

Rental Price Index



Svoboda & Williams + VŠE

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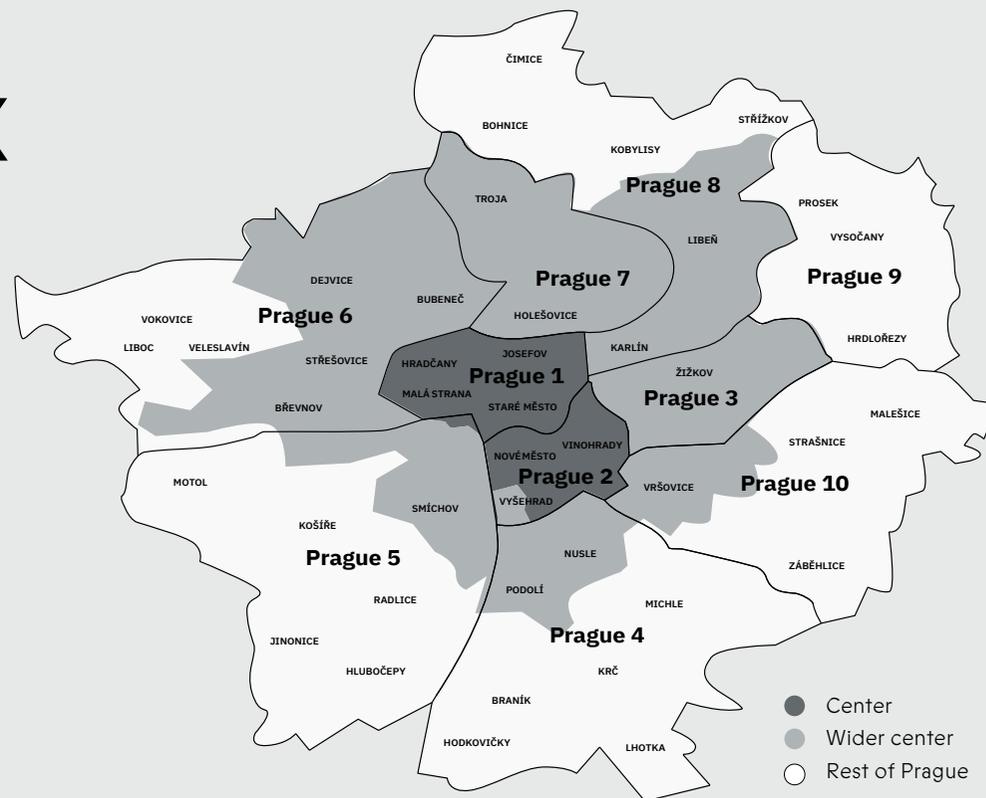
Achieved rents for premium apartments in Prague
H2 2018 (July-December)

CZK **31,963**/month

AVERAGE ACHIEVED RENTS IN THE 2nd HALF OF 2018

+2,1 %

YEAR-ON-YEAR CHANGE



	Center		Wider center		Rest of Prague	
1+KK to 2+KK	26,010,- Kč	+8,3 %	20,427,- Kč	+1,2 %	18,937,- Kč	+11 %
3+KK and 3+1	40,281,- Kč	+2,3 %	31,928,- Kč	+5,1 %	25,933,- Kč	-5,1 %
4+KK and larger	63,472,- Kč	+13,2 %	47,973,- Kč	-11,8 %	36,545,- Kč	-6,7 %

The development of achieved rental prices in Prague's premium segment

2015H1 = 100



The rental price index of S&W+VŠE monitors the changes in the average achieved rental price for an apartment in Prague from the portfolio of Svoboda & Williams compared to the same period in the previous year (July-December 2017). The compiled price index calculates the weighted average rental prices for each apartment category.

We also present the average achieved monthly rents in the monitored period (July-December 2018) for Prague and for each apartment category (incl. year-on-year changes).

What is the Rental Price Index by S&W + VŠE?

The Rental Price Index by S&W + VŠE is an analytical tool monitoring the growth of rental prices in the premium segment in Prague developed by the Svoboda & Williams real estate agency in cooperation with the Faculty of Informatics and Statistics of the University of Economics in Prague. The data is sourced from actually achieved rents of the flats that were listed by Svoboda & Williams. Annually it amounts to about 1150 properties in the territory of Prague 1 to Prague 10 with 1+kk to 6+1 layouts. Since properties exhibit a high level of heterogeneity, we apply a general price index to the development of their prices. It works similarly as the Consumer Price Index compiled by the Czech Statistical Office that measures inflation.

Why a simple comparison using the average price development is not enough

Development of an average rent does not reflect correctly a change of the price level. It is because the average rent is influenced not only by a change of the price level, but also by a change of the product structure. Let's give an example. In two monitored periods a sample of flats including luxury flats in the centre of Prague and cheaper flats in the broader centre have been rented. Prices of both the cheaper and the luxury flats in the second period remain equal, but more units of the more expensive real estate are sold. This will raise average rents, whereas the price index will remain the same. The general price index is based on the assumption of fixed presence of segments of rentals in the portfolio and it expresses a change of the price "cleaned" of a change of the structure of rentals. The index is calculated as the weighted average of segments where their representation in the portfolio (structure) in the selected fixed period is weighted.

Construction of the Rental Price Index by S&W + VŠE

Selection of representatives

The segmentation was performed so as the flats in the same group were as similar as possible and, on the other hand, so as the groups were as different as possible. At the same time, each group must contain a sufficient amount of data. Within the statistical analysis the impact of many factors on the level of rents was examined. These parameters included a specific layout of a flat, location, floor, the existence of a terrace, balcony or loggia, or an option to lease parking. The analysis proved that the level of rents was most affected by **the location** and **the layout** of a flat and therefore we performed the segmentation based on these two factors.

Based on our expertise and the data analysis of the level of rents, Prague was divided into three locations – center, wider center a rest of Prague (see the map above).

We selected **the layout** of a flat as the second factor. Based on the location and the layout we defined **9 segments** in total:

Definition of segments – relative representation

Segment	Relative representation in portfolio
center - 1+kk až 2+1	15%
center - 3+kk a 3+1	22%
center - 4+kk a větší	11%
wider center - 1+kk až 2+1	17%
wider center - 3+kk a 3+1	14%
wider center - 4+kk a větší	10%
rest of Prague - 1+kk až 2+1	4%
rest of Prague - 3+kk a 3+1	4%
rest of Prague - 4+kk a větší	2%

Flats with 6+kk layouts and larger are represented too sparsely and they are not included in the analysis.

Selection of weights

We assigned weights to the segments on the basis of the structure of the flats rented during the whole calendar year of 2016. The weight of the segment in the price index is calculated as a proportion of the total rent of the relevant segment to the total rent for all segments brokered in 2016.

In order for the index to be compiled on the basis of a sufficient number of observations, it is compiled on a **biannual basis**. In practice, biannual indexes are not as common as monthly or quarterly indexes, but they are by no means exceptional. They are, for example, used by the United States Department of Labor for the construction of the consumer price index.

We calculate two kinds of indexes:

A year-on-year index – monitors the rental price changes between the current half-year period and the corresponding half-year period in the previous year (e.g. H2 2018 vs. H2 2017)

A base index – monitors the rental price changes between the current period and the so-called base period. A stable period considered a long-term default should be selected as the base period, in our case it is H1 2015.