
Spatial Challenges of One-Room Apartments in Poland: An Analysis Based on Selected Contemporary Polish Projects

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Abstract:

Purpose: The paper examines the functional layouts of one-room apartments in Poland, based on contemporary residential developments.

Design/Methodology/Approach: This study analyzes five examples of one-room apartments in modern residential developments in Poland, completed in 2024. These properties differ in location, apartment size, and architectural concepts, providing a diverse basis for assessing spatial challenges related to this segment of the housing market.

Findings: The study identifies the need for flexible design solutions that enhance residents' living conditions and allow spaces to be adapted to changing user needs.

Practical Implications: The growing popularity of such apartments is driven by demographic changes, including an increase in single-person households.

Originality/Value: Although attractive to individuals living alone, students, and seniors, these apartments present a range of limitations that may reduce comfort and functionality.

Keywords: Apartment, dwelling, multi-family housing, studio apartment, functional layout, housing quality.

JEL Codes: R21, R31, R38.

Paper type: Research article.

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1. Introduction

In the 21st century, studio apartments have grown in popularity in Poland, reflecting the changing needs of society and the dynamics of the real estate market. Contemporary multifamily architecture, shaped by developer-driven conditions, favours the dominance of one- and two-room apartments, which, due to their investment attractiveness, are quickly purchased.

In recent years, attention has been drawn to the lowering of functional standards in multifamily housing architecture, such as the prevalence of corridor layouts over stairwell-based ones - driven primarily by financial gain - which often results in functional challenges.

The history of studio apartments in Poland shows that they have played an important role in alleviating housing crises since the interwar period, a trend that continued after World War II, when mass urbanisation demanded rapid reconstruction and the creation of economical housing for low-income individuals. The political transformation after 1989 and rising real estate prices made studio apartments increasingly important as financially accessible housing, especially in large cities, where the efficient use of space became a priority.

The aim of the research presented is to analyse the spatial challenges associated with designing studio apartments in Poland, with particular emphasis on their functionality, user comfort, and adaptation to the expectations of contemporary residents, which will allow for an assessment of their impact on residents' quality of life.

2. Selected Economic and Social Aspects

The market for studio apartments in Poland is experiencing dynamic growth, driven by changing social needs and demographic structures. An increase in the share of studio apartments in the overall balance of new housing developments can be observed. In 2017, single-person households accounted for 23.5% of all households in Poland. This was the result of socio-economic changes (Słaby, 2019, p. 93).

By 2021, approximately 30% of Polish households were made up of single individuals. This phenomenon is the result of both an ageing population and a growing number of people choosing to live alone, especially in cities. Consequently, studio apartments - offering limited space and therefore lower prices - are often a preferred choice.

2.1 Increased Demand for Rentals

At the stage of establishing a household, renting becomes the dominant option. Moreover, young people more often choose market-based rentals, with the transition

to owning a home typically associated with having children or getting married (Matel, 2021, p. 2). One- and two-room apartments in Poland are particularly popular among young people, students, and workers migrating to cities for employment, due to their lower rental costs compared to larger units and greater availability.

Increasing job mobility, internal and international migration, and difficulties accessing mortgage loans contribute to rising demand for rental housing, including studio apartments. For this reason, the rental market is rapidly expanding, especially in major urban agglomerations such as Warsaw, Wrocław, Łódź, Szczecin, and Gdańsk.

2.2 Price Trends

According to the Central Statistical Office of Poland (GUS), the average cost of building 1 m² of usable floor space in a residential building completed in 2023 was PLN 5,719 (GUS, 2024). Compared to 2022, when the average cost was PLN 5,456, this represents an increase of approximately 4.8%. This upward trend has continued for several years and indicates the sustained high activity of the housing market in Poland, despite economic slowdown and rising mortgage costs.

The increasing costs borne by investors are reflected in apartment prices, with annual construction cost increases translating into higher purchase prices for buyers. GUS data regarding the cost per square metre applies only to newly completed residential buildings and does not directly reflect prices on the secondary market, where price dynamics may differ.

2.3 Investment Attractiveness

Due to their small size, studio apartments often feature functional and well-considered layouts. Developers are increasingly investing in innovative design solutions that allow for the efficient use of available space, such as sliding partition walls, multifunctional furniture, or the integration of kitchens with living rooms. There is also growing interest in units under 30 m², which are cheaper to purchase but require high-quality interior design.

2.4 Studio Apartments for Rent and Developer Investment

In Poland, limited housing availability has led to the growth of the private rental market. This may impact the real estate market and alter the housing profile of Polish citizens (Kowalczyk and Lewandowska, 2021). Studio apartments represent an attractive segment of the real estate market for investors. Lower purchase costs (compared to larger apartments) and ease of renting in academic cities and employment hubs make them a popular choice for real estate investors. The growing

demand for such units offers opportunities for stable rental income, especially when located in desirable areas.

These units are particularly appealing to investors purchasing properties for rental purposes, which makes them sell the fastest and ensures the highest liquidity. In order to maximise building density ratios, developers increasingly employ corridor layouts instead of traditional stairwell systems. This approach reduces the size of shared areas such as staircases and lifts, thereby cutting construction costs and increasing the usable floor area (PUM).

However, corridor layouts often lead to a large number of single-aspect apartments, significantly limiting access to natural light and ventilation. Stairwell-based layouts typically feature dual-aspect apartments, offering better space functionality and a higher standard of living. These practices lower the quality of residential space - extended corridors, fewer vertical communication cores, and inflexible apartment layouts make developer profit the overriding goal of the design process.

3. Technical Requirements for Studio Apartments

The analysis of technical regulations for buildings and their positioning in the context of studio apartments in multifamily housing in Poland must take into account a number of detailed legal requirements, primarily found in the Regulation of 2002. According to this regulation, a studio apartment in multifamily housing must meet several requirements to ensure adequate comfort for the user.

The minimum usable floor area for a studio apartment in multifamily housing is 25 m² (Regulation 2002, § 94). This rule is intended to ensure sufficient space for functional arrangement. This area must include not only the living room but also functional zones such as a kitchen, bathroom, and storage space. Another important requirement is ceiling height, which must be at least 2.5 metres for living spaces (Regulation 2002, § 72).

Regarding natural lighting, building regulations require that residential rooms, including studio apartments, must have access to daylight. The ratio of window area (measured by frame opening) to floor area must be at least 1:8 (Regulation 2002, § 57), ensuring adequate daylight. Rooms intended for collective occupancy by children in nurseries, preschools, and schools (except for laboratories) must receive at least 3 hours of sunlight between 8:00 and 16:00 on equinox days. For residential rooms, this requirement applies between 7:00 and 17:00 (Regulation 2002, § 60).

The ergonomics of residential space are governed by PN-EN standards. In kitchens, the space between work surfaces should be at least 120 cm. The refrigerator, sink, and stove should form a work triangle with distances between 120-210 cm. The height of countertops should be 85-95 cm, and wall cabinets should be mounted 50-60 cm above the counter (Standard, 2021). Bathrooms must be at least 2.5 m².

The space in front of the sink should be at least 70 cm, and in front of the bathtub or shower - 90 cm. The sink should be mounted at 85-95 cm, and the toilet at 40 cm from the floor (Standard, 2020a). A bedroom for one person requires a minimum of 6 m², and for two - 9 m². A double bed must have at least 70 cm of free space on each side. Bed height should be 40-50 cm. The space between a couch and a coffee table should be 45-60 cm. Hallways and circulation zones should be 90-120 cm wide (Standard, 2020b). In multi-room apartments, the living room should be at least 16 m², whilst in studio apartments - 18 m².

Multifamily housing must also comply with accessibility regulations. New buildings must accommodate people with limited mobility, including ramps, lifts, and appropriately designed entrances (Regulation 2002, § 55).

Studies on studio apartments reveal a range of spatial and functional challenges that limit their usability. A key concern reported by residents is the presence of small, cramped rooms and limited design flexibility, which results in a relatively low level of user comfort (Kucharczyk-Brus, 2021, p. 15). In theory, Polish legal and technical regulations ensure adequate quality of residential space by setting requirements for area, ventilation, acoustics, sunlight, and accessibility, guaranteeing minimum standards of comfort and privacy.

However, the problems seen in studio apartment designs often result from factors such as over-occupancy, partitioning with lightweight or furniture-based walls that create excessively small zones, unconsidered interior layouts, or excessive accumulation of personal belongings and furniture that restrict movement.

4. Historical Background

The modern multi-family building, in a form similar to the present one, developed in the second half of the 19th century ('Swierczyński and Tulkowska-Słyk, 2020, p. 5). The history of one-room apartments in Poland reflects the changing needs of society, resulting from the difficult socio-economic conditions of the 20th century. Studio apartments played a key role in alleviating housing crises, particularly after World War I and World War II. They were a response to the massive destruction of housing infrastructure and the urgent needs of the poorest social classes, who could not afford larger apartments (Korzeniewski, 2009, p. 71).

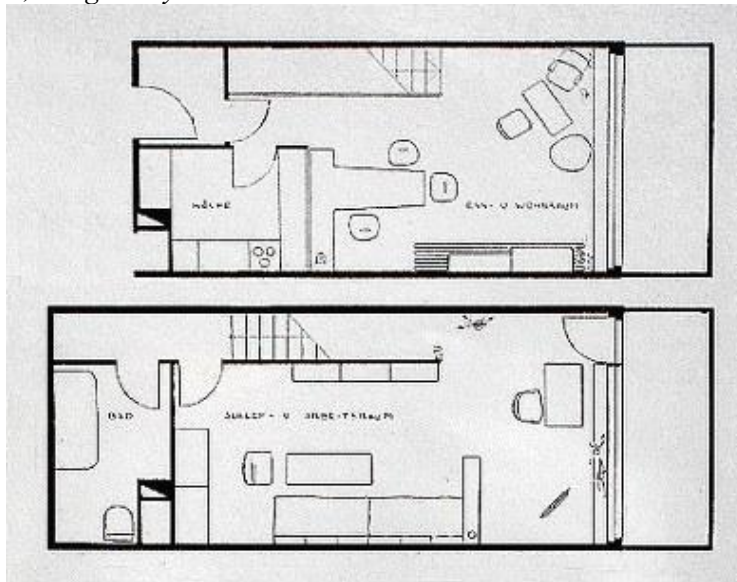
4.1 Interwar Period

According to the Polish Society for Housing Reform, after World War I the focus should be on building the most socially needed apartments, i.e. one- and two-room flats, with minimal space and a rational spatial layout (Tołwiński, 1939, p. 2). During the interwar period, one-room apartments were designed as minimal yet functional solutions, adapted to the basic hygiene standards of that time (Figure 1).

The latter often lacked space, comfort, and access to external areas, with apartments as small as 38 m² intended for large families. A typical apartment in Le Corbusier's building had 98 m², including a four-room layout, where the children's room measured 15 m², and a spacious living room was 25 m².

The apartments were equipped with loggias, and above the living room, the parents' bedroom was designed as a mezzanine (Figure 2). The layout of the rooms promoted both functionality and comfort. His idea was not only to provide the necessary living space but also to create rationally organised environments with maximum use of natural light and proper air circulation. Le Corbusier also advocated for dividing space into different zones (e.g., night and day zones), which later influenced housing norms and apartment layouts.

Figure 2. Floor plan of the smallest apartment in the *Unité d'Habitation* building - Berlin, 1958, designed by Le Corbusier.



Source: *Corbusier Wohnmaschine*.

The Neue Bauen movement promoted modern construction, aesthetic, and material solutions, focusing on functionality and simplicity of form. In Poland, these ideas were adapted by architects who, in cooperative housing projects, aimed to design apartments with minimal but sufficient space, emphasising efficient space utilisation.

Like Le Corbusier's approach, Neue Bauen sought to ensure the minimum necessary space whilst maintaining hygiene and ergonomic standards. Apartments designed in this style often provided about 30 m² per person, ensuring proper air circulation and access to daylight. The goal was to make the space as functional as possible whilst keeping construction costs low and maintenance manageable.

4.2 Post-World War II

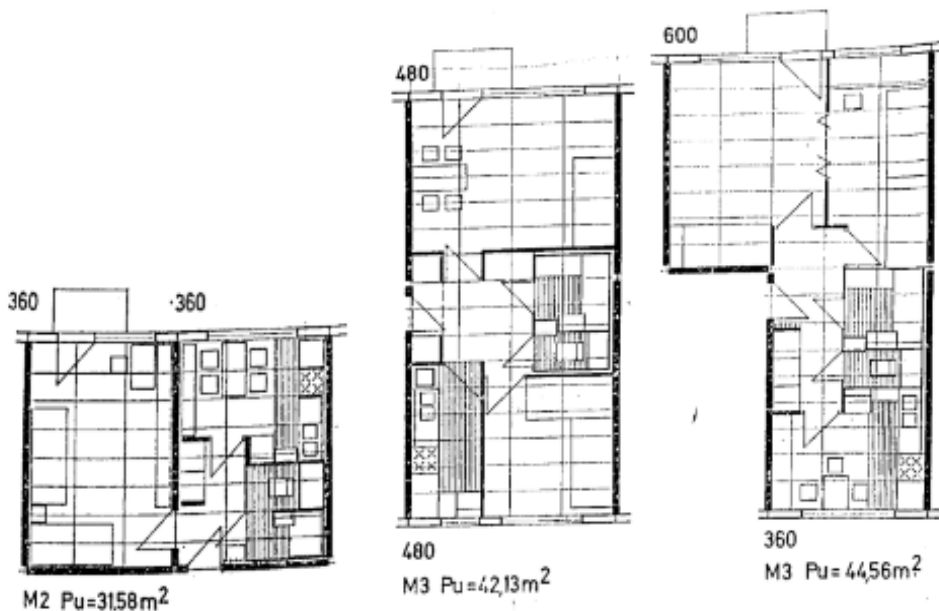
After World War II, Poland faced a severe housing shortage. The country's reconstruction, along with mass migrations and demographic shifts, increased the importance of one-room apartments within social rental housing. The 1947 guidelines from the Ministry of Reconstruction set a minimum spatial standard of 11 m² per person, which encouraged the development of small, functional apartments.

These units were designed for single individuals, young families, and workers migrating in search of employment. In 1959 and 1974, housing norms were introduced to define minimum space standards for various types of apartments. The 1959 regulations set the usable area for one-room apartments (M-1) between 17 and 20 m², whilst the 1974 revision increased it to 25-28 m² (Korzeniewski, 1974, p. 62).

These changes aimed to improve housing conditions and adapt to evolving societal needs. However, in practice, meeting these standards was challenging, often resulting in low-quality apartments characterised by inadequate natural lighting and poor thermal insulation.

During the Polish People's Republic (PRL) era, standardised housing systems based on prefabrication were implemented. Systems such as W-70 (Figure 3), the Szczeciński system, and SBO dictated construction and functional standards, thereby determining apartment layouts and room sizes (Bielobradek *et al.*, 1974).

Figure 3. Three examples of one- and two-room apartments in the W-70 system.



Source: Bielobradek, A. *et al.*, 1974, p. 32.

The political and economic transformation after 1989 brought changes to the real estate market. Economic liberalisation, urbanisation growth, and the development of the private sector influenced the evolution of one-room apartments. Studios became a popular choice for lower-income individuals, students, singles, and young families. In the 1990s, new spatial norms introduced by Social Housing Associations (Towarzystwa Budownictwa Społecznego) recognised studio apartments as an affordable and functional housing option.

Today, one-room apartments play a key role in meeting the needs of modern society, especially in large cities where financial accessibility and mobility are priorities. Contemporary studios, though small, feature modern architectural solutions that maximise space efficiency. Rising property prices and changing lifestyles make studio apartments an increasingly desirable alternative to larger units.

The evolution of these apartments - from minimalistic living spaces to modern and comfortable homes - illustrates their significance in addressing the challenges of contemporary urbanisation and housing economics.

5. Data and Methods

This study analyses five examples of one-room apartments in modern residential developments in Poland, completed in 2024. These properties differ in location, apartment size, and architectural concepts, providing a diverse assessment of spatial challenges related to this segment of the housing market. The analysed developments are:

- A. Emilii Plater 7, Szczecin, designed by MELLON Architekci, with an apartment size of 26.41 m².*
- B. Emilii Plater 7, Szczecin, designed by MELLON Architekci, with an apartment size of 40.51 m².*
- C. 19th District, Warsaw, designed by JEMS Architekci, with an apartment size of 38.89 m².*
- D. Lelewela 9, Wrocław, designed by Dzewoski, Łukaszewicz Architekci, with an apartment size of 26.91 m².*
- E. Pogonowskiego 73, Łódź, designed by KIWI Architektura, with an apartment size of 28.84 m².*

The analysis involved evaluating the size and layout of the apartments, considering criteria such as space rationalisation and optimisation, division into day and night zones, access to natural light, proportions of main rooms, and design flexibility. The research allowed for the identification of common challenges and differences in approaches to designing one-room apartments based on location and architectural vision. The aim was to understand how contemporary projects meet users' needs, considering both spatial limitations and market demands.

For each analysed development, two tables are presented: the first contains general project data, and the second presents statistical data on the apartment structure. The structure table shows the number of apartments by room count, total area of apartments by room count, percentage share in total apartment count, percentage share in total usable area, and the average usable area of apartments by room count.

6. Research

6.1 Analysis of Apartments A and B at 7 Emilii Plater Street in Szczecin

The building is located in a district characterised by industrial development and block-style housing from the early 20th century, within the block bordered by Emilii Plater and Miedziana streets. The designed structure includes four stairwells, paired and connected by corridors to ensure appropriate evacuation route lengths.

The apartment layout is dominated by two-room units, which make up 56.5% of all apartments, along with a significant number of one-room units - 33.5%. Three- and four-room apartments constitute 10% of the total. Due to the large number of units, the building serves as a highly illustrative example of the typical apartment structure found in the current market for developer-built housing estates, with a predominance of small flats intended for singles and couples.

Table 1. Project data for Emilii Plater 7

Project name	Emilii Plater 7
Architect	MELLON Architekci
Location	Szczecin, Drzetowo Grabowo
Number of floors	11
Number of apartments	424
Number of staircases	4
Total usable floor area	19,469 m ²
Date of completion	2024
Floor area of analysed apartments	A: 26.41 m ² , B: 40.44 m ²

Source: Author's own elaboration.

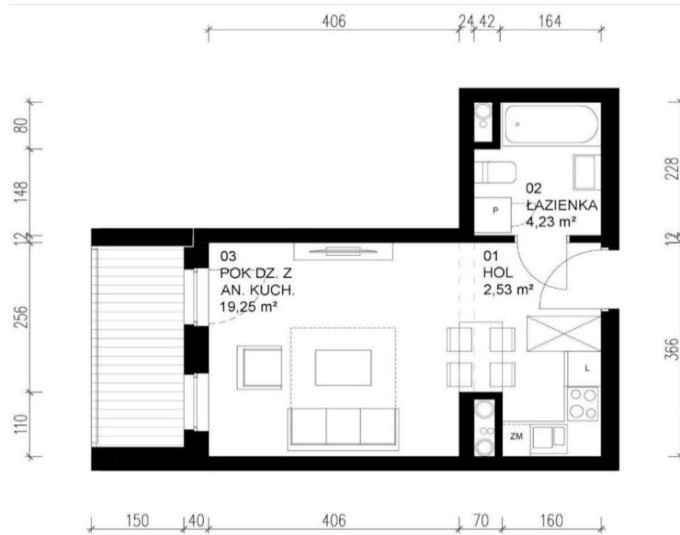
Table 2. Apartment structure data for Emilii Plater 7

No. of rooms	No. of apartments	Area (m ²)	% by number	% by area	Avg. area (m ²)
1	142	5,887	33.5	30	41
2	238	10,710	56.5	55	45

3	37	2,295	8.5	12	62
4	7	577	1.5	3	82

Source: Author's own elaboration.

Figure 4. Layout of the smallest one-room apartment in the Emilii Plater 7 investment.



Source: Author, based on materials from the Mellon Architekci website.

Apartment A (Figure 4) is the smallest one-room unit in the building, located on the ground floor, facing the inner courtyard. The functional layout of the apartment consists of three rooms. Upon entering the unit, the user enters a hall of 2.53 m², designed with space for a wardrobe. The central part of the apartment consists of a living room combined with a kitchenette, which has access to a loggia of 2.5 m². The living room space is visually separated from the kitchen area by the utility column and a dining table, effectively zoning the functions.

Despite the clear zoning, the kitchen features a limited number of countertops. The placement of the equipment results in insufficient space between items, such as 100 cm between the fridge and the table, or 40 cm between the wardrobe and the table. Additionally, the potential lack of natural light behind the ventilation column could negatively affect the comfort of use.

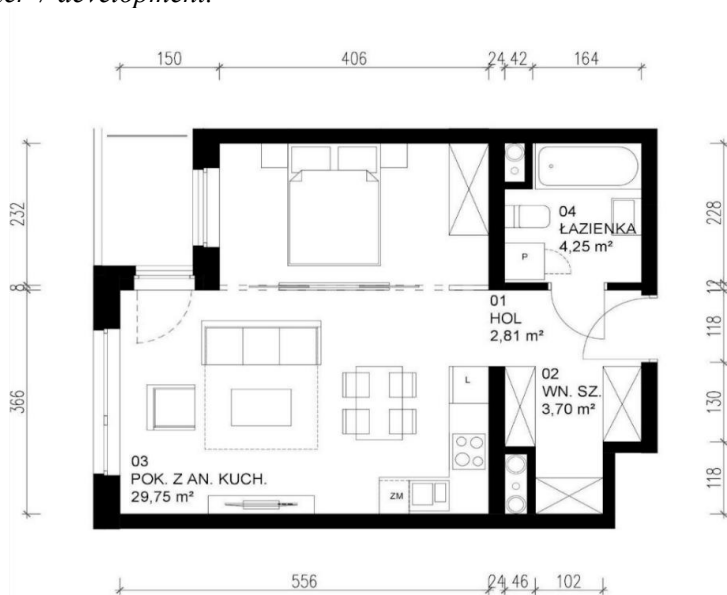
The bathroom, with an area of 4.23 m², is designed as a rectangular layout with a cut-out for the ventilation and sewage column, which has been effectively utilised. The arrangement of the fixtures allows for comfortable use of the room, and the proportions maintained allow for flexible arrangements based on user preferences, such as replacing the bathtub with a shower to save space. A noticeable issue is the

collision when opening the bathroom door with the entrance door. Shifting the door towards the living room could resolve this problem.

The living room has well-designed proportions, and the proposed arrangement includes the use of a foldable sofa. Whilst practical, this might be less comfortable for older individuals. Alternatively, a smaller sofa and layout could be introduced to allow for the placement of a bed. Due to the small area, however, there is no possibility of creating a division between the living and sleeping areas. A noticeable shortcoming is the lack of a designated space for a wardrobe, which could be insufficient for many users. Nonetheless, a considered rearrangement of the space could enable additional storage.

The apartment's area is optimal for a single person or a couple. The clear zoning of functions promotes ergonomics, but limitations in terms of circulation, storage, and workspace may require adjustments. Due to its proximity to the stairwell, the apartment is the result of design choices that convey a clear sense of insufficient space for comfortable living.

Figure 5. Floor plan of the most commonly repeated one-room apartment in the *Emilii Plater 7* development.



Source: Author, based on materials from the *Mellon Architekci* website.

Apartment B (Figure 5), located in the same building with windows facing north-west, features the most commonly repeated layout in the analysed building. The usable area is 40.51 m², which is the average size for one-room apartments in this development. The spatial layout of the unit attempts to define functional zones

within the living room, creating a division between the day and night areas, though these zones are not completely separated.

Compared to the previously analysed unit, a spacious niche for a wardrobe has been clearly defined in the entrance hall. This solution increases the functionality of the space by providing additional storage area, which is important in small apartments. Shifting the kitchen to the living room area, next to the utility column, allows for more efficient use of the space but affects comfort in terms of odour and acoustics.

In the living area, lightweight partition walls with two sliding doors are used to define the night area. Due to the limited access to natural light, this area was not designed as a separate room, which also reflects current trends in compact apartment interior design.

The arrangement proposed by the designers includes a double bed measuring 140x200 cm. With the room width of 228 cm and the typical bed length exceeding 200 cm, moving around the bed becomes significantly difficult, and in some cases, even impossible. Such spatial solutions, whilst debated, are gaining popularity. On one hand, they allow for zoning of the space, providing odour and acoustic barriers between the day and night areas. On the other hand, they enable adaptation of the apartment for more than two users.

Similar solutions are increasingly being implemented in multi-family buildings, particularly in medium-standard developer projects. For example, in Scandinavian designs with limited floor area, semi-glazed sliding doors are used, which not only define the zones but also allow for better lighting of the space.

The solutions applied in Apartment B respond to contemporary challenges related to limited floor area, rising property costs, and changing user needs. However, further optimisation of the layout could improve the apartment's functionality, especially regarding ease of movement in the night area.

6.2 Analysis of Apartment C in the 19th District, Stage V, Warsaw

The 19th District development in Warsaw is an example of a modern, integrated urban space designed with functionality, aesthetics, and the diverse needs of users in mind. Located in the Wola district, near the city centre, this higher-standard development features a high building density and a varied mix of residential units ranging in size from 30 m² to 115 m².

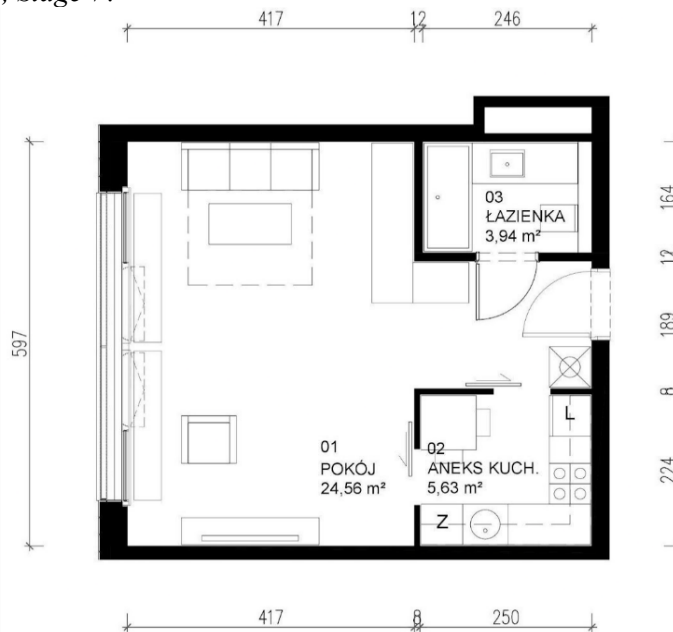
The architectural design by JEMS Architekci combines modern minimalism with multifunctional spaces, catering to both residential and commercial needs. The buildings in the development form a cohesive aesthetic, with commercial units on the ground floors and central areas designated for squares and green spaces.

Table 3. Project data for 19th District (19. Dzielnica)

Project name	19. Dzielnica
Architect	JEMS Architekci
Location	Warsaw, Wola
Number of floors	8-15
Number of apartments	1,700
Total usable floor area	~119,000 m ²
Date of completion	2024
Floor area of analysed apartment	38.89 m ²

Source: Author's own elaboration.

Figure 6. Floor plan of a sample one-room apartment in the 19th District development, Stage V.



Source: Author, based on materials from the JEMS Architekci website.

The residential unit (Figure 6), located in Phase V of the largest ongoing residential development in Warsaw, is designed in the most typical manner for one-room apartments among all the examples analysed. The functional layout is based on a rectangular plan, where each room is characterised by appropriate proportions and usable areas. Upon entering the apartment, the user reaches a niche that serves as a hall, which has not been separated as a distinct room. This hall connects all the zones of the apartment and houses a wardrobe for outerwear.

On the right side, there is a small bathroom that, despite its minimal dimensions, meets the ergonomic standards and provides comfort for one person. It is worth noting that the design does not include space for a washing machine. The building offers a comprehensive range of shared spaces, including a laundry room.

The kitchen, located on the left side, is separated by lightweight walls. It is accessible both from the living room and from the entrance niche through sliding doors. Whilst unconventional, this solution provides odour isolation for the kitchen from the rest of the apartment.

However, the use of sliding doors limits the arrangement possibilities, preventing the placement of additional furniture on the adjacent walls. The number of countertops in the kitchen is minimal, indicating that it is intended for one person. The distances between the kitchen fixtures and the table are 80 cm and 100 cm respectively, which does not provide full functionality whilst maintaining basic ergonomic standards.

It is important to note that the lightweight construction of the kitchen walls allows users to easily adapt the space according to their individual needs. For example, the kitchen can be fully opened to the living room, creating a more spacious living area, or closed off from the hall, which would allow for the placement of a large wardrobe.

The largest part of the apartment is the living room, with an area of 24.56 m². It is highly versatile, allowing for easy zoning of the living and sleeping areas. However, the project designer did not propose such a solution in the presented arrangement. The large window that illuminates the living room prevents the creation of a closed sleeping area, which was possible in the previously analysed design. Nevertheless, there is potential to introduce a partial division of the space using incomplete partitions, which could separate the sleeping area without fully closing off the zone.

6.3 Analysis of Apartment D at Lelewela 9, Wrocław

The development at 9 Lelewela Street in Wrocław is a modern apartment building that complements the street frontage along Lelewela Street, located in the Old Town district, approximately 1.3 km from the city centre. The building offers 38 residential units ranging from 26 to 84 m², including apartments with mezzanines and a two-level penthouse with a terrace. The apartments are equipped with large windows or balconies.

Construction of the project began in the second quarter of 2022, and its completion took place in the third quarter of 2024. The structure of the apartments is the result of the need to adapt to the side wall of an adjacent tenement house and leave a wall without windows, in accordance with the principles of row building. The building contains two-room apartments with areas of 81.71 m² and 32.75 m², as well as one-room apartments with areas of 26.32 m² and 52.80 m².

Table 4. Project data for Lelewela 9

Project name	Lelewela 9
Architect	Dziewoski, Łukaszewicz Architekci
Location	Wrocław, Stare Miasto
Number of floors	7
Number of apartments	38
Total usable floor area	1,743 m ²
Date of completion	2024
Floor area of analysed apartment	26.91 m ²

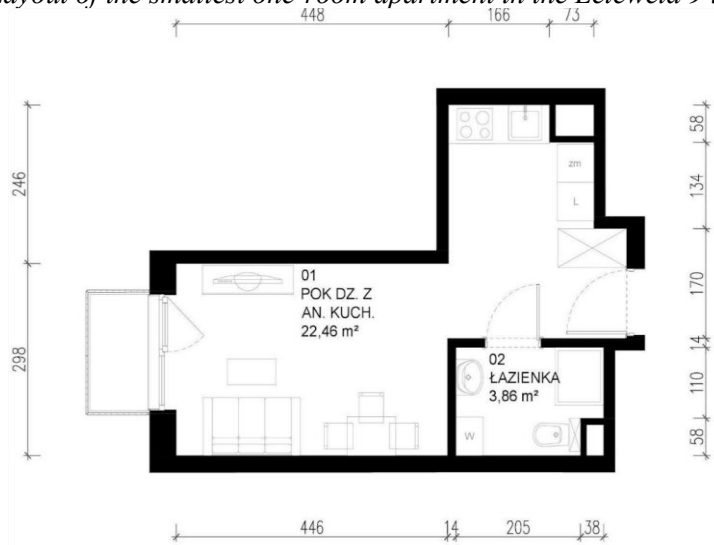
Source: Author's own elaboration.

Table 5. Apartment structure data for Lelewela 9

No. of rooms	No. of apartments	Area (m ²)	% by number	% by area	Avg. area (m ²)
1	8	243	21	14	30
2	20	808	52.5	46.5	40
3	6	398	16	23	66
4	4	294	10.5	16.5	73

Source: Author's own elaboration.

Figure 7. Layout of the smallest one-room apartment in the Lelewela 9 investment.



Source: Author, based on materials from the investment's website.

The design of the apartment (Figure 7) with a functional layout similar to the one previously analysed in the Emilii Plater 7 investment features a key modification: the relocation of the bathroom and kitchen. As a result, the kitchen, located in a recess near the entrance area, is entirely deprived of access to natural light and spatial relationships with the living room. The bathroom, moved to the living area and accessible from the hallway, meets the requirements for minimal functional distances.

In the hallway, a wardrobe has been designed as the only storage space in the apartment. The living room, characterised by a narrow corridor, offers potential for an alternative spatial arrangement that allows for the division into day and night zones without the possibility of using permanent partitions. For example, the bed can be located along the wall adjacent to the bathroom, which provides a practical space arrangement.

Despite the limited area, the apartment has been designed to be functional, assuming it will be used by a single person. Storage deficits can be mitigated through the introduction of multifunctional furniture and interior rearrangements. The distance between the kitchen and the living room, whilst resulting in poorer natural lighting for the kitchen, enables a clear separation of these two functions. This solution is valued by some users for increasing comfort.

6.4 Analysis of Apartment E at Pogonowskiego 73, Łódź

The development is located in the city centre of Łódź. The revitalisation project involved both the modernisation of existing buildings and the construction of new infrastructure elements. The project also includes shared spaces, such as courtyards and green zones.

The design of the development combines features of the revitalisation of the historical urban structure with the introduction of modern architectural and functional solutions, typical of contemporary multi-family buildings. The project offers apartments ranging from 25 to 69 m². The majority of the apartments are two-room units, making up 58% of all apartments, whilst one-room apartments account for 21% of the total, with an average area of 31 m².

Table 6. Project data for Pogonowskiego 73

Project name	Pogonowskiego 73
Architect	KIWI Architektura
Location	Łódź, Śródmieście
Number of floors	7
Number of apartments	105

Total usable floor area	4,397 m ²
Date of completion	2024
Floor area of analysed apartment	28.84 m ²

Source: Author's own elaboration.

Table 7. Apartment structure data for Pogonowskiego 73

No. of rooms	No. of apartments	Area (m ²)	% by number	% by area	Avg. area (m ²)
1	22	684	21	15.5	31
2	61	2,462	58	56	40
3	21	1,182	20	27	56
4	1	69	1	1.5	69

Source: Author's own elaboration.

The apartment (Figure 8), with windows facing north and lacking sunlight in the rooms, is divided into a living area and a sleeping area by means of light partition walls, which are not considered separate rooms. The sleeping area, furnished with a double bed measuring 140x200 cm, like in the previously analysed example, does not provide enough space for easy movement around the bed. The sleeping area also has access to the balcony, but the proposed layout creates a conflict between opening the balcony doors and the positioning of the bed. The distance from the bed to the walls is approximately 40 cm, further limiting the functionality of the space.

In the living area, the kitchen with a dining area dominates, but it lacks sufficient counter space. The kitchen space is constrained by the sofa's placement, which prevents the necessary passage widths from being maintained. Additionally, in this area, there is a TV cabinet and a coffee table, positioned near a large window.

The corridor is equipped with a spacious wardrobe, whilst the bathroom, accessible from the corridor, is comfortable for use by one person. An exception is the shower placed between the installation shaft and the sink, which forces the use of a corner shower enclosure. This solution is notably inconvenient for older individuals or those with mobility limitations.

Another issue is the installation shaft, which does not align with any of the structural walls. This greatly complicates potential room rearrangements and limits the possibilities for adapting the apartment to the changing needs of its users.

Despite its small size, the apartment has a large corridor and a living room divided into two areas. Combined with the installation shaft located in the centre of the

layout, this creates significant circulation issues within the apartment, making it uncomfortable for both one and two users.

7. Results and Discussion

The analysis of five selected developer developments revealed a number of recurring trends and challenges in the design of one-room apartments in Poland. The main goal of developers is to maximise the number of units on the available space, which results in reducing the size of apartments and intensifying the building density. Structural data indicates that one- and two-room apartments together account for over 80% of all units in the analysed developments, confirming the dominance of small housing units in the current market.

In most of the studied examples, one-room apartments have a size ranging from 26-40 m², which fits within the minimum normative standards, but often requires functional compromises. In the analysed apartments, several recurring issues were observed:

- lack of separation between the living and sleeping areas;
- limited storage space;
- insufficient natural light in some rooms;
- circulation conflicts due to improper furniture layout and functional arrangements.

The apartment structure tables for each development also showed that the share of one-room apartments in total usable space is lower than their numerical share. This means that although there are many of these apartments, they occupy a relatively small portion of the total development area. The average area of one-room apartments was around 30-32 m², confirming the trend towards maximum compactness of these apartments.

According to data from the Central Statistical Office (GUS) for 2023, which indicates an average cost of 1 m² of residential building floor area at PLN 5,719 (GUS, 2024), designing small apartments has become increasingly profitable for investors. Smaller apartment sizes help lower the unit price, making them more affordable, particularly for singles, young couples, and investors buying for rental purposes.

Comparing the functionality of the individual apartments revealed that:

- Apartments with a size close to 40 m² (e.g., in the 19th District in Warsaw) offer greater possibilities for separating distinct functional zones.
- Apartments sized 26-29 m² (e.g., in Emilii Plater 7, Lelewela 9) often struggle with limited functionality and require the use of multifunctional furniture.

- Solutions such as lightweight partition walls or sliding doors improve functionality but do not fully eliminate privacy issues.

The discussion of the results indicates that despite formally meeting normative and legal requirements, the usable space in many one-room apartments does not provide full comfort for everyday living. Functional challenges are particularly evident where the apartment layout results from design compromises, such as the presence of large installation risers or the building's corridor system.

In the context of observed social trends - such as the increase in the number of single-person households, rising property costs, and changing lifestyle models - functional design of small apartments will play a key role in the future development of cities.

8. Conclusions, Proposals, and Recommendations

The developer market in Poland, especially in large cities, is characterised by dynamic development and a strong focus on meeting the needs of the growing number of single-person households. The dominance of the developer model, where over 90% of apartments are built for sale or rent, influences design trends, with the primary priority being the maximisation of the number of units within the available space. This approach leads to the popularity of one-room apartments, which are seen as economical, flexible, and suited to contemporary lifestyles.

One-room apartments have gained importance as a response to changing demographic structures and family models. The growing number of people living alone, increasing job mobility, and delayed family formation are contributing to the rising demand for small, functional apartments. Despite their limited size, these units are designed to ensure maximum ergonomics and user flexibility. However, research shows that in practice, many one-room apartments suffer from a lack of separated functional zones, insufficient storage space, and limited arrangement possibilities.

The changing family model and the psychology of one-room apartment users indicate a growing need for spatial flexibility. Contemporary users expect apartments that can be adapted to their changing needs, such as remote work, study, or relaxation. At the same time, one-room apartments serve as both a place for daily life and personal space, which underscores the importance of privacy, proper lighting, and interior ergonomics. Psychological comfort for users is often linked to the ability to personalise the space, which presents a challenge for standard developer designs.

Contemporary trends in one-room apartment design focus on integrating functions, such as combining the kitchen with the living space, introducing multifunctional furniture, and using lightweight partition walls. These solutions aim to optimise space but can limit privacy and user comfort. At the same time, developers are

increasingly introducing shared infrastructure elements, such as laundries, meeting rooms, or coworking spaces, which attempt to compensate for the limitations of individual units.

In summary, the one-room apartment market reflects broader social and demographic changes whilst presenting challenges for designers and developers. Key conclusions from the analysis indicate the need for greater flexibility in spatial layouts, consideration of changing lifestyles, and a better understanding of users' psychological needs. The future of the developer market will depend on the ability to create apartments that not only meet basic utility standards but also support the quality of life of residents through an innovative approach to design and space organisation.

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