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# Including Owner-Occupied Housing Costs in the HICP: Some Technical and Policy Remarks



Policy Department for Economic, Scientific and Quality of Life Policies  
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Authors: Luigi BONATTI and Andrea FRACASSO  
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# Including Owner-Occupied Housing Costs in the HICP: Some Technical and Policy Remarks

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## **Abstract**

We discuss the full inclusion of the owner-occupied housing costs (OOHCs) in the EU's harmonised index of consumer prices (HICP). We briefly review the main methods used for including these costs into consumer price indices, and in particular the reasons why the EU authorities prefer to adopt the net acquisitions approach rather than the rent equivalence approach, as other major countries did. We also argue that in the current scenario an acceleration of the EU's roadmap towards a full inclusion of OOHCs in the HICP would be desirable.

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## **AUTHORS**

Luigi BONATTI, University of Trento  
Andrea FRACASSO, University of Trento

## **ADMINISTRATOR RESPONSIBLE**

Drazen RAKIC

## **EDITORIAL ASSISTANT**

Roberto BIANCHINI

## **LINGUISTIC VERSIONS**

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To contact the Policy Department or to subscribe for email alert updates, please write to:

Policy Department for Economic, Scientific and Quality of Life Policies

European Parliament

L-2929 - Luxembourg

Email: [Poldep-Economy-Science@ep.europa.eu](mailto:Poldep-Economy-Science@ep.europa.eu)

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## LIST OF ABBREVIATIONS

<b>CPI</b>	Consumer price index
<b>ECB</b>	European Central Bank
<b>EU</b>	European Union
<b>GDP</b>	Gross domestic product
<b>HICP</b>	Harmonised index of consumer prices
<b>IMF</b>	International Monetary Fund
<b>OECD</b>	Organization for Economic Development and Cooperation
<b>OOH</b>	Owner-occupied housing
<b>OOHC</b>	Owner-occupied housing cost
<b>US</b>	United States

## EXECUTIVE SUMMARY

- **Consumer price indices (CPIs) should include the prices of all goods and services** that the population living in a certain area buys for consumption purposes, including the housing services consumed by the owner occupiers.
- **At present, Eurostat has included only some owner-occupied housing costs (OOHCs)** in the EU's official CPI, i.e., the harmonised index of consumer prices (HICP). This differs from what occurs in major countries such as the US or Germany, where the respective official CPI takes full account of all OOHCs.
- **There are technical reasons against hasty revisions of the HICP in the attempt at including a measure of the OOHCs:** so far, OOHCs cannot be precisely and homogeneously calculated at monthly **frequency** in all euro area countries, and there is no agreement among statisticians and economists as to what **method** to adopt to measure OOHC given the current legal constraints. Yet, further advances along this direction in the euro area appear necessary.
- **The reasons why the EU authorities decided to exclude imputed values of OOHCs from the HICP, thereby focusing exclusively on prices associated with monetary transactions, are several.** We maintain that this is in particular due to the fact the CPI is a fundamental compass for monetary policy, signalling possible deviations from the central bank's target(s) and the need to recalibrate monetary policy. Inserting imputed prices on the basis of a rent equivalence method in the HICP could amplify the effects of the volatile prices in the rental markets. Moreover, this method could have been particularly distorting in those countries where the large majority of households are owner-occupiers and the rental markets are relatively thin.
- **Notwithstanding some reservations, the ECB has recently defined a gradual roadmap towards the full inclusion of OOHCs in the HICP,** as other major central banks have already done. This process will be based on a number of progressive reforms in the European statistical system, as well as on modifications of the current legal framework, and eventually some changes in the way the ECB analyses and responds to information regarding inflation.
- **The scenario we are facing at this point of the year, however, seems different from what was expected when the ECB defined this roadmap.** With a complete reversal of perspectives with respect to a year ago, many observers warn about the possibility of a strong post-pandemic inflationary context. In such a scenario, it becomes important for the ECB and its anti-inflationary credibility that the indicator used to measure the growth of consumer prices is not perceived as systematically underestimating inflation. **An acceleration of the roadmap that has been given and a rapid full inclusion of OOHC in the HICP are therefore highly desirable.**



## 1. INTRODUCTION

In principle, consumer price indices (CPIs) should include the prices of all goods and services that the population living in a certain area buys for consumption purposes. Among them, quite important are the housing services that households consume whenever they live in dwellings owned by themselves ("owner-occupied housing", OOH). However, whether to include OOH indices in the official CPI, and above all—if one concludes that it should be included—how to do it, is problematic for more than one reason<sup>1</sup>.

Part of the difficulty comes from the nature of housing, that is a consumer durable and at the same time an asset used by households as an investment vehicle. Another difficulty originates from the choice in the EU to measure the price of the housing services consumed by an owner-occupier by using only the prices of observable monetary (or non-imputed) transactions rather than by using the rents of equivalent properties, according to the so-called rental equivalence approach, or by exploiting other user-cost methods to input costs. Furthermore, countries in the euro area differ remarkably in the structure of their housing and rental markets, with non-trivial consequences on the OOH weights to use for the inclusion of an OOH price index in the official CPI. Finally, statistics connected with housing tend not to be released at a monthly frequency and in a timely manner, as is instead required for their inclusion (without imputation) in the price index used by the European Central Bank (ECB) for monetary policy purposes, i.e. the harmonised index of consumer prices (HICP).

Some of these issues will be addressed in greater detail in this study, which focuses on the possible integration of OOH into the HICP adopted by the EU Member States. This refers to the project, developed by Eurostat between 2000 and 2016, to encourage EU Member States to compile an OOH price index based on the acquisition approach (more on this below). The adoption of Regulation (EU) No 93/2013 provided a legal basis for the compilation of a standalone quarterly OOH price index, and some work in the area has actually been done since then. Only recently, starting in 2015, new OOH indices based on the net acquisition approach were developed and made available by the European Statistical System (ESS) on an experimental basis, only at quarterly frequency and with a delay of three months (Eiglsperger and Goldhammer, 2016). Against this background, Article 3(7) of Regulation (EU) No 2016/792 gave the Commission the task of preparing by the end of 2018 a report assessing the suitability of the OOH price index for integration into the HICP. The ECB was asked to contribute and Member States were consulted.

Very recently, in its review of the monetary strategy, the Governing Council of the ECB recognised the appropriateness of including the costs related to owner-occupied housing in the HICP as part of a multi-year project and, in the meantime, it committed to consider, both in its monetary policy assessments and decisions, also the available inflation measures regarding this issue (namely, measures connected with a quarterly standalone OOH index) among the wider set of supplementary inflation indicators that the ECB ordinarily looks at. During the transition period, thus, the current version of the HICP will remain the main reference index for monetary policy; when the OOH index will have reached the timeliness and quality standards necessary for full integration into a revised monthly HICP index, the ECB will most likely substitute the HICP with the new indicator (often called HICP-H index).

At present, Eurostat has included only some owner-occupied housing costs (OOHCs) in the HICP, that is the expenditures for maintenance, minor repairs, and other running costs. This differs from what occurs in major countries, such as the US or Germany, where the respective official CPIs take fully into account all the OOHCs. Although inflation dynamics may change only to a minor extent when these

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<sup>1</sup> For general discussions of the treatment of housing costs in consumer price indices, see Diewert (2007) and Cecchetti (2007).

costs are included in the HICP (more on this in Section 3), it has become clear in the last few years that even minor differences in the dynamics of (very low) inflation rates may seriously affect the Governing Council's decisions to either undertake expansive policy measures or to tighten the stance of monetary policy. Moreover, should the failure to include OOHs in the HICP lead to a growing discrepancy between the evolution of the HICP and that of the costs of living perceived by euro area citizens, this may have a negative impact on both the credibility and the communication strategy of the ECB. Yet, the reasons and the arguments to be considered in order to assess what OOH measures to include among the determinants of the EU official CPI are both technical and related to their possible impact on the ECB policy stance. We shall address both in this contribution.

This paper is organized as follows: Section 2 discusses some technical issues concerning the inclusion of all OOHs in the HICP and briefly presents the three more widely adopted methods for including the OOHs in the HICP, Section 3 deals with the policy implications of this inclusion, and Section 4 concludes.

## 2. SHOULD THE HICP INCLUDE ALL OWNER-OCCUPIED HOUSING COSTS? IF SO, HOW?

Among the technical reasons in favour of including all owner-occupied housing costs in the consumer price index of the euro area, one of the most important is the attempt at making sure that such index effectively tracks all the substantial portions of consumers' expenditures. Given the relevance of the HICP for the evolution of wages and social provisions, but even its key role in the ECB's monetary policy strategy, it is well established that the official CPI should not persistently underestimate consumer price inflation. An imprecise measure of the increasing costs of living, in fact, may convey inaccurate signals to the authorities and also lead, in the case of persistent and one-sided deviations, to a gap between the dynamics of the HICP and the citizens' perceptions<sup>2</sup>. A problem on its own that, it is worth noticing, in the euro area is compounded by the heterogeneous characteristics of the housing and rental markets in the area, as well as by the current inclusion of only rental prices in the extant version of the HICP.

### 2.1. Technical reasons against hasty revisions of the HICP

There are technical reasons that warn against hasty revisions of the HICP with a view to including a measure of the OOHCs.

First, the official price index must preserve a number of features that, short of the necessary adjustment to collect prices for comparable dwellings over time on a regular and timely manner, could be jeopardised by the inclusion of all OOHCs in all euro area countries. For instance, the HICP exhibits a monthly reporting frequency and the authorities provide an early estimate of inflation dynamics at the end of each reporting month. So far, OOHCs cannot be precisely and homogeneously calculated at this frequency in all euro area countries, and this makes it hard to include them into a revised HICP. The adoption of approximated (imputed) measures could certainly be used to circumvent the problem, but this could produce as much noise as valuable information and, *sic stantibus rebus*, would go against the mentioned legal requirement that no-imputed prices are included in the HICP.

Second, there is no agreement among statisticians and economists as to how OOHCs should be actually measured. Different methods have different implications as to what is actually measured, what information are provided to the authorities, and what is implicitly hidden. The net acquisition method, for instance, requires the exclusion of the cost of the land (associated with an investment) from the assessment, as it focuses only on the costs of construction (closer to the concept of consumption): as the separate value of the land and of the dwelling is not always available, this distinction is often hard to make, in particular without resorting to imprecise imputation. The user cost method, on the contrary, is closer to the cost-of-living framework (as the value of a house depends on the benefits it allows to extract and on the costs it implies for the owner) and it considers the depreciation of the dwelling and the opportunity costs associated with alternative investments (both imputed, not observed as part of actual transactions), from which capital gains need be subtracted: this has the unpleasant effect, in terms of policymaking, that the elimination of observed capital gains paradoxically decreases the user costs exactly when the growth of house prices accelerates. The rent equivalence approach does not explicitly consider the costs of repairing and maintenance in the OOHCs that, on the contrary, the net acquisition method considers; moreover, in case of staggering and long-lasting contracts, the observed

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<sup>2</sup> As pointed out by ECB (2021), there exists a consistent gap between the consumers' inflation perceptions and HICP inflation, with the former higher than the latter, but the two measures have moved together quite closely, at least before the pandemic.

fluctuations in rental prices may reflect only the contracts for the new tenants, rather than the value in the entire rental market.

Similar methodological controversies regard also at what point in time prices and expenditures should be measured. At the time of acquisition or considering the actual use of the housing service? When the house is paid, also through long-lasting mortgages, or when the contract is signed?

As anticipated, various alternative methods to measure OOHs have been developed, and they differ both in their theoretical design and in their actual implementation, given the available sources of data. It is worth noticing that no single method serves equally well all the possible uses of an OOH index. The user cost method, for instance, captures well actual expenditures and the cost of living, but it may create a recursive loop in the interest rate setting process given that it includes mortgage payments that, in turn, depend on monetary policy decisions. It follows that this method could well be used for wage indexation and other purposes, but not really for monetary policymaking. This observation implies that adopting alternative approaches to calculate the OOHs, as done for instance by the UK Office for National Statistics, is a possible way to tackle the abovementioned methodological uncertainty regarding the indices, but it does not solve the ultimate problem of a central bank, that is choosing one and only one method to assess the evolution of the OOHs and include it in the official CPI used to set and communicate its policy stance.

## 2.2. A brief comparison between net acquisitions approach and rent equivalence approach

The net acquisitions approach adopted by Eurostat measures the costs associated with buying and maintaining the housing structure: it captures changes in transaction prices in respect of dwellings that are new to the household sector, and it considers other goods and services purchased by owner-occupiers. It excludes transactions between households and it also excludes the land component, as this latter is not considered as part of the consumption-related expenditures that the HICP aims to capture.

It is worth noticing that this approach has been used by Eurostat so far because as it allows to build a measure that is consistent across all EU countries, notwithstanding their heterogeneity, and because it corresponds to the purpose of the HICP (i.e., measuring changes in the total expenditures associated with monetary transactions by households to buy goods and services for consumption purposes), being calculated from the new residential construction series in the national accounts, without requiring any imputations from other measures<sup>3</sup>. Accordingly, since 2016, Eurostat has released an (experimental) OOH price index that reflects changes in the price of net purchases of residential property by the household sector<sup>4</sup>.

If legal restrictions and other considerations led the European authorities to adopt such OOH price index for informational purposes, whether such index could and should be used to adjust the current HICP, however, remains highly controversial. To start, the existing national OOH indices are only available at a quarterly frequency, and thus no purchase-based price index for OOHs can be made available with the timing and frequency that satisfy the HICP data releases. Already on 29 November 2018, the European Commission presented a report assessing the suitability of the OOH price index for

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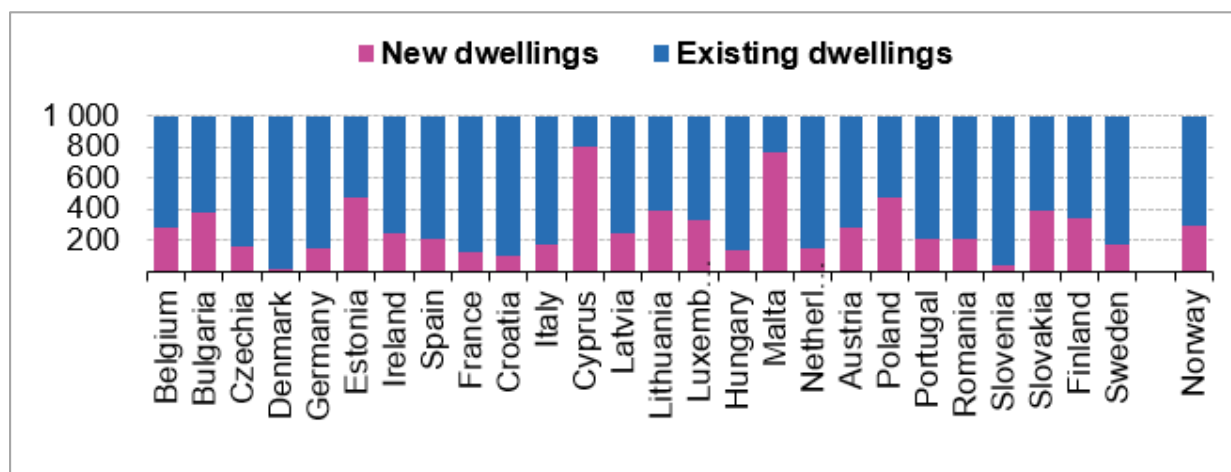
<sup>3</sup> In practice, the separation of land and structure price components can be done only via modelling, and this would entail the infringement of the principle that the HICP is calculated on actual transactions.

<sup>4</sup> This index consists of various sub-indices, namely O.1.1.1.1. Purchases of new dwellings, O.1.1.1.2. Self-built dwellings and major renovations, O.1.1.2. Existing dwellings new to households, O.1.1.3. Other services related to the acquisition of dwellings, O.1.2.1. Major repairs and maintenance, O.1.2.2. Insurance connected with dwellings, O.1.2.3. Other services related to ownership of dwelling.

integration into the coverage of the HICP and concluded that the current OOH price index cannot be produced according to HICP standards of frequency and timeliness<sup>5</sup>. Moreover, this approach may create disadvantages if, in the calculation of the weights to build the national HICP indices including OOHs, the base year corresponds to a local boom or local slump year, a problem that is compounded by the remarkably different evolution of the housing markets in the euro area. Finally, unless proper fixes are found, the implementation of the net acquisition approach cannot but suffer of the heterogeneous characteristics of the housing sectors in the euro area, for instance in terms of self-build new houses and new/old dwellings (see Figure 1).

The rental equivalence approach, that Eurostat decided not to adopt, uses instead the rental prices as a proxy for the costs of housing services. Although house prices and rents do not move together, and for prolonged periods of time they may diverge as a result of real estate bubbles, they tend to share the same trend in the long term (see Figure 2). Temporary decouplings between the evolution of residential property prices and rents can be due not only to bubbles, but also to frictions, credit constraints, social housing and staggering contracts, that is all those factors that limit the substitutability between renting and owning property. Notwithstanding these limitations, the rental equivalent method permits to establish a robust link between the CPI and the evolution of the fundamental component of the house prices.

Figure 1: Weights of new and existing dwellings in total dwellings – EU, 2021 (%)



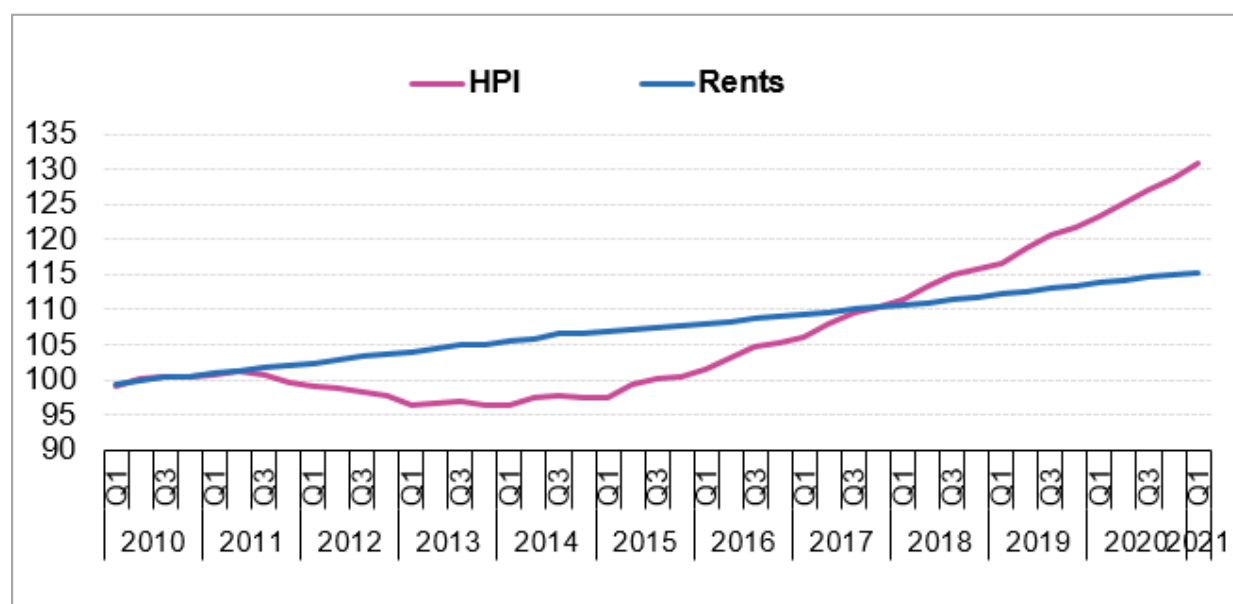
Source: Eurostat.

Being its relative merits and shortcomings as they may, the introduction of such a method in the euro area would have been difficult for two main technical reasons: the approach uses imputed prices rather than actual transaction prices, and this is inconsistent with the EU requirement according to which the HICP shall follow purchaser prices of monetary transactions<sup>6</sup>; an OOH index based on rents is not necessarily representative in those countries that have a small (or peculiar) rental market (see Eurostat, 2017).

<sup>5</sup> European Commission. (2018). "Report to the European Parliament and the Council on the suitability of the owner-occupied housing (OOH) price index for integration into the harmonised index of consumer prices (HICP) coverage". COM(2018) 768 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0768&from=EN>.

<sup>6</sup> This requirement has its legal base in Article 3(3) of EU Regulation No. 2016/792.

Figure 2: House prices and rents in the EU, evolution since 2010



Source: Eurostat.

Note: Index levels (2010=100), 2010Q1-2021Q1.

Since major countries, such as the United States or Germany (see OECD, 2020), adopt the rental equivalent approach for their national CPIs, it is worth elaborating further on the possible reasons why the EU authorities did and do not intend to use this approach for including OOHs in the HICP. Let us start this discussion by noticing that the opportunity cost of living in OOH is the rent that the owner would pay if s/he decided to live in a house with the same characteristics and amenities, but owned by somebody else. Obviously, in assessing this opportunity cost, one should account for the tax treatment of OOHs, that in some countries is more favourable than that applied to the houses rented out to others, as well as the possible rental subsidies received by some tenants. In any case, this opportunity cost is the shadow price of the housing services that an owner-occupier gets from her/his OOH. This shadow price is approximated by the rental paid on the market for a house sharing the same characteristics, and therefore is an "imputed rent", since it refers to items—such as the services provided by OOHs—that are not traded on the market. The fact that these services are not the object of any market transactions does not prevent them from being included in the GDP, which is not the case for other consumer services whose weight in total GDP—if included—would be substantial, such as the domestic and personal services that are produced and consumed within the same household without employing any paid personnel.

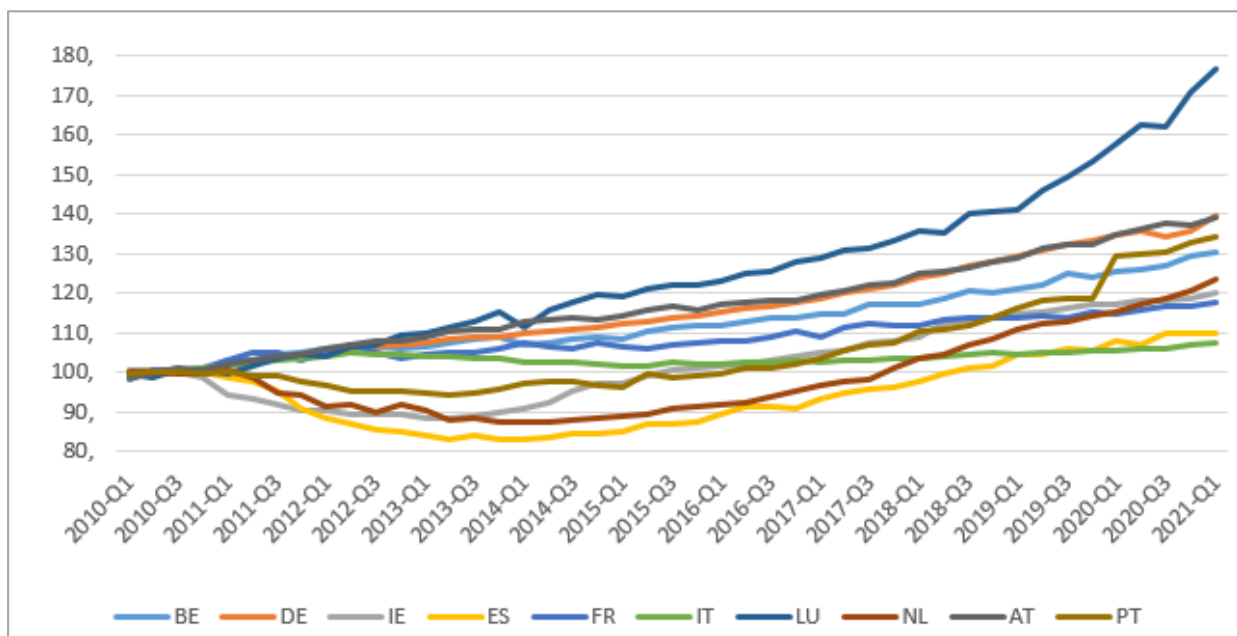
Given that including owners' imputed rents in GDP is a standard practice in national income accounting all over the world and that some of the major advanced economies include them already in their official national CPI, it is natural to wonder why the EU authorities decided to adopt a HICP that includes only the prices associated to actual monetary transactions.

A possible answer to the question is that, especially for a central bank targeting inflation, the CPI is a fundamental compass signalling possible deviations of the main economic aggregates from its target(s) and indicating the need to recalibrate the policy. Inserting imputed rents in the CPI amplifies the effects on this crucial indicator of the volatile (and often extreme) price variations occurring in the rental markets. This phenomenon could be particularly distorting in those countries where the large majority of households are owner-occupiers and the rental markets are relatively thin. Indeed, extending to all households the changes in prices recorded in the national rental market can make

harder to predict the aggregate effects on consumption and on the transactions demand for money of a change in CPI. For instance, an increase in rentals reduces the real income of tenants (and increase the number of those of them who are liquidity constrained), but leaves unchanged the real income of most owner-occupiers (and increases the real income of those of them who are landlords), in spite of the higher cost of housing that is attributed to them if imputed rentals are included in the CPI. This problem is exacerbated in the EU (or in the euro area), since the member countries are quite heterogeneous with respect to the percentage of households in the hands of owner-occupiers, ranging in the euro area between roughly 50 % in Germany and 90 % in Slovakia. This heterogeneity could complicate the task of interpreting the signals coming from the movements of the EU (or euro area) CPI adjusted for OOHCS, once the costs of housing for the owner-occupiers are approximated by imputing the prices observed on the national rental markets.

Notably, the HICP does already contain an item called "actual rentals for housing" that accounts for 15 % of the HICP services basket. This component, indeed, tracks the costs of housing for non-owner occupiers of residential dwellings, i.e., for tenants. On the one hand, the presence of such a component in the HICP and the discussion above suggest not to include another rent-based measure of OOHCS in the HICP, in particular where housing prices and rents exhibit differentiated cycles and trends (as shown in Figure 2). On the other hand, the presence of rentals in the HICP together with the absence of OOHCS in the index may be conducive to serious distortions in the measurement across the euro area countries, due to their differences in the rental and housing markets (Figure 1). Despite the difficulties discussed in this study, this last consideration makes the adjustment of HICP for the inclusion of OOHCS quite desirable as this can improve the comparability of the HICP across EU (or euro area) countries.

Figure 3: The owner-occupied housing price index (2010=100), quarterly data



Source: Eurostat (as of 8 July 2021).

The experimental OOH index provided by Eurostat for the EU countries offers some preliminary evidence about the importance of including OOHs in the HICP. As can be seen in Figure 3, the cumulated OOH inflation over the last decade has been relatively large, notwithstanding the economic and financial turmoil in the early 2010s and the pandemic period. Figure 3 also reveals the highly heterogeneous dynamics of OOH inflation across the EU countries, with negative price changes in several countries during the period 2011-2014, the sluggish evolution of the Italian index across the entire decade, and the impressive and unabated surge of prices in Luxemburg.



### 3. THE POLICY IMPLICATIONS OF THE FULL INCLUSION OF THE OOHCS IN THE HICP AND THE ECB ROADMAP

Among the policy motivations in favour of the inclusion of the OOHs in the HICP, one should mention the concern that the abundant liquidity provided to the economy in the last few years by the Eurosystem and other central banks may give rise to a rapid growth of house prices without this being captured by the HICP. The likely consequence of this development would be, according to some observers, the underestimation of inflation and the overestimation of the need to maintain an accommodative stance for long.

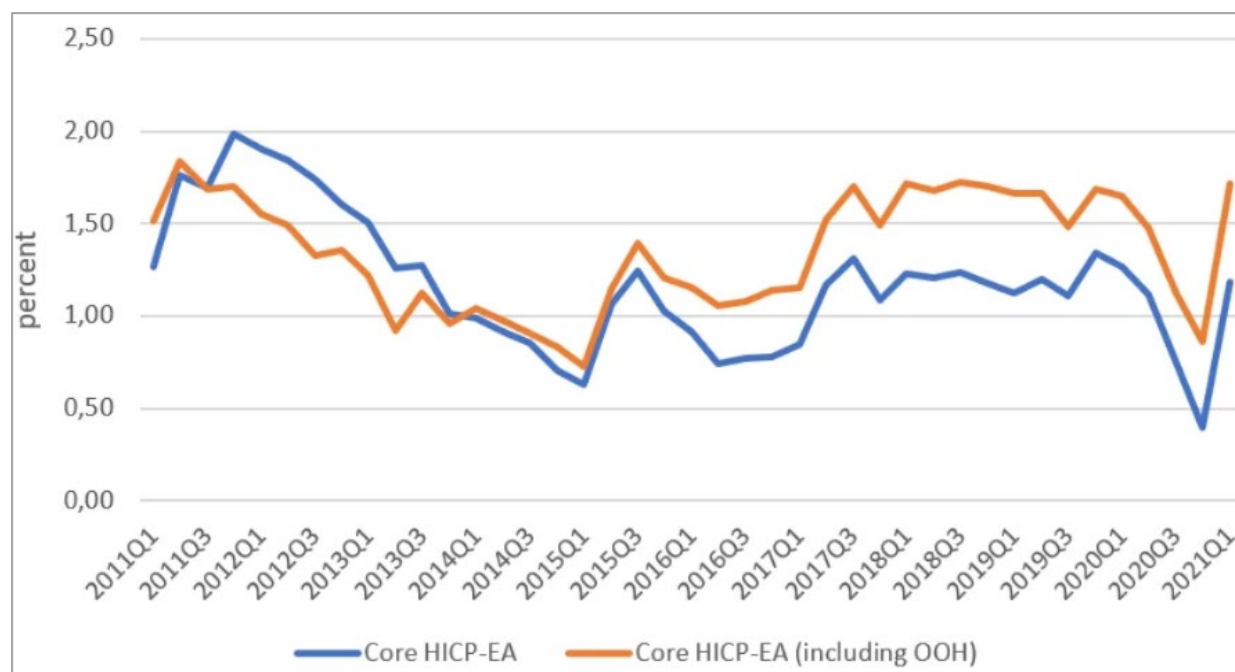
We would not define this as a technical argument for the inclusion of the OOHs in the HICP, as it voluntarily underestimates some theoretical and technical issues. As mentioned in the introduction, it is widely agreed that the CPI should not capture asset prices, but rather consumer prices. *Strictu sensu*, the national accounts aggregate of household consumption expenditures does not include monetary transactions related to dwelling structures (produced non-financial assets) and land (non-produced non-financial asset). The ECB and the European Commission have stretched the interpretation of what should be considered consumption, and concluded that housing structures can be treated as durable consumer goods, whereas land should be seen as an asset. While asset prices have certainly a large impact on the real economy and play a very important role in the transmission of monetary policy to the latter, they are not prices of consumer goods or services, and there is no reason to include them—as such—in the HICP. This is not to say that these asset prices are not important in monetary policy. In fact, the ECB Governing Council can always consider the evolution of asset prices as part of the supplementary and auxiliary information guiding policy-making. It can explicitly take these prices, their evolution and alleged imbalances into account in formulating its policy decisions. What the ECB cannot do, because it is at odds with its mandate, is to target asset prices by surreptitiously inserting them in the HICP.

This implies that those who would like that the HICP responds to housing prices are also implicitly calling for the inclusion in the HICP of the investment component—rather than the consumption component—of OOHs. If including the consumption component of housing is technically difficult and requires to derive proxies from modelling and estimations (even in violation of the non-imputed expenditures rule), encompassing the investment component in the HICP would change its nature and its use in policymaking. Accordingly, maintaining that including OOHs in the HICP would help to "contain financial stability risks", as argued for instance by Hochstein (2019), or "to lean on a housing boom", as suggested by Hill et al. (2020), amounts to advocate the use of an improper instrument for reaching a desirable goal. In our view, the ECB Governing Council has implicitly acknowledged the point by observing that, during the transition period, it will continue to look at other independent measures of housing prices among the battery of auxiliary information guiding policy-making. This confirms our interpretation that the ECB will consider all prices in its assessment of the economic conditions, but it will refrain from targeting (directly or indirectly) housing prices. An additional reason for the ECB to proceed carefully along this line is that the inclusion of a volatile asset component in the target inflation measure "might blur the lines between macroprudential and monetary policy" (ECB 2021), with unpleasant trade-offs.

Having clarified what an OOH-adjusted HICP could capture, one should examine another policy issue raised by those puzzled by the alleged slowness with which the ECB intends to proceed towards the full inclusion of OOH in the HICP. As mentioned above, some preliminary studies have shown that the inflation rate in the euro area would have been slightly higher, had the OOHs already been included in the HICP in the last 5-10 years. The OOH index published by Eurostat, for instance, has been running

above 2 % per year in the last five years (Gros and Shamsfakhr, 2021). The inclusion of such price dynamics in the HICP would have reduced the inflation differential that the euro area has accumulated with respect to the US and—the argument goes—would have led the ECB Governing Council to adopt a less accommodative approach, as the perceived risk of deflation would have appeared lower, as shown in Figure 4<sup>7</sup>. Looking forward, Gros and Shamsfakhr (2021) have argued that "the current 'post-pandemic' boom in house prices will increase this discrepancy between the official HICP used by the ECB and the real increased cost of living as perceived by families. The ECB might thus be much closer to its target of 2 % than it thinks".

Figure 4: An estimate of core inflation with and without OOHs



Source: Gros and Shamsfakhr (2021), Figure 2.

Note: that the core HICP including owner OOH index is compiled by using HICP country weights for the euro area, excluding Greece.

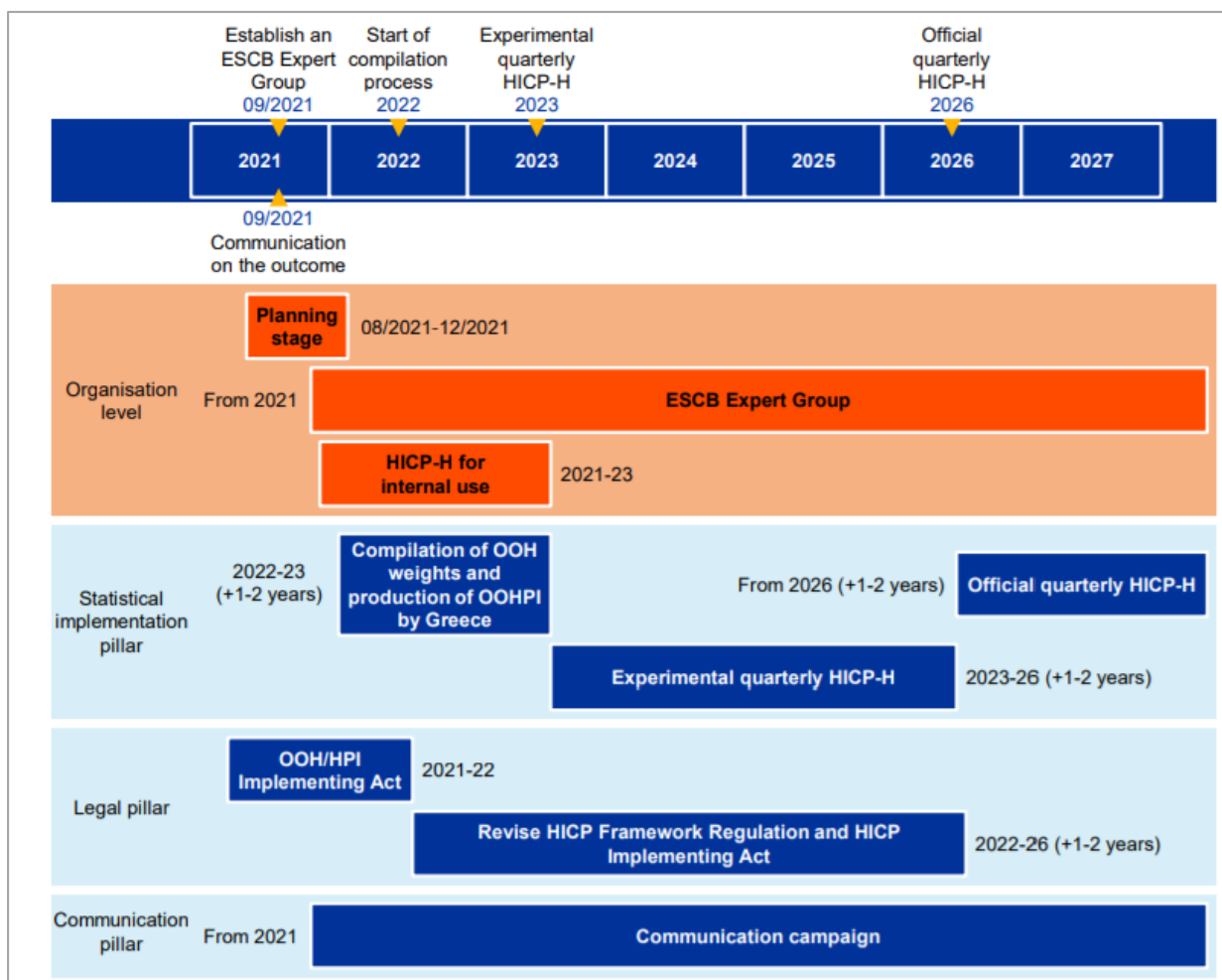
In a nutshell, the failure to account for the fastest growing components of consumer prices in the last decade may have led the ECB to underestimate relevant inflationary pressures, to overestimate the risk of deflation and to adopt an excessively dovish approach (which, in turn, may have fed housing prices). In fact, the ECB has already provided some evidence that the housing components already included in the HICP (i.e., rental prices and minor housing costs) have been weighing down on inflation in the past (ECB, 2016). Moreover, as pointed out by Danske Bank (2020), "with housing being more responsive to cyclical swings, its inclusion ... would be likely to exacerbate a decline in inflation rates during a downturn". This is to say that the available evidence suggests that, in principle, the exclusion/inclusion of certain OOHs from/into the HICP can bias the estimate of consumer price inflation either way, and the bias may have been both positive and negative over alternative time spans in the last two decades.

<sup>7</sup> Other analyses, such as Danske Bank (2020), suggest a limited impact of OOHs on euro area inflation dynamics. The conclusion reached by Danske Bank (2020) for the recent past, for instance, is that the HICP-adjusted inflation rate would have been higher by 0.11 percentage points since 2011, and core inflation by 0.15 percentage points on average, both applying a weight of 6.5 % to OOH in the HICP. Indeed, the larger is the weight attributed to OOH in the revised HICP, the larger the estimated gap between the current and adjusted measure of HICP inflation. According to Unicredit (2020), depending on the weight of OOH, the gap between hypothetical core inflation rates and actual core inflation has amounted to an average of 0.2-0.5 percentage points per year since 2015", in line with Gros and Shamsfakhr (2021) who use the weight of OOH in the US consumer price index.

It is also noteworthy that, even before the recent review of its monetary policy strategy, the ECB Governing Council has never adopted a monetary rule that automatically and exclusively associates policy interventions (i.e., changes in the interest rates) with the observed dynamics of HICP inflation. The two-pillar approach adopted by the ECB, in fact, has always left enough room for economic considerations based on the entire set of economic information available to the authorities. A clear example of this is represented by the attention given to the dispersion of long-term interest rate differentials due to the market fragmentation following the sovereign debt crisis, a phenomenon interpreted by the ECB, together with other evidence, as a signal that the monetary policy transmission mechanism was seriously impaired and needed to be adjusted with ordinary and extraordinary measures. Accordingly, we maintain that it remains an open question whether the ECB would have reacted differently in the past, had the HICP explicitly included the OOH index.

As a matter of fact, the ECB, in the context of its new strategy, has defined a roadmap towards the full inclusion of OOHs in the HICP (see Figure 5), as other major central banks already did. The explanation for postponing this objective far in the future has been mainly technical, as the ECB refers to problems associated with the HICP requirement of timeliness and frequency. However, it should be stressed that the scenario we are facing at this point of the year seems to be quite different from what was expected when the ECB defined this gradual roadmap. With a complete reversal of perspectives with respect to a year ago, many independent observers have warned about the possibility that strong post-pandemic inflationary pressures might be underway, and might prove to last longer than previously expected. In such a scenario, it becomes important for the ECB's anti-inflationary credibility that the indicator with which it measures the growth of consumer prices, i.e. the HICP, is not perceived as systematically underestimating inflation. An acceleration of the roadmap that has been given and a rapid full inclusion of OOH in the HICP would therefore be highly desirable. If this might require some derogations from the current legal requirements, such as the need to use only observable monetary (or non-imputed) transactions, the departure from the HICP coverage from the national accounts, and other changes to the regulations governing the current HICP framework, so be it. These changes, however, would be worth only to the extent that the information regarding housing costs will be timely, credible and suitable to capture the heterogeneous conditions across the euro area.

Figure 5: The ECB's proposed roadmap for the inclusion of OOH in the HICP



Source: ECB (2021), Figure 3, p. 64.

Note: Bars reflect the median timeline expectation.

## 4. CONCLUSION

CPIs should include the prices of all goods and services that the population living in a certain area buys for consumption purposes, including the housing services consumed by the owner occupiers. At present, Eurostat has included only some OOHCs in the EU official CPI (i.e., the HICP), and these are the expenditures for maintenance, minor repairs, and other running costs. As rents are already included in the current version of the HICP, the current composition of the HICP fails to map the evolution of owner-occupied housing prices. This differs from what occurs in major countries, such as the US or Germany, where the respective official CPIs take full account of all the OOHCs.

There are several technical reasons that warn against hasty revisions of the HICP to including a measure of the OOHCs. In particular, so far, OOHCs cannot be precisely and homogeneously calculated at monthly frequency in all euro area countries, and there is no agreement among statisticians and economists as to what method to adopt to measure OOHCs more effectively. Moreover, the current EU regulations provide for the inclusion of only the prices of observable monetary transactions, which prevents to adopt imputed prices derived from rental equivalence or simulations of user costs.

Since some major central banks include imputed rents in their official national CPI, it is natural to ask why the EU authorities decided to exclude them from the HICP and to consider only prices associated to actual monetary transactions. A possible answer is that, especially for a central bank targeting inflation, the CPI is a fundamental compass signalling possible deviations from its inflation target and it forces the recalibration of monetary policies. Given that, inserting imputed rentals in the HICP is likely to amplify the impact of price variations occurring in the rental markets on this crucial indicator, this could be distorting, particularly in those countries where the large majority of households are owner-occupiers and the rental markets are relatively thin.

Very recently, the ECB has defined a gradual roadmap towards the full inclusion of OOHCs in the HICP, as other major central banks already did. Some observers have argued that the inclusion of OOHCs in the HICP in the past could have led to a different monetary policy stance in the recent past, as the ECB would have faced a slightly more positive scenario in terms of deflationary risks. Including OOHCs, in other words, could have helped and will help the ECB to abandon its sombre forecasts and its accommodative policy earlier than otherwise. We maintain that this claim is controversial and we believe that the reasons to push for accelerating the proposed roadmap are different.

The scenario we are facing at this point of the year seems to be quite different from what was expected when the ECB defined this process. With a complete reversal of perspectives with respect to a year ago, many independent observers have warned about the possibility that strong post-pandemic inflationary pressures might be underway, and might prove to last longer than previously expected. In such a scenario, it becomes important for the ECB's anti-inflationary credibility that the indicator with which it measures the growth of consumer prices is not perceived as systematically underestimating the inflation faced by the euro area consumers. An acceleration of the roadmap that has been given and a rapid full inclusion of OOHc in the HICP would therefore be highly desirable.

## REFERENCES

- Cecchetti, S., 2007, *Housing in inflation measurement*, voxeu/CEPR, 13 June. Available at: <https://voxeu.org/article/housing-inflation-measurement>.
- Danske Bank, 2020, *Euro Area Research. Housing inflation: opening Pandora's box*, 6 February. Available at: [https://externalcontent.blob.core.windows.net/pdfs/Research\\_EuroArea\\_060220.pdf](https://externalcontent.blob.core.windows.net/pdfs/Research_EuroArea_060220.pdf).
- Diewert, W. E., 2007, *Durables and owner-occupied housing in a consumer price index*, in Diewert, W. E., Greenlees, J. S. and Hulten, C. R., editors, *Price Index Concepts and Measurement*, Chicago: University of Chicago Press, pp. 445-500.
- ECB, 2016, *Assessing the impact of housing costs on HICP inflation*, *ECB Economic Bulletin*, 8. Available at: [https://www.ecb.europa.eu/pub/pdf/other/eb201608\\_focus04.en.pdf](https://www.ecb.europa.eu/pub/pdf/other/eb201608_focus04.en.pdf).
- ECB, 2021, *Inflation measurement and its assessment in the ECB's monetary policy strategy review*, Occasional Paper Series, 265, September 2021. Available at: <https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op265~a3fb0b611d.en.pdf>.
- Eiglsperger, M. and Goldhammer, B., 2016, *Consumer price indices, owner-occupied housing and measures of underlying inflation in monetary policy of selected central banks*, mimeo. Available at: <https://unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.22/2018/ECB.pdf>.
- European Commission, 2018, *Report to the European Parliament and the Council on the suitability of the owner-occupied housing (OOH) price index for integration into the harmonised index of consumer prices (HICP) coverage*. COM(2018) 768 final. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0768&from=EN>.
- Eurostat, 2017, *Technical manual on Owner-Occupied Housing and House Price Indices*, Luxembourg: Publications Office of the European Union.
- Gros, D. and Shamsfakhr, F., 2021, *The rising cost of housing*, CEPS blog. Available at: <https://www.ceps.eu/the-rising-cost-of-housing/>.
- Hill, R. J., Steurer, M. and Waltl, S. R., 2020, *Owner occupied housing, inflation and monetary policy*, Graz Economics Papers, GEP 2020-18.
- Hochstein, M., 2019, *Is the ECB using a misguided inflation measure? Global Allianz Insight*. Available at: <https://www.allianzgi.com/en/insights/outlook-and-commentary/ecb-using-misguided-inflation-measure>.
- OECD, 2020, *Methodological Notes Compilation of G-20 Consumer Price Index*, Paris: OECD. Available at: <https://www.oecd.org/sdd/prices-ppp/CPI-G20-methodology.pdf>.
- Unicredit, 2020, *Macro research*, Chart of the week, 31 January 2020.

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We discuss the full inclusion of the owner-occupied housing costs (OOHCs) in the EU's harmonised index of consumer prices (HICP). We briefly review the main methods used for including these costs into consumer price indices, and in particular the reasons why the EU authorities prefer to adopt the net acquisitions approach rather than the rent equivalence approach, as other major countries did. We also argue that in the current scenario an acceleration of the EU's roadmap towards a full inclusion of OOHCs in the HICP would be desirable.

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