

COMPARISON OF PROPERTIES CURRENTLY OFFERED ON THE REAL ESTATE MARKET AND THEIR PROBLEMS

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Abstract

The current real estate market has experienced a major boom in recent years. The prices of real estate for housing have increased by several percentage points, and own housing is thus becoming less and less attainable for the general population. What has not disappeared from the market, however, are the problems that appear in housing units.

The work deals with the survey of the offered units, revealing certain shortcomings and opens the topic where friction arises between the participants.

Keywords

Real estate market, floorplan, developer, apartment, architecture

1 INTRODUCTION

All apartments offered on the real estate market are far from ideal. Most of them have their pitfalls, which for future users could be solved more appropriately and especially more functionally with better use of surfaces. However, at the present time, when real estate prices have climbed to the heights, the quality of buildings (not only those for housing) should be emphasized all the more. Among other things, the quality of housing is mentioned as a main part of the social environment, which, together with employment, income and lifestyle, is a predisposition to the health of the population [1]. Unfortunately, in practice we encounter solutions that are not suitable and bypass various parts of standards or decrees in order to build a larger number of small apartments or deal with complex territorial conditions. Today, it is already a well-known trend that smaller apartments are usually more advantageous for investors, as they offer the possibility of buying several smaller apartments for the price of one large one. At the same time, they have a greater probability of renting at least one of them and therefore more favourable financial profits. From an economic point of view, this solution is more than logical.

However, the increased and especially prevalent construction of small apartments causes, among other things, the absence of families living in cities and their relocation to smaller nearby towns or villages. A typical impact felt by every driver or city dweller is the overabundance of passenger cars in which there is mainly one passenger, i.e. the driver. Families are often subliminally forced to move to more distant parts of cities or outside the city due to the price of apartments, their unsuitable solutions, or the lack of suitable apartments. It is important to note that a higher price of real estate does not guarantee its quality for several reasons, for example insufficient information about the property and therefore different thinking, different human capital, subjective factors such as the proximity of friends and family or the city center vs. nature, different thinking of the future residents of the property and the future owner of the property (investor), etc. [2].

We cannot influence the price at which the properties are offered. However, it is possible to focus on their quality, properly usable area and orientation to the cardinal points, or the ratio of small apartments to larger housing units. CZSO 2016 data indicate that Czechs move 1.8 times in their lifetime on average, which results in a relatively significant rigidity of the housing market [3]. It follows that Czechs have a stronger relationship with housing. All the more, the properties offered should be characterized by a certain quality, as they significantly influence a person's health, including psychological and mental well-being.

The key to this part of the research is the comparison of similar housing units. Therefore, in the following text, we will focus on the problems of residences/apartments that are currently under construction. To the layman, they may seem functional at first glance, but upon closer inspection they hide some very unfortunate solutions.

2 METHODOLOGY

To assess the quality of real estate, you can work with several aspects - the technical component (total area of the dwelling, living area, number of living rooms, number of permanent residents, building material, energy demand of the dwelling, age of the dwelling, interior equipment, etc.). When purchasing real estate, however, the economic component is often a very important aspect. These indicators include: housing price, rent, investment profitability (annual yield), loan amount and housing operating costs. However, the greatest weight is given to the price of the dwelling, which is rapidly influenced by the transport accessibility within the residence. For this reason, large price differences can be observed between technically identical dwellings within the Czech Republic (difference in property prices, e.g. Brno vs. Ostrava vs. Ústí nad Labem) [4].

However, we are unable to objectively assess most of these aspects for buildings that have not yet been implemented. In other words, properties for which only the project is presented, but construction has not yet begun. At the moment, the properties are already for sale, while we do not know the exact specifications, such as construction material of partitions, exact energy consumption (difference between documentation vs. measured values after implementation), interior equipment – (e.g. quality of built-in kitchen and appliances, operating costs, etc.) These are the real estate properties we are focusing on here.

The research for this work is carried out by the author's survey of current properties that are offered on the real estate market. The spectrum is purposefully narrowed down to housing units – new buildings – in the cities of Brno and Prostějov. This is, among other things, a comparison of a larger city full of university students and residents who take advantage of job opportunities here. In contrast, the quality of the construction of housing units in a medium-sized city, but already much less burdened by the above-mentioned aspects, is evaluated.

The examined units are compared with valid standards and regulations and look for (the so-called "skeletons in the closet") potential shortcomings.

Subjectively – from the perspective of an architect in practice – their quality and impact on the lives of tenants and on the price of the property is evaluated. Each of the examined apartments contains an identical header/table with the main information about the apartment unit, such as its location, unit classification (apartment, studio, etc.), total property price, price per square meter, and more. These documents serve as material for evaluation according to the methodology, where the appropriate number of points is awarded for each parameter. The lower the point rating, the lower the quality of the unit. Among the evaluation parameters, indicators that can be objectively evaluated and that are known at the project stage are selected, namely:

- 1. Location in terms of transport (3 points: centre / wider centre, 2 points: outskirts of the city, 1 point: outside the city).
- 2. Classification of the unit (3 points: residential space, 1 point: non-residential space – e.g. studio or studio) – an important parameter that affects several others (e.g. orientation, daylighting, thermal conditions, etc.).
- 3. Orientation (1 point: north orientation – completely unsatisfactory, 2 points: north-east/north-west partly satisfactory, 3 points: other-fully satisfactory). The orientation of specific rooms to the given sides of the world is also evaluated.
- 4. Disposition (1 point: 1+kk or 1 + 1 = one bedroom flat, 2 points: 2-3kk or 2 + 1 or 3+1 = two or three bedroom flat, 3 points: 4+kk or 4 + 1 and more = four and more bedroom flat); higher point rating for units with more bedrooms are chosen due to better adaptation to different life situations (arrival of a new family member, separate place for work or other activities, etc.) and a reduction in the price per m².
- 5. Price per m² according to the average price in the given city – data from November 2023 (1 point: above average, 2 points: average $\pm 10,000$ CZK/m², 3 points: below average).
- 6. Suitability and disposition and its use (3 points: suitable, 2 points: average, 1 point: unsuitable).

The technical condition was not included in the parameters, since the expected result cannot be guaranteed in the design phase of the project (dependency on the real quality of execution and final choice of materials).

The maximum point gain is, therefore, 18 points, and the minimum 6 points.

To supplement the evaluation, graphic notation of classified problems and the addition of text is also used. The quality of the layout of the apartment is evaluated primarily based on the floor plans of the unit, which serve as a publicly accessible and common basis for all offered units. The article ends with a conclusion summarizing the most common problems that occur in new residential/multi-functional buildings and a discussion of what leads to these problems.

3 RESULTS

Pekárenský dvůr, Brno

Tab. 1 Basic parameters of the solved property – Pekárenský dvůr, Brno – One bedroom flat.

Parameters		Assessment
Location	Brno-Cejl, František House	3
Classification	Studio	1
Orientation	North	1
Project phase	construction	-
Disposition	One bedroom flat	1
Size	26.1 m ²	-
Floor	3 rd of 7	-
Price per m ²	CZK 135,250	1
Property price	CZK 3,530,000	-

REZIDENCE	
PEKÁRENSKÝ	
DVŮR	
F.4.01	
Apartmán 1+kk	
Budova	Františkov dům
Patro	4. NP
Orientace	S
1 Obývací pokoj	16,8 m ²
2 Chodba	4,5 m ²
3 Koupelna + WC	2,7 m ²
Plocha příček	0,6 m ²
Podlahová plocha bytu	24,6 m²
175 Sklep	1,5 m ²
Celková prodejní plocha	26,1 m²
Povinný příplatek	Sklep
Nepovinný příplatek	Parkovací stání
Energetický štítek budovy	B (usporná)

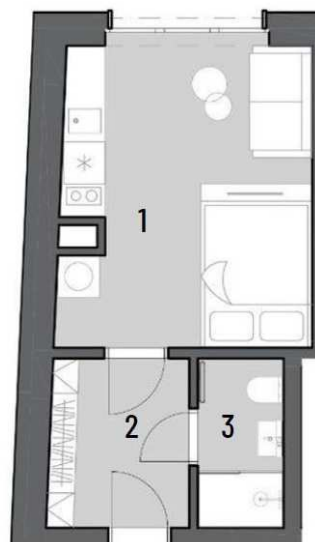


Fig. 1 Pekárenský dvůr – Apartment 1+kk [5].

The Pekárenský dvůr project, which is currently (2023) being implemented, is – as far as the philosophy of the project is concerned – very attractive and well thought out from many points of view. It consists of several apartment buildings connected by a public or semi-public space, which is handled professionally as part of the design. Even here, however, we find classic traps of contemporary times. Fig. 1 shows the floor plan of one of the one flat bedroom apartment units (Tab.1). One of the newly built houses contains a total of 66 residential units of size one flat bedroom oriented to the north. However, the units are called “Atelier” for the reason that they do not meet the minimum requirements for sunlight, which are specified by the standard (ČSN 73 0580-2 – Daylighting of buildings – Part 2: Daylighting of residential buildings). It stipulates that the level of daylight in living rooms is measured using the daylight factor. For living rooms, a value of at least 0.7% and an average value of the daylight factor of 0.9% are required [6].

From the floor plan, which includes the equipment of the apartment, it is more than clear that it will be sold as a regular one flat bedroom residential unit. However, this loop (?) layout is used exceedingly often in new buildings and is becoming a common “solution” of developers. Insufficient sunlight, however, has an impact on human health – psychological state, production of melatonin, serotonin, subsequently dopamine, etc. A human is overcome by fatigue, depression, low concentration. The maximum number of apartments and therefore higher profits are exchanged for human health.

When evaluating the parameter for layout quality, the unit gets 2 points (standard one flat bedroom). The total rating is 9 points.

Slovákova XII (Residence), Brno

Tab. 2 Basic parameters of the solved property – Slovákova XII Residence, Brno – Studio.

Parameters		Assessment
Location	Brno, Slovákova Street	3
Classification	Studio	1
Orientation	Northeast/northwest	2
Project phase	construction	-
Disposition	two bedrooms flat	2
Size	52.1 m ²	-
Floor	4 th of 9	-
Price per m ²	CZK 147,735	1
Property price	CZK 7,697,000	-

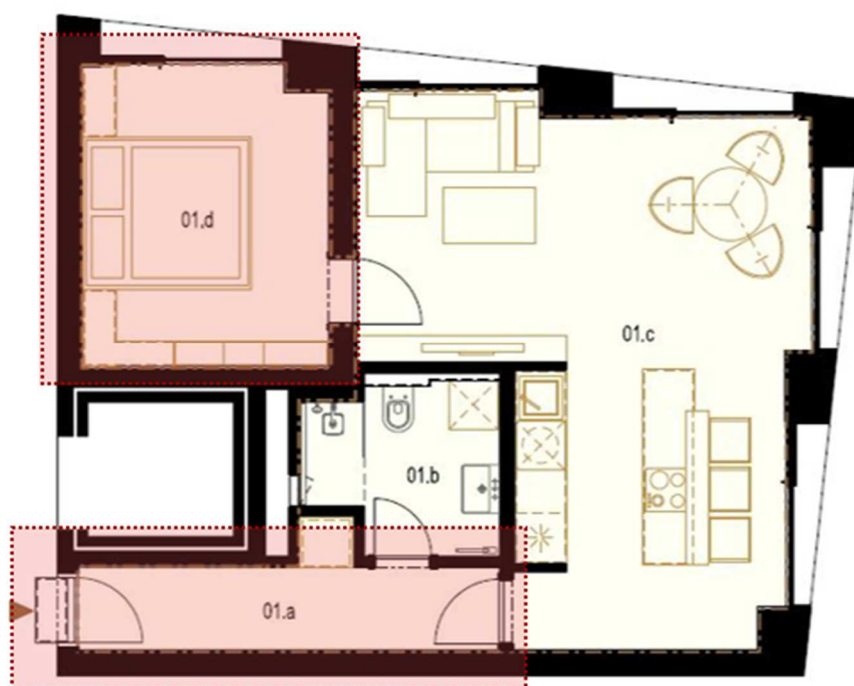


Fig. 2 Slovákova XII (Residence), Brno – Studio [7].

Slovákova XII Residence is an apartment building that is being built in the centre of Brno on Slovákova Street. This involves the demolition of the original corner building and its replacement with a new one. The location of the building is mainly perceived as attractive (downtown), but there are also challenges associated with it. Combining the sizes of the apartments with the correct orientation and usability is very problematic in terms of design, which is reflected in most apartment units.

In Fig. 2 you can see the available apartment two bedrooms flat. Here, we find several not well resolved places. The first is a long entrance hall, which, however, does not allow for storage space. With a size of approx. 5 square meters, we have a space for which the buyer will pay almost 740.000 CZK, but at the same time he cannot use it meaningfully. Only a comfortable placement of the bench/shoe rack would be very tight. Furthermore, the size of the bedroom is 11.4 m², which no longer meets the minimum normative requirements for the size of the bedroom, which indicate minimum (not optimal) dimensions (ČSN 73 430 Residential buildings) [8]. The bedroom should be prepared for placing a baby cot. A small thing that could have simply been handled better is the location of the sink. Last, but not least, the flat has a disadvantageous orientation (Tab.2).

When evaluating the parameter for layout quality, the unit gets 1 point. The total rating is 10 points.

Slovákova XII Residence, Brno

Tab. 3 Basic parameters of the solved property – Slovákova XII Residence, Brno – Studio.

Parameters		Assessment
Location	Brno, Slovákova Street	3
Classification	Flat	3
Orientation	Northwest/southeast	2
Project phase	construction	-
Disposition	Three bedrooms flat	3
Size	103.9 m ²	-
Floor	5 th of 9	-
Price per m ²	CZK 123,262	1
Property price	CZK 15,924,000	-



Fig. 3 Slovákova XII Residence, Brno-Flat 3+kk [9].

Another of the apartments being built on Slovákova Street in Brno has a layout of three bedrooms flat and a price of less than 16 million CZK (Tab.3). At first, we can see a corridor, which has the size of a children's room in square metres.. Its length is, according to Fig. 3, probably close to the 10-metre mark, which is less than half the length of a swimming pool. The impossibility of daylight supply does not improve its effect. But the children's room has a very similar size. If the family has 2 children, the room is rather insufficient, as it would be necessary to find many compromises (e. g. a dining table, small wardrobes, etc.). It is understandable that apartments with such rooms were created in block of flats, which were built very quickly in the 1950s and 1960s due to the increased need to accommodate as many residents as possible. However, we should get a more suitable solution for a new building with a price of almost 16 million CZK.

When evaluating the parameter for layout quality, the unit gets 1 point. The total rating is 13 points.

Slovákov's residence, Brno

Tab. 4 Basic parameters of the solved property – Slovákova XII Residence, Brno – Studio.

Parameters		Assessment
Location	Brno-Slovákova Street	3
Classification	Studio	1
Orientation	Northwest/northeast	2
Project phase	construction	-
Disposition	Two bedrooms flat	2
Size	49.2 m ²	-
Floor	5 th of 9	-
Price per m ²	CZK 155,853	1
	CZK 7,668,000	-

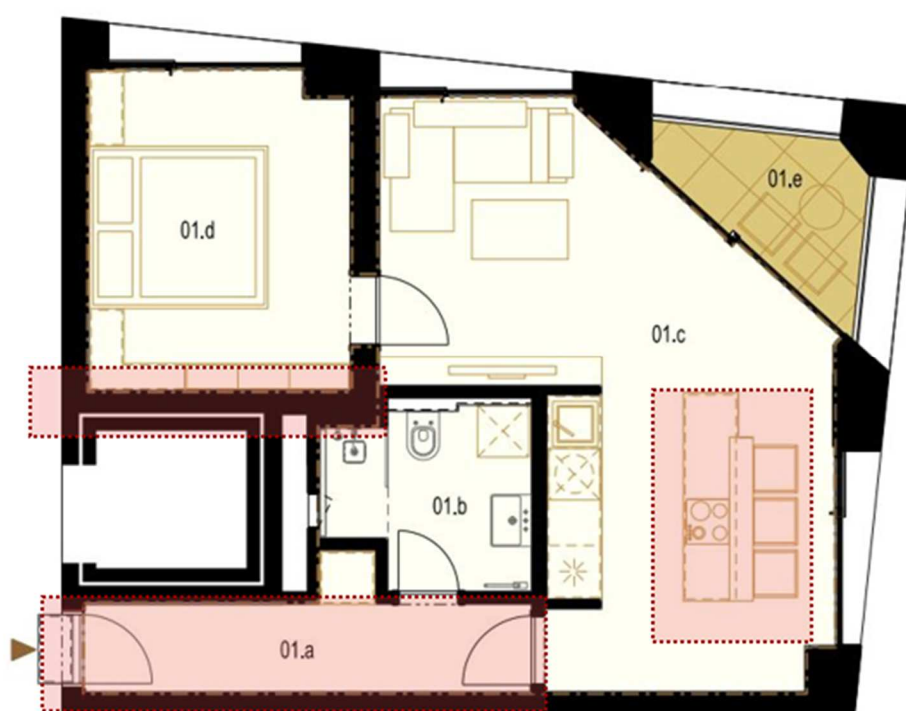


Fig. 4 Slovákova XII Residence, Brno – Studio, 2+kk [10].

The last example of the apartments of Slovákova XII Residence is a two bedrooms flat (sold as non-residential space) (Tab.4). It is practically identical to the flat, see Fig. 4 and Fig. 2. The unusable corridor, the small bedroom (located next to the elevator shaft, where there is a risk of insufficient acoustic separation), etc. are repeated. However, the difference is the presence of a triangular balcony, which is certainly a welcome element. However, its presence does not allow enough space for the dining table. The apartment contains only bar seating, which does not accommodate more family members (let alone their older members) or generally greatly restricts the way of dining. It therefore becomes unsatisfactory for family or friendly gatherings.

When evaluating the parameter for layout quality, the unit gets 1 point. The total rating is 10 points.

Residence near the Park, Prostějov

Tab. 5 Basic parameters of the solved property – Residence near the Park, Prostějov.

Parameters		Assessment
Location	Prostějov, Okružní Street	2
Classification	Flat	3
Orientation	North/west	3
Project phase	Construction	-
Disposition	Four bedrooms flat	3
Size	107 m ²	-
Floor	3 rd of 5	-
Price per m ²	CZK 65,953	1
Property price	CZK 7,090,000	-



Fig. 5 Residence near the Park, Prostějov – Flat, four bedrooms flat [11].



Fig. 6 Park in Prostějov – place of residence [12].

The residence near the Park in Prostějov is a project that sounds idyllic at first glance. In the description of the project, we find slogans such as “Houses will use the potential of an incredible park”, “carefully designed layout”, “fantastic view of the park” (Fig. 6). Due to the location of a total of 4 apartment buildings, however, only a quarter of the residents can enjoy a direct view of the park.

Next, we can dwell on the key term – park. Part of the work of the developers was the construction of a green area instead of the existing field. The area has been modified and is supplemented with a pond and paved areas. The modification is certainly more desirable for new residents than the previous field. However, due to the planting of only a few small trees, the park is still quite far from deserving the name. . However, this part of the project can be improved or continuously supplemented in the future.

If we look at the availability of the selected four bedrooms apartment (Tab.5), (Fig. 5), we can notice several shortcomings. The most alarming thing is the placement of 2 children’s rooms on the north side. It is important to remember that children spend a lot of time in the room (unlike adults). Here they write assignments, play, sleep, develop, spend time with friends. And all this without a ray of daylight. Unfortunately, this aspect is noticeable for most residents only after some time of use. There is also a problem with the classification of the apartment – a room without sunlight cannot be considered residential. The customer mistakenly thinks that he is buying a four bedrooms apartment, but in fact he is buying a two bedrooms apartment with two additional rooms suitable for example for a dressing room.

When evaluating the parameter for layout quality, the unit gets 2 point. The total rating is 14 points.

Residence near the Park, Prostějov

Tab. 6 Basic parameters of the solved property –Residence near the Park, Prostějov.

Parameters		Assessment
Location	Prostějov, Okružní Street	2
Classification	Flat	3
Orientation	North/east	3
Project phase	Construction	-
Disposition	Two bedrooms flat	2
Size	58.25 m ²	-
Floor	3 rd of 5	-
Price per m²	CZK 78,800	1
Property price	CZK 4,590,000	-



Fig. 7 Residence near the Park, Prostějov – Flat, three bedrooms flat [13].

Another of the layouts of the apartments Residence near Park repeats the problem with the apartment being exposed to sunlight (Fig. 7). The living room with kitchen and dining room, where residents spend most of their time, has only one window facing north and one facing east. If we spend most of our time at home in the morning during the summer, we may narrowly avoid insufficient sunlight. However, we will not see the sun’s rays in the afternoon, nor in the morning in the winter. Therefore, for 80% of the day, the natural lighting of the most used space is insufficient.

When evaluating the parameter for layout quality, the unit gets 2 point. The total rating is 13 points.

Tab. 7 Results of assessed flats.

Results	
Residence near the Park, Prostějov, four bedrooms flat	14 points (77%)
Residence near the Park, Prostějov, two bedrooms flat	13 points (72%)
Slovákova XII Residence, Brno, three bedrooms flat	13 points (72%)
Slovákova XII Residence, Brno, two bedrooms flat	10 points (55%)
Slovákova XII Residence, Brno, studio	10 points (55%)
Slovákova XII Residence, Brno, studio	9 points (50%)

4 DISCUSSION

According to the value parameters, properties in the smaller of the two cities, in Prostějov, performed best (Tab.7). The essential parameters are primarily the classification (apartment vs. studio, or studio), which is linked to its orientation. The supply of daylight has a fundamental effect on human health, psychological well-being and therefore the overall quality of life. An important evaluation parameter is also the layout and its appropriate solution, which is one of the basic elements that we only get to know when we actually live in the given property. Even from the initial schemes of the functioning of the apartment and their approximate dimensions, we can notice many negative aspects. According to surveys, the most common of them is insufficient adaptation to the arrival of a new family member (child, elderly parent), arrival of larger number of visitors, lack of storage space and, at the same time, an excess of unusable areas.

Jan Baxa also tried to evaluate the quality of housing, whose evaluation method was carried out using the Delphi method, which allowed individual evaluation parameters to be ranked according to their importance [14]. Selected experts on the given issue answered the author's questions, which can be evaluated quantitatively, and the experts had to justify their answers. Over time, the experts were familiarized with the answers of the other interviewed experts and were asked the same questions again. The goal was to get the agreement of various experts on one outcome of the housing quality assessment. The results showed differences between experts in what they consider to be the most important aspect of quality housing. While experts from the field of development considered the locational component of housing quality to be key (e.g. countryside vs. city, outskirts or center, etc.), experts from the consulting field put the greatest weight on the socio-cultural and technical component (which experts from the development field ranked lowest). Despite all efforts, the concept of quality housing cannot be objectified, as the prioritized parameters are obviously different for each person. However, if we take into account that a group with a similar interest in a location in the center and a better technical condition will be interested in a new building in the city center, these buyers will probably gravitate for the same properties offered at the same time. Here, the buyer already expects compliance with standards, technical norms and decrees. Due to less frequent moving in the Czech Republic, the buyer expects some adaptation to changes. Therefore, it is one of the important factors that buyers should consider and developers should be prepared for.

The selected investigated properties clearly indicate the most common problems in the construction of housing units. The first of them is the less suitable orientation and, often related to it, insufficient sunlight of the apartment unit or living room. It is important to realize that when designing a new property, you have to deal especially with the territorial conditions and the restrictions they have. The given plot does not always have a suitable orientation or size. At the same time, if the area according to the spatial plan (which deals with the future shape of areas on the territory of the municipality) [15] of the city in question is intended for housing, the investor may not have much to choose from.

In the built-up area of the city or municipality, the developer either builds a building with unsuitable apartments or disrupts the character of the development (e.g. by placing the building different from the surroundings, which in 99% of cases is not permitted by the relevant state administration authorities). In practice, according to the experience of architects and designers, we can get into a situation where one official decides whether a given object will have several poorly lit apartments (in the studio's documentation), thereby affecting the lives of tens to hundreds of buyers. However, a great help can be the creative hand of an expert who will get the most out of the given place. But it must go hand in hand with the investor, who often does not want to lose even a single square meter, which is very important to him from an economic point of view. This brings us back to the beginning of the entire problematic circle.

Another common problem is the size of living rooms. A typical example is the realization of a bedroom as a full-fledged room, which, however, is insufficient in size. In terms of furniture, we often see a smaller bed placed directly against the wall (access from one side only and absence of a bedside table) and a small wardrobe. However, if a small child is born to the family, a cot must also be placed. And if the location is successful (while maintaining

the basic furniture), there is practically no extra centimeters of free space. On the other hand, some apartments (see Slovákova XII Residence) have a large area of corridors that cannot be used in any way. The result is an area for approx. 740,000 CZK (sale price), which is used only for passage (practically without the possibility of storing ordinary things). So we are dealing with very poorly proportioned square meters for the given rooms. But how often is it purely a design flaw?

For a designer or architect, the client's specifications are often the most limiting, as they clearly specify how many apartments and in what layouts the building should contain. That is why sometimes the end result is one of the most adequate solution variants while simultaneously complying with the assignment. But would it not sometimes hurt to really convince the client that they can significantly influence the lives of their tenants/buyers? Unfortunately, in practice, we will encounter rejection in most cases, as the decision is made from an economic point of view. And we find ourselves in a vicious circle. So, what can we as creators and at the same time the right hand of the client do to improve this situation? Is there any possibility that decrees and standards work against us, or on the contrary, thanks to them, do we break barriers that influence creativity?

5 CONCLUSION

From the author's research and the presented shortcomings of the selected housing units, it appears that the market is flooded with inappropriately designed new buildings. There are ways to bypass essential parameters, such as insufficient sunlight in apartments or living rooms. In several units, there is an alarming absence of storage space, illogical use of areas, or impracticality during important events in the life of the resident of the housing unit. If we take into account that in order to own such a non-functional apartment, the buyer commits to bank payments for up to 30 years, which can significantly affect the quality of life at an average salary, this is not an unimportant topic. At the same time, many young people perceive owning an apartment or a house as proof of success [16].

Plots are maximized to the last square meter, although in many cases, the opposite would help the quality of housing. However, the economic side of developers always wins and people buy these apartments – especially investors. They often target small apartments that they can easily rent. If there is a buyer, there is no need to change strategies that work.

Living in rooms with low-quality natural lighting fundamentally affects a person's health, leading to a poor production of melatonin, serotonin, dopamine, etc., and resulting in various diseases [17] but also causing constant fatigue, depression and poor-quality sleep. Natural lighting is clearly not the only character that affects our health. However, spending most of our time in our poorly-lit homes (home office, parental leave, normal days) significantly contributes to the risk of developing health issues.

It is necessary to raise the quality of living in apartments built not only by developers, but also by educating the public/buyers about minimum standards and critical thinking. Anyone who invests a large amount of money or commits to paying off a mortgage for up to 30 years should be able to live in a quality space without constant compromises. However, normative documents and decrees, parts of which can currently be bypassed, inherently influence the proposal. Yet, it is very difficult to view all projects equally. The insufficient capacities of experts in the official sphere complicate the construction of well-usable and high-quality buildings. Nevertheless, it is very likely that we sometimes find it difficult to break out of this vicious circle.

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