

## *Underlying inflation indicators*

The consumer price index calculated by the Hungarian Central Statistical Office is the general measure of inflation in accordance with international practices. Price stability-oriented central banks typically determine their inflation target using this indicator.

In the case of the consumer price index, current actual figures may reflect the effects of several factors that are temporary in nature or reflect relative price changes that do not have a material impact on the medium-term inflation outlook. These components of the price index may be disregarded in assessing actual inflationary pressure prevailing in the economy, i.e. in evaluating underlying inflation developments. Central banks calculate various underlying indicators of inflation using official consumer price index data to measure underlying inflation developments.

### *Measures of underlying inflation in Hungary*

The MNB uses several indicators to capture underlying inflation developments. Chart 1 plots alternative measures capturing underlying inflation, in addition to the overall consumer price index: core inflation derived by eliminating the prices of unprocessed food, energy, administered prices and alcohol, tobacco products; core inflation adjusted for the effects of indirect taxes, the sticky price inflation index<sup>1</sup> and core inflation excluding processed food.<sup>2</sup> The consumer price index and core inflation are calculated and published by the Hungarian Central Statistical Office, while the latter three measures are constructed by the MNB based on the detailed data release by the Hungarian Central Statistical Office and its own estimates.<sup>3</sup>

In calculating the core inflation excluding the effects of indirect taxes, the core inflation measure published by the HCSO is used as a starting point. As a next step, the estimated effects of changes in VAT, excise duties and other indirect taxes are filtered out from the core measure<sup>4</sup>.

The sticky price index shows the prices of components of the consumer price index which are slow to change, and therefore are good predictors of medium-term developments in headline inflation. In calculating the index, only those groups of products of the consumer price index are used where maximum 15 per cent of the individual, shop level prices tend to change on average monthly. Administered prices have been excluded from the product groups in advance, as they are set by a government authority. The effects of indirect taxes have also been filtered out from the measure.

Core inflation excluding processed food shows the inflation of industrial goods and market services, excluding the effects of indirect taxes. Excluding the prices of processed food from the tax-adjusted core inflation may be justified by the fact that price changes of processed food are greatly dependent on typically highly volatile movements in unprocessed food prices. Core inflation excluding processed food, is unchanged from previous demand-sensitive inflation. The reason for the new name is that, during periods of significant cost shocks that are generally effective, the previous name may be misleading.

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<sup>1</sup> Reiff, Á. – Várhegyi, J.(2013): Sticky Price Inflation Index: An Alternative Core Inflation Measure, MNB Working Papers, 2013/2, Magyar Nemzeti Bank.

<sup>2</sup> The latter two are also adjusted for the effects of indirect taxes.

<sup>3</sup> Table 1 shows the product composition of the various inflation measures.

<sup>4</sup> The estimated effect of indirect taxes is different from the nominal effect calculated by the HCSO for the constant tax rate CPI. The difference is in the coverage of the tax measures and the calculation of their effects.

Chart 1 Underlying inflation indicators

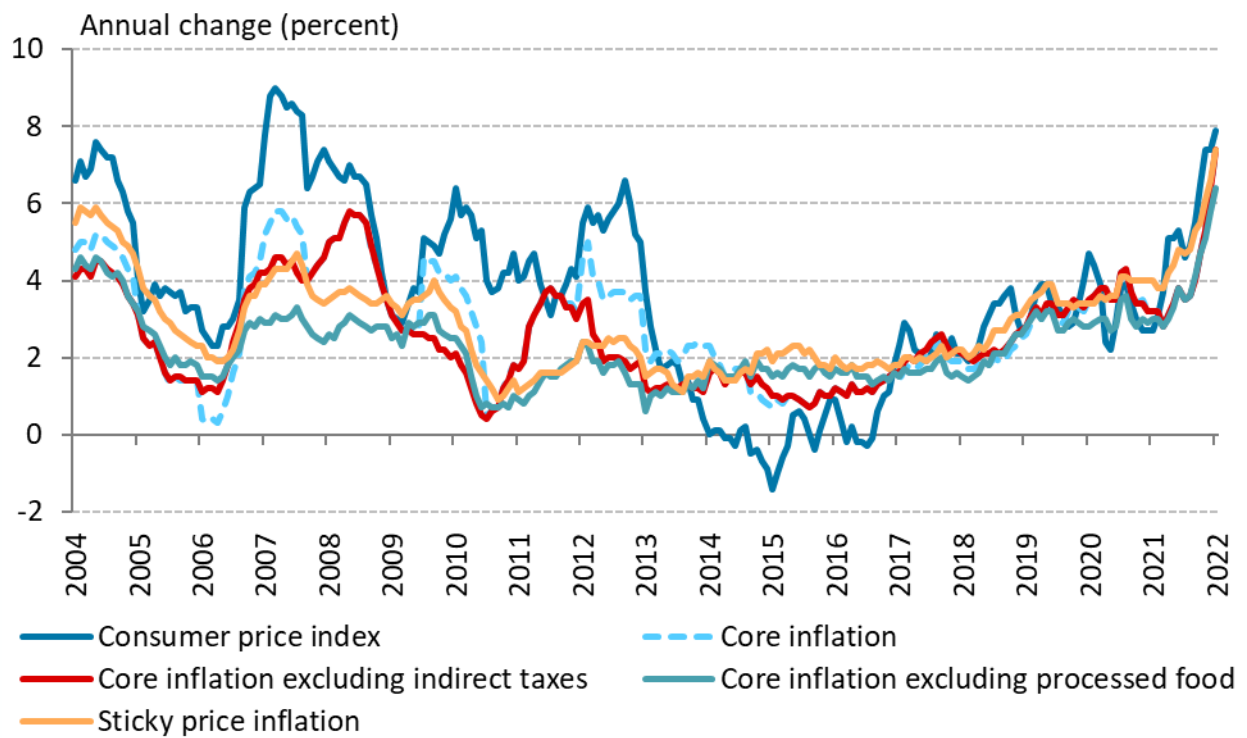


Table 1 Composition of core inflation excluding processed food and sticky price inflation

Core inflation excluding processed food (3 digit HCSO code and name)<sup>5</sup>

- 160 Meals at restaurants not by subscription
- 161 Meals at canteens by subscription
- 164 Buffet products
- 170 Coffee at shops
- 171 Cup of coffee in catering
- 172 Tea
- 173 Non-alcoholic beverages
- 300 Clothing materials
- 310 Men's overclothes
- 315 Men's footwear
- 316 Men's underwear
- 320 Women's overclothes
- 325 Women's footwear
- 326 Women's underwear
- 330 Children's overclothes
- 335 Children's footwear
- 336 Children's underwear
- 338 Infant's clothing
- 340 Clothing accessories

341 Haberdashery  
342 Leather goods  
400 Living, dining- room furniture  
401 Kitchen and other furniture  
402 Refrigerators, freezers  
403 Washing-machines, spin-dryers  
404 Heating and cooking appliances  
405 Vacuum cleaners, air-conditioning  
410 Passenger cars, new  
411 Passenger cars, second-hand  
412 Motorcycle  
413 Bicycle  
420 Radio sets  
421 TV sets  
422 Videos, tape recorders  
424 Computer, cameras, phone etc.  
431 Jewellery  
510 <sup>1</sup> Household repairing and maintenance goods  
520 Furnishing fabrics, carpets, curtains  
521 Bed and table linen  
522 Cooking utensils, cutlery  
523 Parts and accessories of housing  
524 Parts and accessories of "do it-yourself"  
525 Household paper and other products  
526 Detergents  
530 Toilet articles  
540 Tyres, parts and accessories for vehicles  
550 Newspapers, periodicals  
551 Books  
553 School and stationery supplies  
554 Sport and camping articles, toys  
555 Recording media  
560 Flowers, ornamental plants  
561 Pets foods  
562 Bijou, gifts  
601 Repairs clothing and footwear etc.  
611 <sup>1</sup> Cost of owner occupied dwellings  
612 Maintenance cost at private houses  
613 <sup>1</sup> Repairs and maintenance of dwellings  
620 Repairs of major household appliances  
621 Cleaning, washing  
630 Personal care services  
640 Repairs, maintenance of vehicles  
644 Taxi  
647 Transport of goods  
660 Repairs of recreational goods

662 Theatres  
 663 Cinemas  
 672 Membership fee, donation  
 680 Recreation with prescription in the country  
 681 Recreation in the country  
 682 Recreation abroad  
 690 Photographic services  
 531/ <sup>2</sup> Nonsubsidized pharmaceutical products  
 610/ <sup>3</sup> Non-local government rent  
 631/ <sup>2</sup> Health services without medical visit fee  
 642/ <sup>4</sup> Rent a car  
 646/ <sup>2</sup> Air transport  
 650/ <sup>2</sup> Mobile telephone and internet  
 661/ <sup>3</sup> Educational services without tuition fee  
 664/ <sup>2</sup> Cable television fee  
 691/ <sup>3</sup> Services n.e.c. without burial and administration fees

*Sticky price products and services (3 digit HCSO code and name)*

101 Beef  
 102 Other meat  
 103 Edible offals  
 137 Confectionery and ice-cream  
 139 Candies, honey  
 146 Dried vegetables  
 160 Meals at restaurants not by subscription  
 161 Meals at canteens by subscription  
 164 Buffet products  
 171 Cup of coffee in catering  
 180 Wine  
 300 Clothing materials  
 315 Men's footwear  
 316 Men's underwear  
 326 Women's underwear  
 335 Children's footwear  
 336 Children's underwear  
 338 Infant's clothing  
 340 Clothing accessories  
 341 Haberdashery  
 342 Leather goods  
 400 Living, dining- room furniture  
 401 Kitchen and other furniture  
 404 Heating and cooking appliances  
 405 Vacuum cleaners, air-conditioning  
 410 Passenger cars, new  
 411 Passenger cars, second-hand

412 Motorcycle  
 413 Bicycle  
 420 Radio sets  
 422 Videos, tape recorders  
 424 Computer, cameras, phone etc.  
 431 Jewellery  
 501 Briquettes, coke  
 502 Firewood  
 510 <sup>1</sup> Household repairing and maintenance goods  
 520 Furnishing fabrics, carpets, curtains  
 521 Bed and table linen  
 522 Cooking utensils, cutlery  
 523 Parts and accessories of housing  
 524 Parts and accessories of "do it-yourself"  
 525 Household paper and other products  
 540 Tyres, parts and accessories for vehicles  
 550 Newspapers, periodicals  
 551 Books  
 553 School and stationery supplies  
 554 Sport and camping articles, toys  
 555 Recording media  
 561 Pets foods  
 562 Bijou, gifts  
 601 Repairs clothing and footwear etc.  
 611 <sup>1</sup> Cost of owner occupied dwellings  
 612 Maintenance cost at private houses  
 613 <sup>1</sup> Repairs and maintenance of dwellings  
 620 Repairs of major household appliances  
 621 Cleaning, washing  
 630 Personal care services  
 640 Repairs, maintenance of vehicles  
 644 Taxi  
 647 Transport of goods  
 660 Repairs of recreational goods  
 662 Theatres  
 663 Cinemas  
 672 Membership fee, donation  
 680 Recreation with prescription in the country  
 682 Recreation abroad  
 690 Photographic services  
 610/ <sup>3</sup> Non-local government rent  
 631/ <sup>2</sup> Health services without medical visit fee  
 661/ <sup>3</sup> Educational services without tuition fee  
 664/ <sup>2</sup> Cable television fee  
 691/ <sup>3</sup> Services n.e.c. without burial and administration fees

## Notes

1 Until 2011 the category of 'Cost of owner occupied dwellings' is calculated from the average of categories 'Household repairing and maintenance goods' and 'Repairs and maintenance of dwellings' by the HCSO. From 2012 the CPI does not include this category.

2 The method of the core inflation developed jointly by the HCSO and MNB has broken down several items ('Pharmaceutical products', 'Health services', 'Other travels', 'Telephone services, internet' and 'TV fee') from 2009. The underlying inflation indicators of MNB are calculated with this breakdown.

3 The method of the core inflation developed jointly by the HCSO and MNB has broken down several items ('Rent', 'Educational services' and 'Services n.e.c.') from 2012. The underlying inflation indicators of MNB are calculated with this breakdown.

4 The method of the core inflation developed jointly by the HCSO and MNB has broken down Motorway toll, rent a car, parking item from 2021. The underlying inflation indicators of MNB are calculated with this breakdown.

5 Since the publication of the inflation data of April 2021 (11 May 2021), the methodology developed by the HCSO for calculating core inflation has classified alcohol and tobacco products ("Wine", "Beer", "Spirits", "Tobacco") as non-core inflation items. As a result, by definition, the composition of core inflation excluding processed food has also changed, so that these items have been omitted from the indicator.