families with school-age children (in compulsory education), we observe a relatively smaller decrease (3%) in the reference budget for the latter families.

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<sup>9</sup> Notably, this also implies that some essential social needs were not adequately fulfilled during the period of crisis, especially for single households or vulnerable families with less means to organize alternatives (e.g. online meetings, a garden to invite a relative or friend).

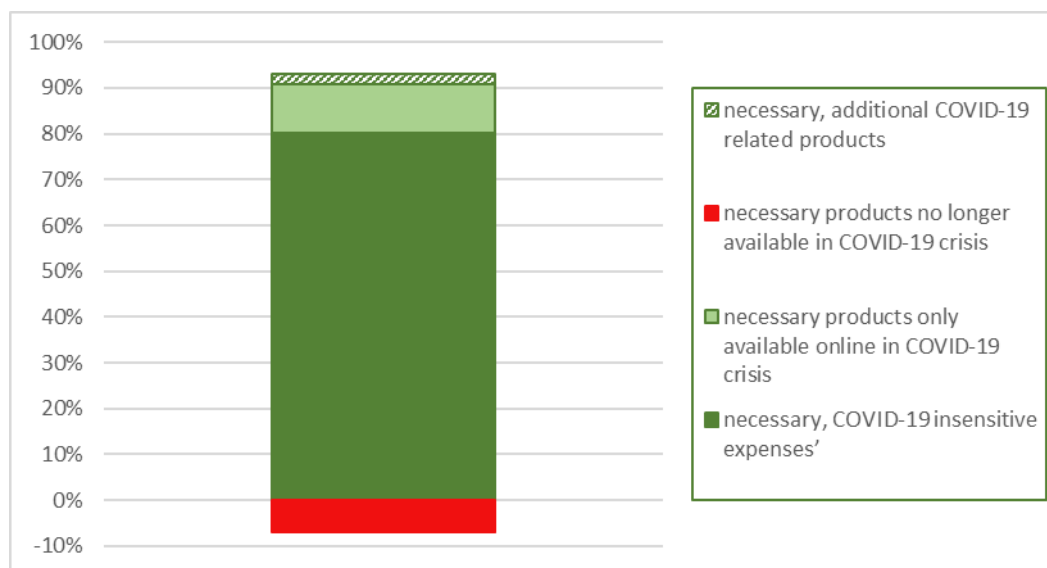
<sup>10</sup> Statistics Flanders (2021). [Onlineaankopen bij burgers voor privégebruik](#)

<sup>11</sup> For families with working family members, the additional cost of energy and water due to working from home should be added.

<sup>12</sup> Families without working family members, in good health, renting a quality house, located in Flanders, in a region with a well-developed public transport network no car.



Figure 5: Impact of COVID-19 measures on the level of the reference budget for an average family



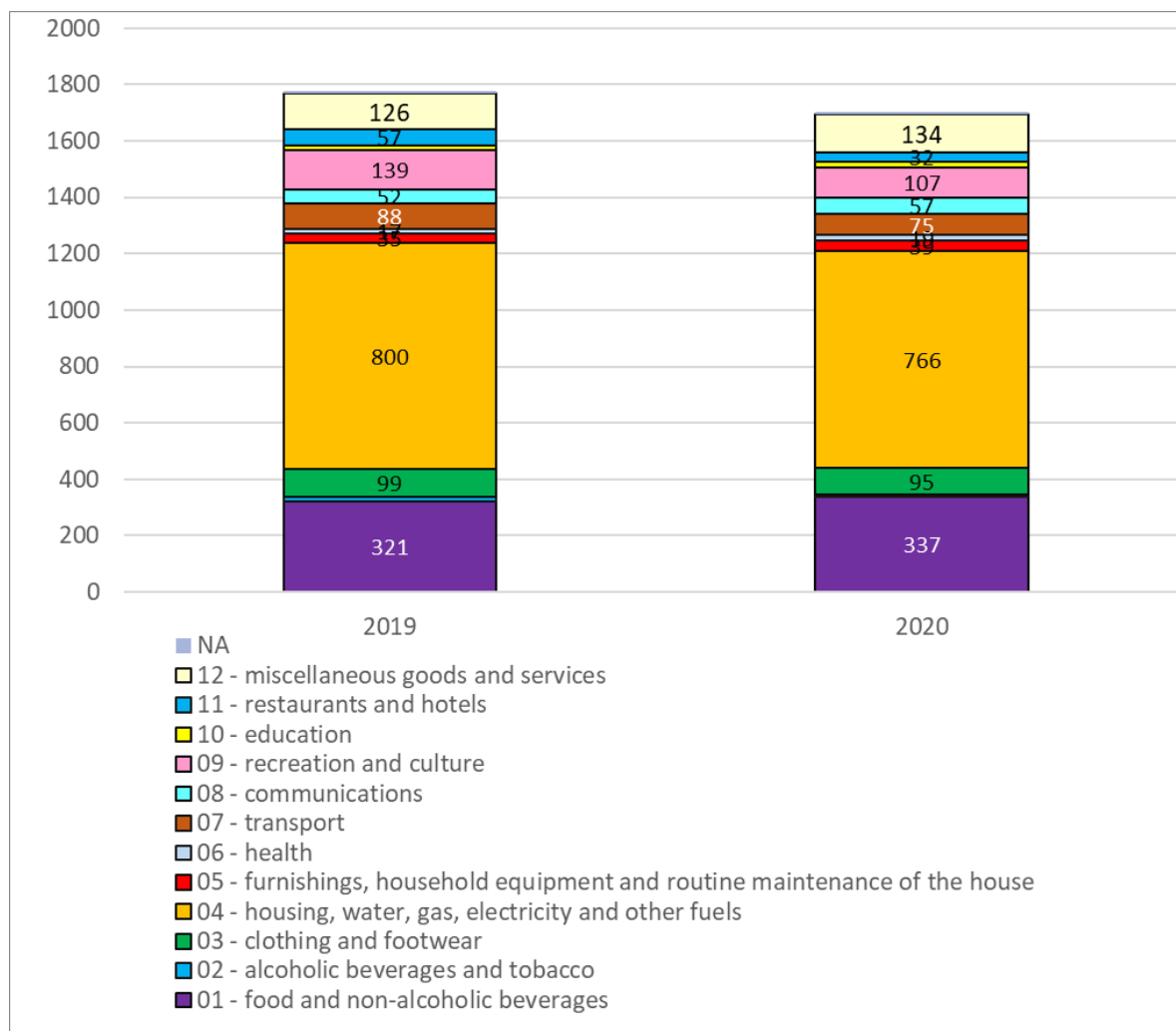
For the graph below, we have rearranged the categories of the minimally necessary household expenses according to the COICOP categories from the Consumer Price Index discussed in Part I (see Figure 6). Here, we see a decrease in the minimal necessary household budget of 4.3% between 2019 and 2020. This overall decrease is due to several underlying evolutions.

In six of the twelve expenditure categories there is actually *an increase* in the minimally necessary expenses. There is a small increase in ' food and non-alcoholic beverages', which is almost entirely explained by the extra expenses for food products for home consumption (instead of consumption on the move such as in a tavern or at the youth club, ...). A very small part can also be attributed to increased prices for a minimal healthy food basket, which rose by 3% between 2019 and 2020. The necessary expenditures in the category 'miscellaneous goods and services' also increased by 6%. The main reason for this is the COVID related need for additional hygiene products (e.g. hand hygiene products, mouth masks, ...), as well as a relatively sharp increase in the prices of a number of minimally necessary insurance products. The necessary expenditures in the category 'health' also increased for COVID-related reasons (extra doctor visits), by 10%. A similar increase in necessary expenses can be observed for the category 'communication'. This increase is mainly due to the shipping costs for online orders and a more expensive Internet subscription for families with school-age children because of the increased demand that online lectures place on the necessary stability and speed of the internet connection. On the other hand, the absence of hairdressing costs during the periods of (partial) lockdown slightly reduces the budget for this category. Necessary expenditure in the category 'furnishings, household equipment and routine maintenance of the house' also increased by 10% between 2019 and 2020. The increased prices (especially of an energy and water efficient washing machine) fully explain this increase. The biggest price increase (+45%) can be observed in the category 'education' where distance learning and online classes made a computer necessary for all children from the age of 10.

In seven expenditure categories there is a decrease in the minimum necessary expenses of households. This decrease was most notable in the categories 'restaurants and hotels' (-44%) and 'alcoholic beverages and tobacco' (-51%). This should not come as a surprise since, first of all, restaurants and pubs were closed during a significant part of 2020, and, secondly, there were severe restrictions in place limiting contact between people in the home. As a result, entertaining friends and family members at home with the accompanying beer or a glass of wine was no longer possible. The minimum necessary expenses for 'recreation and culture' also decreased during this period (by 23%) for similar

COVID-related restriction reasons. Necessary expenditures also decreased for 'transport' between 2019 and 2020 (-14%). This decrease is due to reduced carsharing<sup>13</sup> fees during this period since excursions and visits to friends or relatives were not allowed during this period. Finally, we note a relatively small decrease in the necessary expenses for "clothing and footwear" and for "housing, water, gas, electricity and other fuels". In both categories these is a decrease of 4%. The decrease in housing costs is largely due to the strong decrease in energy costs. The decrease in expenditure on clothing is due to the elimination of the cost of repairing shoes. Without the elimination of these costs, the expenditure in the category 'clothing' would have increased by 2%.

Figure 6 : Minimally necessary household expenses according to the COICOP categories from the Consumer Price Index in 2019 and 2020



In summarizing, the COVID-19 crisis and its related restrictions and measures has caused the level of the minimal reference budget for an average household to decrease by 4.3%. This decrease cannot be fully explained by the decrease in prices. Without the COVID-19 crisis, the reference budget for 2020 would have remained more or less at the same level (+0.4%). The decrease we observe is the result of two opposite evolutions. On the one hand, the COVID-19 crisis forced households to incur additional COVID-related expenses, which increased the minimally necessary family expenses by 2.1% between

<sup>13</sup> In the minimal necessary expenditures calculated in the reference budgets, the costs for owning and using a private car are not included by default.

2019 and 2020. On the other hand, several necessary expenses were also dropped as a result of the measures taken to prevent the further spread of the virus. These 'unavailable' expenditures reduce the reference budget by 6.4% between 2019 and 2020. Together, these two evolutions result in a net decrease of 4.3%.

## 4 CONCLUSIONS

The COVID-19 pandemic had a major impact on household consumption expenditure, both in terms of the amount and the composition of household expenditures. In this paper, we focus on the impact of this crisis on the expenditure of low-income households. We studied the impact on the level and composition of actual household expenditures, as well as on the necessary expenditures that households have to incur in order to fully participate in society (i.e. reference budgets).

In order to examine the impact of the COVID-19 crisis on actual household expenditures across different income levels, we used the household budget data from 2018. Using these data, we simulated how low-income households' spending would change as a result of restrictions and measures taken to limit the further spreading of the COVID-19 virus. Our simulations show that households faced a sharp decrease in spending as a result of the COVID-19 crisis, and this decrease was much more marked among the high income groups than for low income groups. Since the availability of products and services which were affected by COVID19 restrictions are mainly those consumed relatively more by higher income categories (transport, entertainment, restaurants and hotels), the health crisis has somewhat smoothed the differential expenditure patterns between lower and higher income households. On the other hand, this relatively smaller share of decreased expenditures for low-income households also means that they were able to save less money in this period than high-income groups. Combined with research by Capéau, Decoster, Vanderkelen, and Van Houtven (2021) that finds that the corona shock occurs disproportionately in the bottom half of the income distribution, the net effect of the COVID-19 crisis on household purchasing power may be even less positive than our analyses here suggest.

In the second part of the paper, we examine the impact of the covid-19 crisis on the level of minimum necessary household expenditures, which are calculated as reference budgets. Reference budgets are priced baskets of goods and services that illustrate how much households minimally need to be able to participate fully in society. Here, we found that the COVID-19 crisis caused the total minimal necessary expenditures for an average household to decrease by 4.3%. This decrease cannot in its totality be explained by the fall in prices, but is the result of two opposite evolutions, whereby the COVID crisis increased the necessary family budget by 2.1% and at the same time led to a decrease in expenditure of 6.4%. Together, this results in a net decrease of 4.3%. Again, some warning is in order. The reference budgets are calculated on a monthly basis. All purchases that are needed less frequently are written off on a monthly basis. During this crisis, families, especially those with children, were confronted with very large and unforeseen necessary expenses, such as those for personal hygiene, but especially cost associated with accommodating online lessons. Due to the fact that these costs are written off over several months, and in the latter case over several years, the additional expenditure in 2020 seems smaller than it actually was for individual households who were confronted with these expenses.

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