**Housing affordability in the major Russian metropolitan areas in 1-2 quarter 2022**

The main purpose of this work was to determine the housing affordability ratio (Median Multiple) in the major Russian metropolitan areas in the 1 and 2 quarters of 2022, as well as identifying the main trends in housing affordability over the past few years, and identifying the possible direction of dynamics in the future.

In the present research were analyzed 17 major Russian metropolitan areas with a population of more than 1 million people (Chelyabinsk, Samara (Togliatti), Rostov-on-Don, Saratov, Yekaterinburg, Volgograd, Nizhny Novgorod, Voronezh, Krasnodar, Perm, Ufa, Novosibirsk, Krasnoyarsk, Vladivostok, Kazan, Moscow, Saint Petersburg). There was an assumption that housing affordability continued to decline in 2022, and that housing markets in Russia have entered a new cycle characterized by low fundamental housing affordability.

The authors completed the following tasks:

1. The necessary initial data for calculating the Median Multiple was collected: housing prices in municipalities in 17 metropolitan areas, wages in municipalities in 17 metropolitan areas, average per capita cash incomes and wages in the corresponding to 17 metropolitan areas regions of the Russian Federation in the period 1 - 2 quarter of 2022;

2. Median Multiple calculations were made in 17 metropolitan areas;

3. The obtained results of Median Multiple were analyzed and a comparison was made with the indicator of Median Multiple for previous years.

The main sources of information for the study were:

1. Official database of indicators of municipalities <https://rosstat.gov.ru/dbscripts/munst/>
2. Open data from aggregator of advertisements for the sale of real estate "Domofond" <https://www.domofond.ru/tseny-na-nedvizhimost>
3. Rosstat data on the average per capita cash income and median per capita cash income of the population in the regions of the Russian Federation <https://rosstat.gov.ru/storage/mediabank/Urov_10subg-nm.xlsx>
4. Rosstat data on the average monthly nominal wages of employees for a full range of organizations in the regions of the Russian Federation <https://rosstat.gov.ru/storage/mediabank/tab2-zpl_08.xlsx>

Analysis of indicators of housing affordability (including Median Multiple) is a widely used method for analyzing the level of socio-economic development of cities. When calculating Median Multiple, the availability of data published by official statistics in the context of municipalities is of great importance. Usually, all the necessary statistics are also not available in foreign countries, so the authors of various studies make different assumptions. For example, Median Multiple is calculated as part of the annual monitoring of housing affordability in agglomerations of different countries in Demographia[[1]](#footnote-1), as well as on the NUMBEO portal[[2]](#footnote-2).

The research methodology was consisted in calculating the Median Multiple in the 17 major Russian metropolitan areas and comparing it with the values of previous years. The study was conducted in 2022.

The Median Multiple reflects the ratio of the market value of housing and income of the population. This indicator is calculated as the ratio of the median price of an apartment on the market (that is, half of the transactions with apartments have a price below the median, and the other half - above) to the annual income of a family of 3 people. In other words, Median Multiple is the number of years that would take for a family of three people to save for an apartment purchase if all their income was saved. The values of this indicator are interpreted as follows: the lower the value of the Median Multiple, the higher the housing affordability.

Family income is calculated as multiplication of the median per capita income by 3 people. To calculate the median per capita income, data from the Database of Indicators of Municipalities of Rosstat is used. To estimate the median price of an apartment, data for real estate from open sources is used. Calculation of Median Multiple is carried out as follows:

1) The average monthly salary in the metropolitan area is calculated as a weighted average by the population of the municipalities that are part of the metropolitan area;

2) The ratio between the average per capita income in the regions and the average monthly wage in the regions corresponding to the metropolitan areas is calculated;

3) The ratio between median and average per capita incomes in the regions corresponding to the metropolitan areas is calculated;

4) The median income of the metropolitan areas is calculated: the average monthly wage in the metropolitan area from clause 1 is multiplied by the ratio of average per capita income and average monthly wage in the corresponding region from clause 2, and then multiplied by the ratio of median and average per capita income in the corresponding region from clause 3.

5) The housing affordability ratio is calculated as the quotient of the median cost of an apartment in the considered metropolitan area by the median income received in the metropolitan area per year for a family of 3 people.

At the time of the assessment, information to determine median house prices in each metropolitan area was limited. To estimate median housing prices, data on average prices per square meter was used in municipalities according to the Domofond portal[[3]](#footnote-3), not the actual median housing prices in the metropolitan area. To move from average prices to median average price per sq. m, it was multiplied by the average area of the median apartment for the period 2019 - 2021 in the corresponding metropolitan area, as well as on the average for the same period ratio between the actual median price and the multiplication of the average price per sq. m and the area of the median apartment in the corresponding metropolitan area. This methodology showed that over the retrospective period from 2019 to 2021 the deviation of the actual median prices from the calculated ones was within 0.5%, which confirms the consistency of the methodology used in assessing the Median Multiple in the 1 and 2 quarters of 2022.

The main results of the study showed:

1. The housing affordability in the major Russian metropolitan areas continues to decline, and in 2022, there is no metropolitan area, which housing market is characterized as a market where the purchase of housing is affordable.
2. The largest housing markets in Russia have entered a new cycle characterized by low fundamental housing affordability (rather than high affordability, as was the case in the previous 10 years), which, in the context of low income growth, inevitably leads to a reduction in housing consumption, regardless of current conditions of mortgage.
3. Further stimulation of demand using the preferential mortgage mechanism, which applied since 2020, will not provide a significant increase in demand for mortgages among the population.
4. The task of housing policy to promote the development of new housing alternatives available to citizens with low incomes, including housing construction cooperation, rental housing for commercial and non-commercial use, and individual housing construction.

1. http://www.demographia.com/ [↑](#footnote-ref-1)
2. https://www.numbeo.com/cost-of-living/ [↑](#footnote-ref-2)
3. In the 2 quarter of 2022 for the calculation was used only data for April–May 2022, since data for June 2022 was not published. Access via the link: <https://www.domofond.ru/nedvizhimost-tseny-goroda-prodazha> [↑](#footnote-ref-3)