

# Dominant Trends of Housing Market Development: Financing and Affordability

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## Abstract

This paper deals with the issue of housing market tendencies, especially in the sphere of housing finance and affordability taking into account negative consequences of economic and financial crises, and COVID-19 pandemic. The main purpose of the research is to investigate the dominant trends of housing market development, house financing and affordability based on cross-country analysis. Systematization of literary sources to describe the problem of house financing and affordability indicates that the cross-country analysis of dominant trends of housing market development, house financing and affordability was conducted fragmentary. This scientific issue is still actual. Furthermore, the experience of the European Union countries in financing social housing will be useful for Ukraine. Methodological tools of the research methods include logical generalization and scientific abstraction, structural and comparative analysis. The methods of cross-country statistical, graphical, and analytical analysis using the Excel 2010 software package for the sample from 25 European countries for 2011-2020 (limited data in 2019-2020 due to the availability of information on open information portals of The Organization for Economic Co-operation and Development and European Union Statistical Office) were applied to determine dominant trends of housing market development, to analyse the dynamics of house prices, and financing social and affordable housing. The top countries with a highest / lowest level of social and affordable housing were identified. The results shows that the highest nominal house price indices are in Hungary, Czech Republic, Portugal, Luxembourg, Latvia, Slovak Republic and Lithuania, and the lowest indices are in Italy, Finland, Greece, Switzerland, France, United Kingdom, Norway, and Denmark. The highest real house price indices are in Hungary, Portugal, Luxembourg, Czech Republic, Latvia, Germany, Slovak Republic and Netherlands, and the lowest indices are in Italy, Finland, Norway, Belgium, United Kingdom, France, Greece, Switzerland, and Sweden. The highest rent prices are in Hungary, Lithuania, Estonia, Austria, Ireland, Poland, Slovenia, and Czech Republic, and the lowest – in Greece, France, Italy, Slovak Republic, and Switzerland. In all 25 countries from the sample there was rising both real and nominal house prices in 2020 in comparison with 2019. There was rising of rent prices in the most countries from the sample too (except of Estonia, Greece, and Slovenia). The highest share of housing owners, no outstanding mortgage or housing loan, is in Lithuania, Latvia, Hungary, Poland, Slovak Republic, and Slovenia (more than 60 %), the lowest – in Switzerland and Netherlands (less than 10 %). The highest share of housing owners with mortgage or housing loan, is in Netherlands, Norway, and Sweden (more than 50 %), Denmark, Belgium, Luxembourg, and Finland (more than 40 %), the lowest – in Poland, Lithuania, Slovenia, and Greece (nearly 12 %). The highest share of tenants, rent at market price, is in Switzerland (more than 50 %), Germany, Denmark, and Sweden (more than 35 %), and the lowest – in Lithuania, Hungary, Poland and Estonia (less than 5 %). The highest share of tenants, rent at reduced price or free, is in Ireland, Slovenia, France, Finland and Austria (nearly 15-20 %), and the lowest – in Denmark, Netherlands and Sweden (less than 1 %), Slovak Republic and Norway (nearly 2 %). These results will be useful in further studies to confirm the impact of the structure of the housing market and its financing on the level of welfare, economic growth, and sustainable development.

**Keywords:** affordable housing, financing, house price index, housing loan, housing market, mortgage, owner, rent, social housing, tenant.

**JEL Classification:** O18, O4, R2, R31.

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## Introduction

Without a doubt, housing market is rapidly developed. However, increasing numbers of low- and middle-income households have been struggling to afford housing (The OECD Housing Project). Over 70 % of Europeans live in urban areas that causes high demand for access to housing at affordable prices in several cities. Almost 1 in 20 people across the European Union faced severe housing deprivation in 2016, and some 11 % of the EU population spent 40 % or more of their household disposable income on housing (European Investment Bank Group, 2020). The consequences of global and national economic and financial crises, political and social instability have caused inflation, decreasing incomes, rising housing prices. Demographic situation, government policy in the sphere of social housing, public and private investments in social and affordable housing have influenced too. The first and foremost, social, and affordable housing is important and difficult for people with low or unstable incomes, seniors, young families with children, students and visiting workers. That is why the issue of housing market dynamics in general, and house prices, funding social and affordable housing in particular arouse considerable interest. The main purpose of the research is to investigate the dominant trends of housing market development, house financing and affordability based on cross-country analysis.

## Literature Review

The issue of housing market dynamics, and the problem of high level of house prices and affordability is not new in economic sciences. Allen et al. (2004) compared European housing policy, understanding of the way housing is provided in different countries, and the way the interaction between the state, market and civil society was conceptualized. The authors focused attention on the provision of housing in southern Europe. The book written by Tsenkova (2009) provided unique insights into the process of housing reforms in post-socialist Europe during its transition to markets and democracy, especially in nine countries: Albania, Bulgaria, Bosnia and Herzegovina, Croatia, Former Yugoslav Republic of Macedonia, Romania, Republic of Moldova, Serbia, and Montenegro. The research was driven by the premise that housing policy matters and that better policies lead to more efficient housing system performance. Lux & Mikeszova (2012) explained the phenomenon evident in the transformation of post-socialist states that has received insufficient scholarly attention to date: the restitution of the housing stock in terms of its causes and consequences. The authors studied the causes for a particular type of property restitution in the Czech Republic and outlined its consequences on the role and long-term social meaning of private rental housing. Hegedus et al. (2013) investigated the post-transition social housing policy in Central and Eastern Europe by delivering critical evaluations about development in selected countries' social housing sectors and showing what conditions have decisively impacted these processes.

Sisternas Tusell (2017) reviewed the public policies and mechanisms used by the various states to tackle housing cycles and to indicate the future challenges that can be conceived in a context strongly marked by the circulation of capital and the digital transformation. Komelina & Shcherbinina (2018) described the aspect of energy efficiency and technical conditions of the housing stock and showed existing reserves for optimization of household income levels and their real capacity to participate in state and regional energy efficiency programs, the introduction of the policies of social protection and welfare benefits (subsidies). Sanchez (2020) investigated the emergence of poverty and inequality in the distribution of housing among the population, the problem of increasing speculation in the real estate market, and the lack of an effective state housing policy.

Systematization of these and other literary sources to describe the problem of house financing and affordability indicates that the cross-country analysis of dominant trends of housing market development, house financing and affordability was conducted fragmentary. This scientific issue is still actual. Furthermore, the experience of the European Union countries in financing social housing will be useful for Ukraine.

## Methodology and research methods

Methodological tools of the research methods include logical generalization and scientific abstraction, structural and comparative analysis. The methods of cross-country statistical, graphical, and analytical analysis using the Excel 2010 software package for the sample from 25 European countries for 2011-2020 (limited data in 2019-2020 due to the availability of information on open information portals of The Organization for Economic Co-operation and Development (OECD) and European Union Statistical Office) were applied to determine dominant trends of housing market development, to analyze the dynamics of house prices, and

financing social and affordable housing. The top countries with a highest / lowest level of social and affordable housing were identified.

## Results

Even before the COVID-19 pandemic house prices had been increasing in most countries, especially for renters, and the supply of social and affordable housing has failed to meet demand. Besides it, the COVID-19 crisis exposed longstanding housing affordability and quality gaps (OECD, Social housing, 2020).

House price indices are important indicators of housing market dynamics and cover index numbers measuring the evolution of residential property prices over time. These indices are key statistics not only for citizens and households across the world, but also for economic and monetary policy makers, for monitoring macroeconomic imbalances and risk exposure of the financial sector (National and Regional House Price Indices) (Table 1).

Table 1. Nominal house price indices in the sample of 25 European countries in 2011-2020

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Austria	81,6	87,6	92,1	95,3	100,0	108,5	114,3	119,6	126,6	136,2
Belgium	95,7	97,8	99,0	98,4	100,0	102,6	106,4	109,4	113,8	118,6
Czech Republic	95,2	93,8	93,9	96,2	100,0	107,2	119,7	130,0	141,9	153,8
Denmark	89,1	86,7	90,1	93,5	100,0	104,7	109,4	114,5	117,5	123,2
Estonia	69,3	74,4	82,3	93,6	100,0	104,7	110,5	117,1	125,3	132,8
Finland	96,9	99,2	100,3	100,0	100,0	100,8	102,4	103,4	104,5	106,3
France	106,6	106,0	103,8	101,9	100,0	100,9	104,0	107,1	110,7	116,9
Germany	86,8	89,8	92,6	95,5	100,0	107,5	114,1	121,7	128,7	138,2
Greece	145,7	128,5	114,5	105,4	100,0	97,6	96,5	98,3	105,5	110,3
Hungary	90,4	87,1	84,9	88,4	100,0	113,4	127,2	145,5	170,2	177,7
Ireland	87,9	76,0	77,0	89,7	100,0	107,5	119,2	131,4	134,4	134,8
Italy	119,7	116,7	109,1	104,0	100,0	100,3	99,2	98,6	98,5	100,4
Latvia	88,7	91,4	97,6	103,5	100,0	108,5	118,0	129,3	140,9	146,1
Lithuania	89,8	89,6	90,6	96,5	100,0	105,4	114,8	123,2	131,6	141,2
Luxembourg	83,1	86,6	90,9	94,9	100,0	106,0	112,0	119,9	132,0	151,1
Netherlands	109,2	101,9	95,8	96,6	100,0	105,1	113,0	123,7	132,7	142,8
Norway	82,6	88,2	91,8	94,3	100,0	107,0	112,4	114,0	116,8	121,4
Poland	105,7	102,0	97,5	98,5	100,0	101,9	105,8	112,7	122,5	135,4
Portugal	102,1	94,9	93,1	97,0	100,0	107,1	117,0	129,0	141,5	153,4
Slovak Republic	95,3	92,8	93,6	94,9	100,0	106,7	113,0	121,3	132,4	145,1
Slovenia	120,4	112,1	106,2	99,2	100,0	103,3	111,8	121,5	129,7	135,7
Spain	124,3	105,9	96,2	96,5	100,0	104,6	111,1	118,6	124,7	127,5
Sweden	82,7	81,6	84,1	90,3	100,0	108,5	117,4	117,7	120,3	128,4
Switzerland	87,9	92,1	94,9	97,5	100,0	101,6	103,6	106,7	110,6	115,4
United Kingdom	84,8	85,2	87,4	94,3	100,0	107,0	111,8	115,5	116,6	120,4

Source: developed by the author based on Nominal House Price Indices, OECD database, 2011–2020.

The analysis of dynamics of the nominal house price indices are showed in Figure 1.

According to the methodology of OECD database on regional house price indices the nominal house price index in 2015 is 100,0. We can conclude that the highest nominal house price indices are in Hungary (177,7 in 2020), Czech Republic (153,8 in 2020), Portugal (153,4 in 2020), Luxembourg (151,1 in 2020), Latvia (146,1 in 2020), Slovak Republic (145,1 in 2020) and Lithuania (141,2 in 2020). The lowest indices are in Italy (100,4 in 2020), Finland (106,3 in 2020), Greece (110,3 in 2020), Switzerland (115,4 in 2020), France (116,9 in 2020), United Kingdom (120,4 in 2020), Norway (121,4 in 2020) and Denmark (123,2 in 2020). Besides it, in all 25 countries from the sample there is rising prices in 2020 in comparison with 2019.

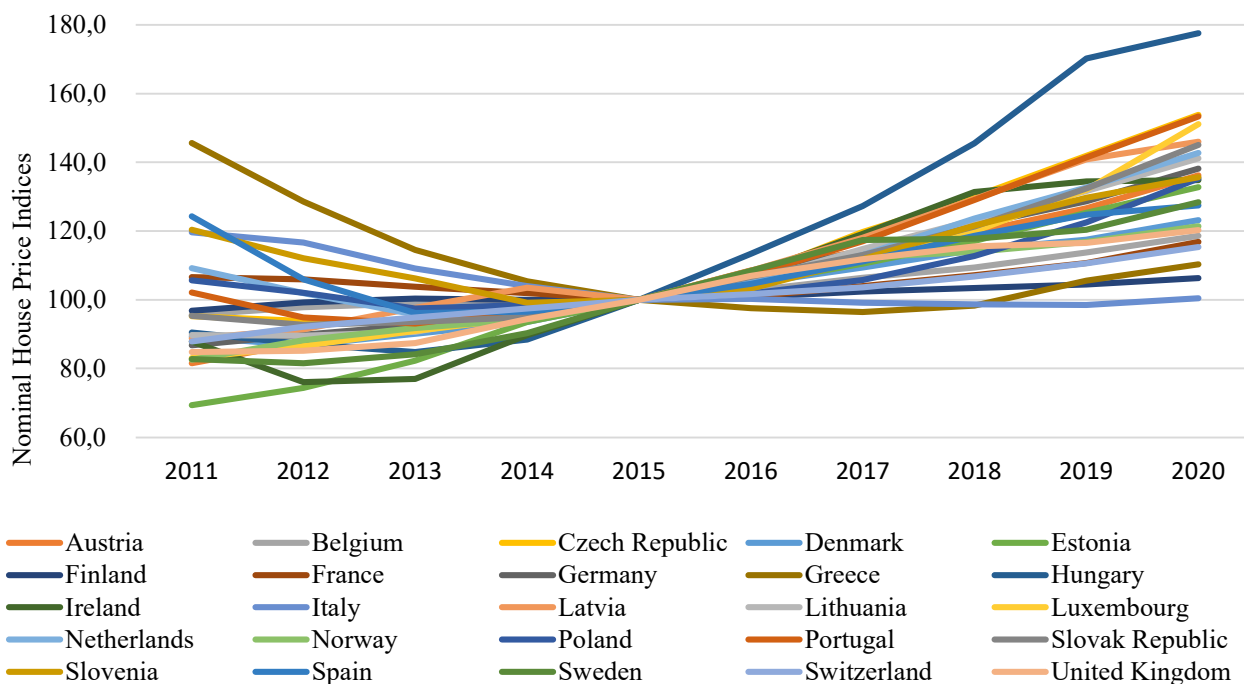


Figure 1. The analysis of dynamics of the nominal house price indices in the European countries in 2011–2020

Source: developed by the author based on Nominal House Price Indices, OECD database, 2011–2020.

In addition to the nominal house price indices analytical house prices indicators include the information on real house prices (Table 2).

Table 2. Real house price indices in the sample of 25 European countries in 2011-2020

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Austria	88,3	92,5	95,3	96,7	100,0	107,0	110,6	113,5	117,9	125,5
Belgium	100,2	100,5	100,6	99,3	100,0	101,1	102,8	103,6	106,4	110,1
Czech Republic	98,8	95,3	94,7	96,2	100,0	106,7	116,5	123,4	131,0	138,2
Denmark	92,9	88,3	91,0	93,9	100,0	104,6	108,1	112,3	114,3	119,5
Estonia	74,4	76,8	82,5	93,2	100,0	103,4	105,4	107,7	112,4	120,0
Finland	103,8	103,4	102,1	100,5	100,0	100,6	101,1	101,1	101,1	102,5
France	109,2	107,1	104,2	102,2	100,0	100,7	102,9	104,3	106,8	112,0
Germany	90,5	92,3	94,0	96,0	100,0	106,8	111,6	117,3	122,4	130,5
Greece	139,3	121,7	110,3	104,0	100,0	98,5	97,0	98,8	105,8	112,2
Hungary	99,1	90,3	86,5	88,9	100,0	112,3	121,9	135,0	151,2	153,0
Ireland	91,6	78,3	78,5	90,6	100,0	107,0	117,4	126,7	126,7	126,9
Italy	124,7	118,4	109,5	104,1	100,0	100,1	98,0	96,6	96,0	98,1
Latvia	92,4	92,1	98,4	102,9	100,0	107,2	113,2	120,5	127,5	131,2
Lithuania	92,5	89,4	89,7	95,5	100,0	104,4	109,9	114,8	120,2	127,8
Luxembourg	86,7	88,5	91,4	95,0	100,0	105,7	109,6	114,9	124,1	140,7
Netherlands	114,1	105,1	96,8	96,7	100,0	104,5	110,8	118,7	124,4	132,0
Norway	89,1	94,2	96,0	96,4	100,0	103,8	106,9	106,2	106,4	108,8
Poland	108,5	101,3	96,4	97,5	100,0	102,3	104,1	109,2	116,1	124,1
Portugal	105,9	96,7	94,1	97,9	100,0	106,1	114,1	123,9	134,5	144,5
Slovak Republic	99,7	93,8	93,4	94,8	100,0	107,0	111,8	117,3	124,6	133,5
Slovenia	123,8	113,3	105,1	98,6	100,0	103,6	110,4	117,7	124,0	130,4
Spain	128,1	107,0	96,3	96,5	100,0	104,5	109,2	114,9	119,6	122,1
Sweden	85,5	83,8	85,9	91,2	100,0	107,5	114,4	111,9	112,2	118,3
Switzerland	85,4	90,4	93,4	96,1	100,0	101,8	103,0	104,7	108,5	114,0
United Kingdom	89,2	87,9	88,6	94,3	100,0	105,5	108,1	109,0	108,6	110,4

Source: developed by the author based on Real House Price Indices, OECD database, 2011–2020.

It should be said that real house prices are given by the ratio of seasonally adjusted nominal house prices to the seasonally adjusted consumers' expenditure deflator in each country, from the OECD national accounts database. This provides information on how nominal house prices have changed over time relative to prices in the general economy (Analytical house prices indicators). The analysis of dynamics of the real house price indices are showed in Figure 2.

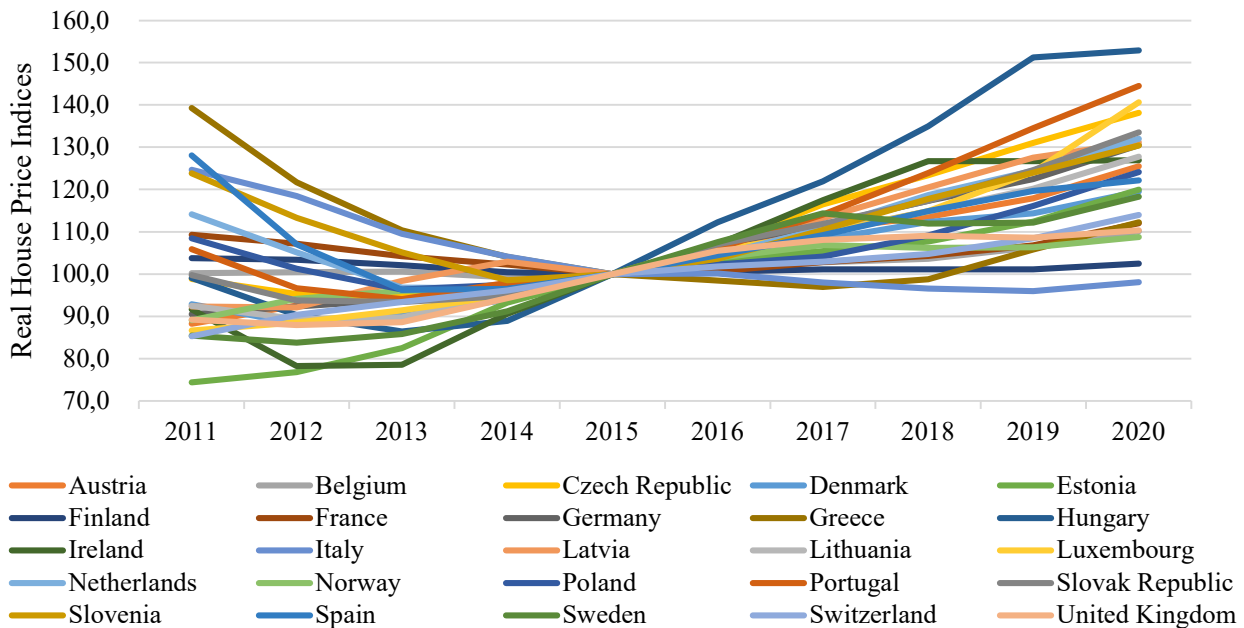


Figure 2. The analysis of dynamics of the real house price indices in the European countries in 2011–2020

Source: developed by the author based on Real House Price Indices, OECD database, 2011–2020.

We determined that the highest real house price indices are in Hungary (153,0 in 2020), Portugal (144,5 in 2020), Luxembourg (140,7 in 2020), Czech Republic (138,2 in 2020), Latvia (131,2 in 2020), Germany (130,5 in 2020), Slovak Republic (130,4 in 2020) and Netherlands (132,0 in 2020). The lowest indices are in Italy (98,1 in 2020), Finland (102,5 in 2020), Norway (108,8 in 2020), Belgium (110,1 in 2020), United Kingdom (110,4 in 2020), France (112,0 in 2020), Greece (112,2 in 2020), Switzerland (114,0 in 2020) and Sweden (118,3 in 2020). Like the nominal housing price indices there is rising of real prices in 2020 in comparison with 2019 in all 25 countries from the sample.

The comparison of real and nominal house price indices is shown in Figure 3.

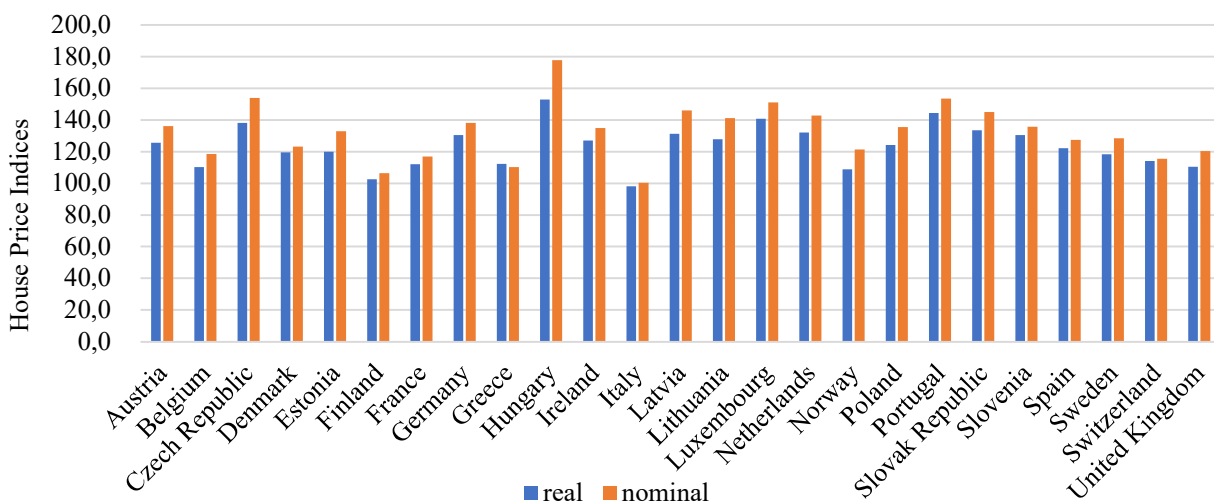


Figure 3. The comparison of real and nominal house price indices in the European countries from the sample in 2020

Source: developed by the author based on OECD database on regional house price indices, 2020.

So, real house price indices are lower than nominal, but the difference between real and nominal house price indices is not constant or similar in these countries.



We are sure that it is also important to investigate the rent price indices (Table 3).

Table 3. Rent price indices in the sample of 25 European countries in 2011-2020

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Austria	85,6	89,3	92,1	95,8	100,0	103,1	107,3	111,3	114,6	119,3
Belgium	94,3	95,7	97,0	99,0	100,0	100,9	102,0	103,1	104,2	107,0
Czech Republic	92,3	96,3	98,3	99,2	100,0	101,2	103,4	106,4	110,4	113,8
Denmark	92,1	94,5	96,5	98,1	100,0	101,3	103,0	104,2	105,1	106,1
Estonia	62,3	73,6	84,0	93,2	100,0	106,5	114,3	121,9	130,7	125,2
Finland	88,3	91,5	94,2	97,1	100,0	102,3	104,4	106,4	108,5	110,0
France	95,3	96,8	98,3	99,4	100,0	100,3	100,5	100,2	100,7	101,1
Germany	95,0	96,1	97,4	98,8	100,0	101,1	102,5	104,1	105,6	107,1
Greece	124,2	121,6	113,3	104,6	100,0	97,4	95,2	92,2	92,2	92,2
Hungary	92,2	95,8	97,7	98,0	100,0	105,2	108,4	113,9	124,6	129,9
Ireland	104,1	100,8	100,0	99,3	100,0	102,7	106,6	111,2	116,4	117,4
Italy	96,8	98,9	100,2	99,9	100,0	100,3	100,5	100,9	101,2	101,4
Latvia	81,7	89,5	94,6	99,3	100,0	98,6	98,3	102,4	107,1	104,8
Lithuania	64,6	71,2	75,8	84,7	100,0	110,4	110,8	117,2	126,2	129,5
Luxembourg	94,8	96,1	97,4	98,4	100,0	100,9	102,0	103,3	104,7	105,8
Netherlands	87,3	89,3	92,6	96,8	100,0	102,1	103,9	106,0	108,6	111,5
Norway	90,2	91,9	94,7	97,3	100,0	101,9	104,1	105,9	107,8	109,4
Poland	93,8	96,2	97,6	98,7	100,0	101,3	104,3	108,4	113,7	119,9
Portugal	91,7	93,6	94,7	98,9	100,0	101,7	102,7	104,7	108,0	110,8
Slovak Republic	99,1	99,7	100,0	100,0	100,0	100,2	100,6	100,8	101,4	103,0
Slovenia	101,5	99,8	98,8	98,1	100,0	101,6	107,0	113,6	118,4	115,7
Spain	100,8	101,4	101,2	100,5	100,0	99,9	100,3	101,6	103,2	104,3
Sweden	92,4	94,7	96,9	98,5	100,0	100,9	101,7	102,6	104,2	105,8
Switzerland	97,0	97,6	98,0	99,2	100,0	100,3	101,4	101,8	102,3	103,1
United Kingdom	89,7	92,7	95,0	97,2	100,0	101,7	102,7	103,2	103,9	105,4

Source: developed by the author based on Rent Prices, OECD database, 2011–2020.

The rental prices come from the OECD Main Economic Indicators database and refer to Consumer Price Indices (CPI) for Actual rentals for housing, imputed rentals for housing and Maintenance and repair of the dwelling (Analytical house prices indicators).

The analysis of dynamics of the rent price indices are showed in Figure 4.

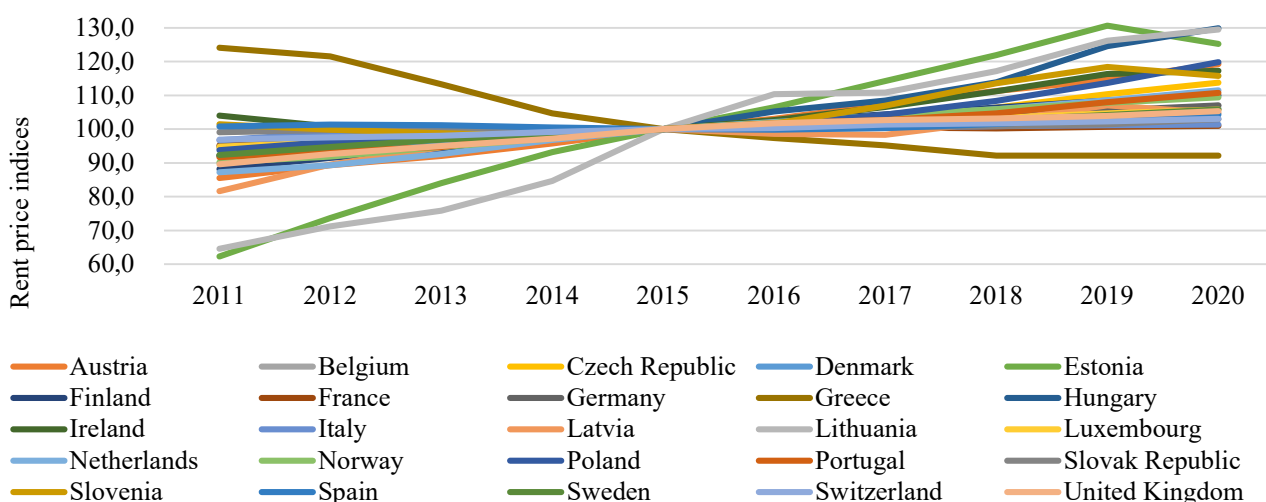


Figure 4. The analysis of dynamics of the rent price indices in the European countries in 2011–2020

Source: developed by the author based on Rent Prices, OECD database, 2011–2020.

The analysis resulted that the highest rent prices are in Hungary (129,9 in 2020), Lithuania (129,5 in 2020), Estonia (125,2 in 2020), Austria (119,3 in 2020), Ireland (117,4 in 2020), Poland (119,9 in 2020), Slovenia

(115,7 in 2020) and Czech Republic (113,8 in 2020). The lowest indices are in Greece (92,2 in 2020), France (101,1 in 2020), Italy (101,4 in 2020), Slovak Republic (103,0 in 2020) and Switzerland (103,1 in 2020). Moreover, there is rising of rent prices in 2020 in comparison with 2019 in the most countries from the sample except of Estonia, Greece, and Slovenia. Also, during investigated time we concluded the trend of rapid rising of rent prices in Estonia (except of 2020) and Lithuania. Instead in Greece there is a downward trend.

In the context of this research, it is necessary to characterize the distribution of population by tenure status in selected countries (Tables 4–7). The share of housing owners, no outstanding mortgage or housing loan, is presented in Table 4.

The highest share of housing owners, no outstanding mortgage or housing loan, is in Lithuania (78,2 % in 2019), Hungary (76,4 % in 2019), Poland (72 % in 2019), Slovak Republic (70,3 % in 2019), Latvia (67,1 % in 2019), Slovenia (62,2 % in 2019), Estonia (58,9 % in 2019), Italy (58,6 % in 2019) and Czech Republic (56,8 % in 2019).

Table 4. The share of housing owners, no outstanding mortgage or housing loan, in the sample of 25 European countries in 2011-2019, %

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019
Austria	29,3	31,1	30,9	31,9	30,0	29,8	30,7	29,9	30,3
Belgium	29,9	29,2	29,4	29,1	29,0	29,6	29,2	28,9	28,7
Czech Republic	61,9	62,4	61,9	60,7	59,8	58,8	57,8	57,8	56,8
Denmark	14,8	12,8	13,8	13,8	14,1	14,3	14,4	14,0	14,0
Estonia	66,9	64,3	62,1	62,1	62,1	62,0	61,8	60,7	58,9
Finland	32,2	31,7	31,0	30,1	30,3	29,5	29,1	29,7	29,5
France	33,7	33,8	32,6	33,6	33,0	33,8	33,5	33,3	32,3
Germany	25,3	25,2	25,0	25,8	25,6	25,5	25,7	25,8	25,4
Greece	60,1	60,7	60,2	60,7	61,0	60,0	57,6	59,3	62,7
Hungary	66,5	68,9	68,9	70,2	67,6	70,0	69,3	70,6	76,4
Ireland	35,7	34,7	34,4	34,1	36,5	37,1	37,8	37,9	37,4
Italy	57,6	58,2	56,2	55,8	56,1	56,3	58,8	59,4	58,6
Latvia	74,9	72,0	72,1	71,5	70,4	71,1	70,7	69,3	67,1
Lithuania	85,5	85,3	84,5	82,3	81,3	80,1	78,6	77,3	78,2
Luxembourg	28,2	28,2	27,5	29,9	30,4	30,5	32,0	29,3	29,1
Netherlands	7,6	7,6	7,1	7,7	7,7	8,0	8,7	8,3	8,5
Norway	20,9	19,9	18,5	18,8	21,2	20,7	21,0	21,2	19,9
Poland	73,7	72,8	73,6	72,7	72,8	71,8	73,1	72,7	72,0
Portugal	41,0	40,7	39,6	39,4	38,3	38,5	37,5	38,2	37,6
Slovak Republic	82,0	80,8	80,9	79,4	77,9	77,8	74,0	72,7	70,3
Slovenia	69,8	67,8	67,0	66,5	65,4	64,5	63,6	63,0	62,2
Spain	47,7	47,2	45,6	46,7	47,0	46,9	47,6	46,9	47,8
Sweden	3,8	8,7	8,2	7,9	7,1	10,4	13,0	12,3	12,2
Switzerland	4,4	4,5	4,2	4,6	4,5	4,0	3,9	4,2	3,5
United Kingdom	26,0	28,4	27,3	27,3	27,5	27,9	27,1	27,6	27,6

Source: developed by the author based on Distribution of population by tenure status, type of household and income group, Eurostat data, 2011–2019.

The lowest share of housing owners (without mortgages or loans) is in Switzerland (3,5 % in 2019), Netherlands (8,5 % in 2019) and Denmark (14,0 % in 2019). The share of housing owners with mortgage or loan is presented in Table 5.

Table 5. The share of housing owners with mortgage or loan in the sample of 25 European countries in 2011-2019, %

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019
Austria	23,0	26,4	26,4	25,3	25,7	25,2	24,3	25,5	24,9
Belgium	41,9	43,2	42,9	42,9	42,4	41,4	43,2	43,4	42,6
Czech Republic	18,1	18,0	18,2	18,2	18,2	19,4	20,7	21,0	21,9

Denmark	53,9	53,1	50,7	49,5	48,6	47,4	47,8	46,5	46,8
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Table 5 (cont.). The share of housing owners with mortgage or loan in the sample of 25 European countries in 2011-2019, %

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019
Estonia	16,7	18,0	18,9	19,4	19,4	19,5	20,0	21,7	22,8
Finland	41,9	42,2	42,6	43,0	42,4	42,0	42,3	42,0	41,5
France	29,4	29,9	31,8	31,3	31,1	31,0	30,9	31,8	31,8
Germany	28,1	28,0	27,6	26,6	26,2	26,2	25,7	25,6	25,8
Greece	15,7	15,2	15,6	13,3	14,1	13,9	15,7	14,2	12,7
Hungary	22,8	20,9	19,8	18,0	18,7	16,3	16,0	15,4	15,3
Ireland	34,6	34,9	35,5	34,3	33,1	32,4	31,8	32,4	31,3
Italy	15,6	16,1	17,2	17,3	16,8	15,9	13,6	13,0	13,7
Latvia	8,0	9,5	9,1	9,4	9,8	9,8	10,8	12,3	13,1
Lithuania	6,7	6,6	7,7	7,6	8,1	10,2	11,1	12,6	12,2
Luxembourg	40,0	42,6	45,6	42,5	42,8	43,3	42,7	41,9	41,8
Netherlands	59,6	59,9	60,0	59,2	60,1	61,0	60,7	60,5	60,4
Norway	63,1	64,9	64,9	65,6	61,7	62,2	60,5	60,1	60,4
Poland	8,4	9,6	10,2	10,8	10,9	11,6	11,1	11,3	12,2
Portugal	34,0	33,8	34,6	35,5	36,5	36,7	37,3	36,3	36,2
Slovak Republic	8,2	9,6	9,6	10,9	11,3	11,8	16,1	18,6	20,6
Slovenia	7,7	8,4	9,6	10,3	10,8	10,6	12,0	12,1	12,7
Spain	32,0	31,8	32,0	32,1	31,2	30,9	29,5	29,4	28,4
Sweden	61,9	57,5	58,0	57,7	59,1	54,8	52,2	51,7	51,4
Switzerland	39,4	39,3	39,8	39,9	38,9	38,5	37,4	38,3	38,0
United Kingdom	41,9	38,3	37,4	37,2	36,1	35,5	38,0	37,5	37,5

Source: developed by the author based on Distribution of population by tenure status, type of household and income group, Eurostat data, 2011–2019.

The highest share of housing owners with mortgage or housing loan, is in Netherlands and Norway (60,4 % in 2019), Sweden (51,4 % in 2019), Denmark (46,8 % in 2019), Belgium (42,6 % in 2019), Luxembourg (41,8 % in 2019) and Finland (41,5 % in 2019), the lowest – in Poland and Lithuania (12,2 % in 2019), Slovenia (12,7 % in 2019), Greece (12,7 % in 2019) and Latvia (13,1 % in 2019).

The share of housing tenants, rent at market price, is presented in Table 6.

Table 6. The share of tenants, rent at market price, in the sample of 25 European countries in 2011-2019, %

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019
Austria	29,2	26,1	27,2	27,2	29,6	29,7	30,1	29,7	30,3
Belgium	18,9	18,6	18,5	19,3	19,7	20,3	18,9	19,4	20,4
Czech Republic	13,0	13,2	16,0	16,6	16,4	16,0	15,5	15,7	16,1
Denmark	17,7	21,1	35,4	36,6	37,3	38,3	37,7	39,4	39,1
Estonia	2,5	3,0	3,4	3,9	3,7	4,1	4,0	4,1	4,5
Finland	10,2	10,5	10,7	10,9	12,0	13,0	13,4	13,6	14,3
France	15,1	19,5	19,5	19,3	19,8	19,2	19,2	18,6	19,5
Germany	39,9	38,6	38,9	39,6	39,9	39,8	40,0	40,8	41,1
Greece	17,2	18,2	18,9	20,0	19,8	20,8	21,0	21,3	20,0
Hungary	3,0	3,1	3,5	3,8	4,8	4,3	5,4	4,9	4,1
Ireland	14,9	15,5	16,4	16,2	15,0	13,4	12,5	12,0	9,0
Italy	13,2	13,3	14,0	14,3	15,4	16,8	18,0	18,8	19,0
Latvia	7,7	7,8	8,3	8,7	8,7	8,7	7,9	7,5	7,7
Lithuania	1,2	1,4	1,4	1,3	1,4	1,3	1,5	1,2	1,1



Luxembourg	27,0	24,6	21,8	22,0	21,7	21,5	20,8	23,4	22,7
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Table 6. The share of tenants, rent at market price, in the sample of 25 European countries in 2011-2019, %

Netherlands	32,4	32,1	32,5	32,6	31,7	30,3	29,8	30,2	30,2
Norway	10,5	9,1	10,1	9,1	10,9	11,0	12,6	16,7	17,3
Poland	3,5	4,0	4,2	4,3	4,5	4,5	4,3	4,3	4,2
Portugal	12,2	10,9	11,3	12,4	12,7	12,9	12,8	12,6	13,2
Slovak Republic	8,0	7,8	7,6	7,9	9,2	8,9	8,5	7,4	7,7
Slovenia	5,5	5,5	5,7	5,9	4,8	5,3	5,4	6,0	5,9
Spain	12,4	12,7	13,2	12,1	12,7	13,8	14,4	15,3	15,8
Sweden	33,9	33,7	33,4	33,9	33,5	34,0	34,0	35,0	35,5
Switzerland	51,4	51,7	51,8	49,2	49,2	50,2	50,9	51,1	52,8
United Kingdom	13,3	15,3	17,3	17,5	18,2	18,0	17,0	29,7	29,7

Source: developed by the author based on Distribution of population by tenure status, type of household and income group, Eurostat data, 2011–2019.

In 2019 the highest share of tenants, rent at market price, was in Switzerland (52,8 %), Germany (41,1 %), Denmark (39,1 %) and Sweden (35,5 %), and the lowest – in Lithuania (1,1 %), Hungary (4,1 %), Poland (4,2 %) and Estonia (4,5 %).

The share of housing tenants, rent at reduced price or free, is presented in Table 7.

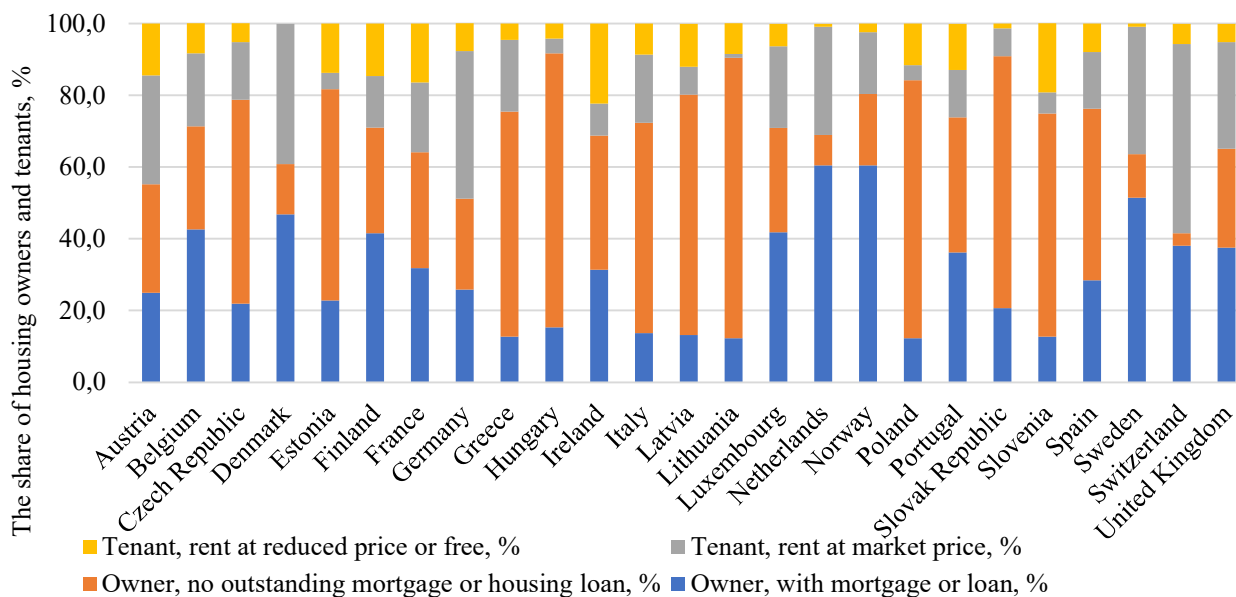
Table 7. The share of tenants, rent at reduced price or free, in the sample of 25 European countries in 2011-2019

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019
Austria	18,5	16,4	15,5	15,7	14,7	15,3	14,9	14,9	14,5
Belgium	9,3	9,1	9,2	8,7	8,9	8,7	8,8	8,3	8,4
Czech Republic	6,9	6,4	3,9	4,5	5,6	5,8	6,0	5,6	5,3
Denmark	13,6	12,9	0,1	0,1	0,1	0,1	0,1	0,1	0,0
Estonia	14,0	14,7	15,6	14,5	14,7	14,5	14,2	13,5	13,8
Finland	15,7	15,6	15,7	16,0	15,3	15,4	15,2	14,8	14,7
France	21,8	16,8	16,1	15,7	16,1	16,0	16,4	16,3	16,4
Germany	6,7	8,1	8,5	8,0	8,2	8,4	8,6	7,7	7,8
Greece	6,9	5,9	5,3	6,0	5,1	5,3	5,8	5,2	4,6
Hungary	7,7	7,1	7,9	8,0	8,9	9,3	9,3	9,1	4,2
Ireland	14,9	14,9	13,7	15,3	15,5	17,1	18,0	17,7	22,3
Italy	13,7	12,5	12,7	12,6	11,7	11,0	9,5	8,8	8,7
Latvia	9,5	10,7	10,5	10,4	11,2	10,4	10,5	10,9	12,0
Lithuania	6,6	6,7	6,4	8,8	9,2	8,3	8,7	8,9	8,6
Luxembourg	4,8	4,6	5,2	5,5	5,1	4,6	4,5	5,4	6,3
Netherlands	0,5	0,4	0,4	0,4	0,5	0,7	0,8	1,0	0,8
Norway	5,5	6,1	6,4	6,4	6,3	6,1	5,9	2,0	2,4
Poland	14,5	13,6	12,0	12,3	11,8	12,1	11,5	11,7	11,6
Portugal	12,8	14,5	14,5	12,7	12,5	11,8	12,5	12,9	12,9
Slovak Republic	1,7	1,8	2,0	1,8	1,5	1,6	1,5	1,2	1,4
Slovenia	17,0	18,3	17,7	17,4	19,0	19,6	19,0	18,9	19,3
Spain	7,8	8,3	9,1	9,0	9,1	8,4	8,5	8,4	8,0
Sweden	0,3	0,2	0,3	0,5	0,3	0,8	0,8	0,9	0,9
Switzerland	4,7	4,5	4,2	6,3	7,5	7,2	7,8	6,4	5,6
United Kingdom	18,8	18,0	18,1	18,0	18,3	18,6	17,9	5,1	5,1

Source: developed by the author based on Distribution of population by tenure status, type of household and income group, Eurostat data, 2011–2019.

In 2019 the highest share of tenants, rent at reduced price or free, was in Ireland (22,3 %), Slovenia (19,3 %), France (16,4 %), Finland (14,7 %) and Austria (14,5 %), and the lowest level – in Denmark (0,0 %, in 2018 – 0,1 %), Netherlands (0,8 %), Sweden (0,9 %), Slovak Republic (1,4 %) and Norway (2,4 %). In 2017 the share of tenants, rent at reduced price or free, significantly decreased in United Kingdom (on nearly 10 %) and in 2012 in Denmark (on more than 12 %).

The general analysis of dynamics of the share of housing owners and tenants in 2019 is shown in Figure 5.



**Figure 5. The analysis of dynamics of the share of housing owners and tenants in the European countries in 2019**

Source: developed by the author based on Distribution of population by tenure status, type of household and income group, Eurostat data, 2019.

The highest share of housing owners, no outstanding mortgage or housing loan, is in Lithuania, Latvia, Hungary, Poland, Slovak Republic, and Slovenia (more than 60 %), the lowest – in Switzerland and Netherlands (less than 10 %). The highest share of housing owners with mortgage or housing loan, is in Netherlands, Norway, and Sweden (more than 50 %), Denmark, Belgium, Luxembourg, and Finland (more than 40 %), the lowest – in Poland, Lithuania, Slovenia, and Greece (nearly 12 %). The highest share of tenants, rent at market price, is in Switzerland (more than 50 %), Germany, Denmark, and Sweden (more than 35 %), and the lowest – in Lithuania, Hungary, Poland and Estonia (less than 5 %). The highest share of tenants, rent at reduced price or free, is in Ireland, Slovenia, France, Finland and Austria (nearly 15-20 %), and the lowest – in Denmark, Netherlands and Sweden (less than 1 %), Slovak Republic and Norway (nearly 2 %).

## Conclusions

To sum up it should be said that in this research we made a deep cross-country investigation of housing market tendencies, especially in the sphere of housing finance and affordability based on statistical, comparative, structural, graphical, and analytical analysis. The dominant trends of housing market development, house financing and affordability were determined taking into account 25 European countries. The top countries with a highest / lowest level of social and affordable housing were identified. We can conclude that the highest nominal house price indices are in Hungary, Czech Republic, Portugal, Luxembourg, Latvia, Slovak Republic and Lithuania, and the lowest indices are in Italy, Finland, Greece, Switzerland, France, United Kingdom, Norway, and Denmark. The highest real house price indices are in Hungary, Portugal, Luxembourg, Czech Republic, Latvia, Germany, Slovak Republic and Netherlands, and the lowest indices are in Italy, Finland, Norway, Belgium, United Kingdom, France, Greece, Switzerland, and Sweden. The analysis shows that the highest rent prices are in Hungary, Lithuania, Estonia, Austria, Ireland, Poland, Slovenia, and Czech Republic, and the lowest – in Greece, France, Italy, Slovak Republic, and Switzerland. Moreover, in all 25 countries from the sample there was rising both real and nominal house prices in 2020 in comparison with 2019. There was rising of rent prices in 2020 in comparison with 2019 in the most countries from the sample too (except of Estonia, Greece, and Slovenia). Also, during investigated time we concluded the trend of rapid rising of rent prices in Estonia and Lithuania. Instead in Greece there is a downward trend.

Also, we analyzed and visualized the distribution of population by tenure status. The highest share of housing owners, no outstanding mortgage or housing loan, is in Lithuania, Latvia, Hungary, Poland, Slovak Republic, and Slovenia (more than 60 %), the lowest – in Switzerland and Netherlands (less than 10 %). The highest share of housing owners with mortgage or housing loan, is in Netherlands, Norway, and Sweden (more than 50 %), Denmark, Belgium, Luxembourg, and Finland (more than 40 %), the lowest – in Poland, Lithuania,

Slovenia, and Greece (nearly 12 %). The highest share of tenants, rent at market price, is in Switzerland (more than 50 %), Germany, Denmark, and Sweden (more than 35 %), and the lowest – in Lithuania, Hungary, Poland and Estonia (less than 5 %). The highest share of tenants, rent at reduced price or free, is in Ireland, Slovenia, France, Finland and Austria (nearly 15-20 %), and the lowest – in Denmark, Netherlands and Sweden (less than 1 %), Slovak Republic and Norway (nearly 2 %).

These results will be useful in further studies to confirm the impact of the structure of the housing market and its financing on the level of welfare, economic growth, and sustainable development.

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