



# **Distributional Impact of Baby Milk Formula Price Rises**

## **Key Messages**

- Data received from the Central Statistics Office indicate that baby formula price inflation stood at 30.2% from January 2020 to December 2023.
- For households who purchase baby formula, this meant an average increase in spending of €3.4 per week on formula. Low-income households, those in the second income quintile, faced the largest rise, of €3.9 per week on average.
- Over the same period, for households who purchase baby formula, the overall cost of groceries rose by 20.3% on average, with slightly higher rates of inflation for low-income households.
- On average, baby formula accounted for 15.3% of grocery inflation among households who purchase baby formula. Baby formula makes up a greater share of the expenditure of low-income households, and as a result contributed more to their overall grocery inflation. Low-income households, those in the second quintile, were most affected, with baby formula price growth accounting for 19.0% of their grocery inflation.
- Simulation exercises indicate that future price shocks to baby formula would impact affected households by between €2.9 to €4.4 per week on average, with respect to price shocks in the range of 20 to 30%.

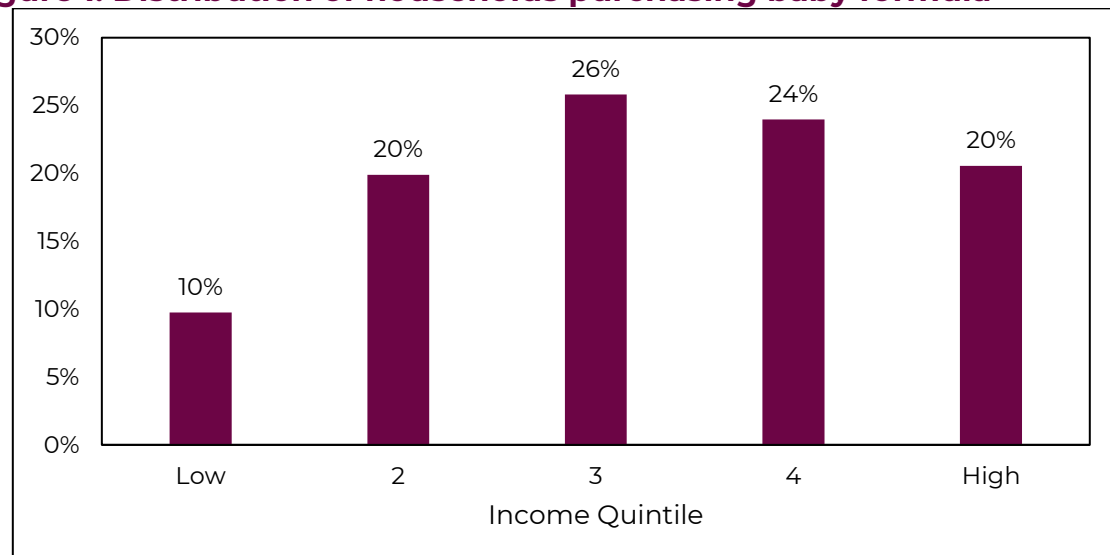
This short research piece analyses how price rises in the baby formula market have affected households. It has been prepared on request by Senator Rebecca Moynihan.

To enable the analysis, we requested price growth data from the Central Statistics Office (CSO) regarding “Baby Milk Compound”, a sub-index used in constructing the CSO’s “Baby Food” price index. The data series highlighted that baby milk formula had grown in price by 30.2% from January 2020 to December 2023- the latest data point available. This amounts to year-on-year growth of 6.8% in 2023 (December 2022 to December 2023), 11.7% in 2022 (December 2021 to December 2022), 3.3% in 2021 (December 2020 to December 2021) and 5.9% in 2020 (December 2019 to December 2020).

To analyze how these price rises affected household expenditure, we use the Household Budget Survey (HBS) 2015/2016 Anonymised Microdata File<sup>1</sup>. Within the data set we restrict the analysis to households who purchased baby formula during the survey<sup>2</sup>. We sort these households into income quintiles, based on their position in the overall equivalized household income distribution<sup>3</sup>. The analytical time frame of interest is January 2020 to December 2023, and we focus on the effect that baby formula price rises had on grocery bill inflation over the period.

Within the HBS, just over 70,000 households reported purchasing baby formula during the survey. Demand for baby formula tends to be somewhat lower at the bottom of the income distribution- with just 10% of households purchasing baby formula located in the bottom quintile. 20% of those buying baby formula are located in the second quintile, 26% in the third, 24% in the fourth and 20% in the top quintile.

**Figure 1: Distribution of households purchasing baby formula**



Source: PBO analysis based on HBS 2015/2016

Notes: Distribution of approximately 70,000 households who purchased baby milk formula.

Using the HBS 2015/2016 data we uprate monies spent on groceries based upon commodity-level price growth<sup>4</sup>. Within groceries, we capture food

<sup>1</sup> <https://www.cso.ie/en/releasesandpublications/ep/p-hbs/hbs20152016/isr/>

<sup>2</sup> These are households who reported purchasing either “Infant and baby milk-ready to drink” or “Infant and baby milk- dried”.

<sup>3</sup> Equivalization adjusts for the size and composition of households. We used the Irish national equivalization scale where adults are classed as those 14 years of age or older. Additional adults receive a weight of 0.66, while children receive a weight of 0.33. One-adult households receive a weight of 1.

<sup>4</sup> We uprate bread, flour, pastries and biscuits, breakfast cereals, milk items, cheeses, yoghurts, butter/oil/fats, eggs, pastas/grains/quiches/pizzas, meat, fish, fruit, nuts, vegetables, sugar/confectionary/snacks, other food and non-alcoholic beverages (e.g.,

and non-alcoholic beverages purchased in retailers. Based on our analysis, grocery inflation for households who purchase baby formula was significant from January 2020 to December 2023. On average, grocery bills rose from €108.1 per week to €130.1 per week – a 20.3% rise (see Table 1). There is a small spread in inflation rates across the income distribution, with the largest rise of 20.7% for households in the second quintile and the smallest rise of 20.1%, for households in the fourth income quintile. This indicates that low-income households analysed experienced slightly higher grocery inflation on average.

**Table 1: Mean expenditure and inflation rate, households who purchase baby formula**

Income Quintile	Groceries, Jan' 2020 (€ per week)	Groceries, Dec' 2023 (€ per week)	Grocery Inflation, Jan' 2020 to Dec' 2023 (%)	Baby Formula, Jan' 2020 (€ per week)	Baby Formula, Dec' 2023 (€ per week)
Low	99.6	120.0	20.4	10.5	13.7
2	97.3	117.5	20.7	12.8	16.7
3	110.6	133.1	20.4	11.1	14.5
4	112.8	135.5	20.1	10.4	13.5
High	113.9	136.9	20.2	11.2	14.5
All	108.1	130.1	20.3	11.2	14.6

Source: PBO analysis based on HBS 2015/2016

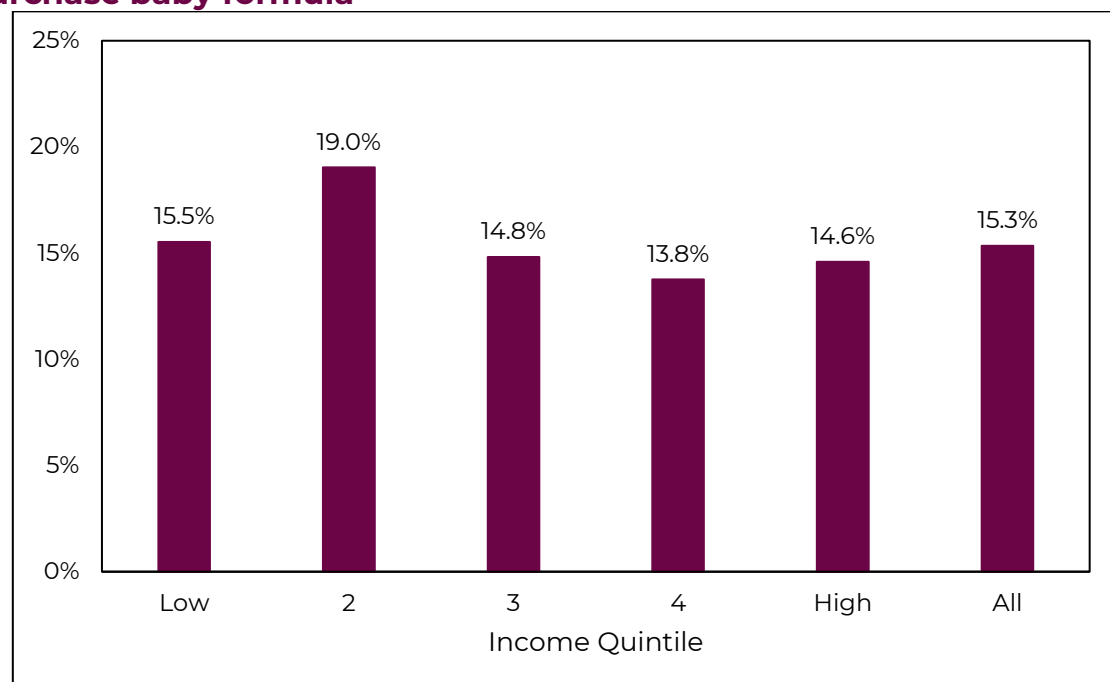
Notes: Groceries include bread, flour, pastries and biscuits, breakfast cereals, milk items, cheeses, yoghurts, butter/oil/fats, eggs, pastas/grains/quiches/pizzas, meat, fish, fruit, nuts, vegetables, sugar/confectionary/snacks, other food and non-alcoholic beverages (e.g., coffee etc.). Baby formula price growth of 30.2% is used in the analysis- rounding may affect the results. The table relates only to households who purchase baby formula.

From Table 1, baby formula price growth from January 2020 to December 2023, meant that households who purchased baby formula spent an extra €3.4 per week on baby formula (rising from €11.2 to €14.6 per week). For low-income households, those in the second income quintile, there was a rise of €3.9 per week over the period (from €12.8 to €16.7 per week). Baby

coffee etc.) by separate price indices to capture variation in price growth. Price data is taken from the CSO website: <https://data.cso.ie/table/CPM16>

formula expenditure makes up a greater share of grocery expenditure for low-income households, and as a result, baby formula price growth impacts low-income households to a greater degree. From Figure 2, we can see that baby formula price growth accounted for 15.3% of grocery inflation for all households who purchase baby formula. Those in the bottom quintile are slightly more affected- with 15.5% of their grocery bill inflation accounted for by baby formula price growth, with the second quintile of households being most affected- with 19.0% of their total grocery inflation attributable to baby formula price growth.

**Figure 2: Share of grocery bill price growth from January 2020 to December 2023 due to baby formula price growth, households who purchase baby formula**



Source: PBO analysis based on HBS 2015/2016

Notes: The contribution of baby formula price growth to overall grocery price growth is calculated as the ratio of expenditure differentials from baby formula and total groceries from January 2020 to December 2023 per Table 1. Households are split into five income quintiles based on equivalized household income.

In Table 2, we provide simulation estimates of what **future** baby formula price rises would mean in terms of expenditure increases for households who purchase baby formula. Please note that these estimates assume constant demand for baby formula, and we also assume no price growth from other food items when calculating the change in the grocery bill. The simulation results indicate that a 20% (30%) price shock on December 2023 prices, would increase grocery bills by €2.9 (€4.4) per week on average, representing a 2.2% (3.3%) increase in total grocery expenditure. In all the scenarios, low-income households in the second quintile are the most negatively affected- with their grocery bills rising the most in euro per week terms and relative to their current grocery expenditure.

**Table 2: Future price shock simulations, households who purchase baby formula**

Income Quintile	Baby Formula +20%	Baby Formula +25%	Baby Formula +30%
<b>€ per week increase in groceries</b>			
Low	2.7	3.4	4.1
2	3.3	4.2	5.0
3	2.9	3.6	4.3
4	2.7	3.4	4.1
High	2.9	3.6	4.4
All	2.9	3.7	4.4
<b>% increase in groceries</b>			
Low	2.2	2.8	3.3
2	2.8	3.4	4.1
3	2.1	2.6	3.2
4	2.0	2.4	2.9
High	2.1	2.6	3.1
All	2.2	2.7	3.3

Source: PBO analysis based on HBS 2015/2016

Notes: The results display the effects of a modelled 20%, 25% and 30% price increase to baby milk formula for households who purchase baby milk formula. The price shocks are simulated on December 2023 prices. As such, these results should be interpreted as forward-looking. Rounding may affect estimates.



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