



Real Estate Special Spring 2025:

Poland. Optimism after a period of stabilisation.



Contents

Introduction	3
Macroeconomic conditions	
Robust economic growth despite challenges	5
Outlook: Continued economic growth forecast	8
Office real estate market	9
Office properties stand out	9
Robust demand for office space with a focus on quality and sustainability	10
Investment market sees significant upturn in 2024	12
Outlook: Polarisation of the office market expected to continue into 2025	12
Retail real estate market	13
Retail sales on course for further growth	13
Retail letting market with sustained momentum	15
Investor interest returns	16
Outlook: Retail real estate market on course for expansion	16
Logistics real estate market	17
Polish logistics real estate market shows its strength	17
Declining construction activity paired with stable vacancy and rental development	18
Investment market in 2024 marked by growth and decline in prime yields	19
Outlook: Stable market development likely to continue	20
Residential real estate market (Build-To-Rent)	20
Transformation process in the residential real estate market offers development potential	20
Growing demand leads to rent hikes	22
Investment market attractive thanks to good fundamentals	23
Outlook: BTR segment on course for expansion	24
Conclusion and outlook	25
Appendix	28

Poland. Optimism after a period of stabilisation.

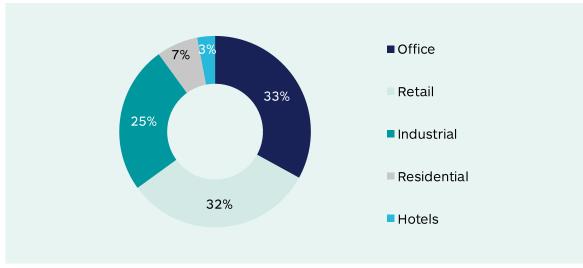
Analysts: Claudia Drangmeister // Julia Müller-Siekmann

Introduction

Poland regained its economic strength in 2024, recording growth well above the EU average. This positive trend is likely to continue in 2025. Poland's central location in Europe paired with favourable macroeconomic conditions such as low unemployment, robust consumption and a business-friendly environment, lay the groundwork for stable economic growth.

Following a rise in financing costs against the backdrop of a general economic slowdown and turbulent geopolitical environment resulting in a substantial drop in investor activity on the commercial real estate market in 2023, a sense of optimism returned in 2024. This was reflected in the positive development of the real estate investment market. In 2024, the nationwide investment volume exceeded the EUR 5.0 billion mark, more than double the previous year's figure and only just missing the five-year average of EUR 5.3 billion. In terms of the individual asset classes, all sectors recorded growth. The most popular asset class was office real estate (33%), closely followed by retail (32%) and logistics real estate (25%). European investors accounted for the largest share (60%) of the total transaction volume. I

Investment volume in Poland by asset class in 2024



Source: Knight Frank, NORD/LB Sector Strategy Real Estate

¹ Knight Frank: Investment market in Poland in 2024

Sustainability is a focal point in all asset classes. ESG criteria have taken on a central role in the Polish real estate sector, with a growing focus on energy-efficient construction methods and sustainable use concepts. However, higher expectations on the part of banks and investors in terms of taxonomy conformity are starting to pose a challenge, particularly for owners of older properties. Compared to new builds, older properties require tailored decarbonisation strategies in order to gain access to financing opportunities or to spur interest among future buyers.² In addition to macroeconomic conditions and overarching trends, the performance of individual asset classes is characterised by their structural challenges and specific market conditions. On the whole, the individual real estate submarkets recorded fairly robust growth in 2024:

- // The office real estate market posted stable growth in 2024. The rise of remote working has shifted the focus to downsizing and optimising office space. Above all, quality and sustainability are in demand, which is reflected in the differing rental and vacancy trends. With the growing popularity of flexible and hybrid working models, the flex office market in Warsaw and increasingly also in regional cities offers growth potential.
- // The **retail real estate market** continued to expand in 2024. Retail sales recovered noticeably and rose by 2.7% last year following a phase of market compression in 2023. With average per capita purchasing power still well below the European average, Poland is forecast to see strong growth rates in retail sales over the next two years, supported by the expected economic recovery. In view of the market potential, demand on the letting market is expected to remain high in future, accompanied by further rental growth.
- // Poland's logistics real estate market is proving to be extremely resilient. Despite the amount of available space noticeably plateauing in 2024, the Polish logistics market remains one of the fastest-growing in Europe.³ With the advent of global trade conflicts, the importance of nearshoring and therefore also of light industrial real estate increased significantly in 2024. Thanks to the country's central location, foreign logistics and production companies are becoming increasingly interested in Poland. Demand from Asia is also on the rise, with Poland viewed as an attractive location for transporting goods to Western Europe. Another important growth driver in the logistics real estate market is the extremely fast-paced growth of online retail in Poland.
- // The institutional rental housing market (Build-To-Rent (BTR)) has become an integral part of the Polish residential real estate market in recent years. Although the BTR sector is still in its infancy, its rapid growth is driving a transformation process in the residential real estate market. Growing demand for rental flats is coming up against extremely limited supply, causing rents to rise sharply. In light of these favourable fundamentals, the asset class offers promising prospects for foreign investors.

Following a brief overview of the macroeconomic environment, this analysis of the Polish real estate market will examine how the individual office, retail, logistics and residential (BTR) asset classes are developing against the backdrop of economic and geopolitical factors and a selection of structural trends. It explores the future prospects for each individual asset class and what risks and challenges need to be considered.

² CBRE: Retail Market Snapshot Q3 2024

³ CBRE: Poland: Industrial and Logistics market Q4 2024

Macroeconomic conditions

Robust economic growth despite challenges

Since becoming a member of the EU in 2004, Poland has made considerable progress in moving closer to Europe's advanced economies. The gap between GDP per capita in Poland compared with advanced economies in the EU has narrowed significantly. Poland's GDP per capita has more than doubled since 2004.4 Thanks to extensive funding from the EU and considerable fiscal support from the government, the country was able to recover quickly from the COVID-19 pandemic and return to pre-crisis levels in 2021 (GDP growth 2021: +6.9%). However, this growth trajectory was curbed by the onset of war in Ukraine in 2022. Growth momentum continued to fall in the following year, and a recession was only narrowly avoided. Poland's economy rebounded in 2024 with robust growth of 2.9% projected (eurozone: +0.7%). The country therefore remains one of the fastest growing economies in the EU. In the current year, the Polish economy is expected to gain even more momentum with forecast growth of 3.6% (eurozone: +0.9%).5

Numerous factors contribute to economic growth in Poland, including a business-friendly environment, geographical location, a robust labour market and strong consumption. Extensive public investment aided by the efficient allocation of EU funding has helped drive Poland's economic progress in recent years through major improvements to infrastructure and measures to promote innovation and digitalisation. The presence of many multinational research and development companies enhances Poland's innovative strength.⁶ Growth is supported by Poland's domestic market – the largest in Central and Eastern Europe.

Nevertheless, investment activity remains weak, burdened by a trade deficit and ongoing uncertainty on the global markets. Rising imports and declining exports have played a major role in this regard, as the Polish economy is heavily dependent on the economic situation in Western Europe. 7 Arguably one of the biggest challenges for the Polish economy in recent years has been high inflation. Despite falling significantly year-on-year from 10.9% to 3.8% (eurozone: from 5.4% to 2.4%) in 2024, inflation remained above the target of 2.5% set by the National Bank of Poland (NBP). At 4.7% (eurozone: 2.2%), inflation is also likely to remain well above the NBP's inflation target in 2025.8 One of the primary reasons behind this is the cap on energy costs, which was raised in June 2024 and expected to remain in place until September 2025. Other factors include higher excise duties and prices for administered services. Core inflation is also expected to remain high. The NBP's inflation target is unlikely to be reached before 2026.9

Poland's unemployment rate was just 2.9% in 2024, well below that of Germany (5.7%) and the eurozone (6.4%). One key factor behind the stability on the labour market is the increasing integration of workers from Ukraine, who have partially covered the demand for labour, particularly in the construction, logistics and services sectors. This development has boosted employment growth while simultaneously helping to mitigate the demographic decline in the working-age population. The outlook for 2025 and

⁴ BNP Paribas: ECOCONJONCTURE, Poland, July 2024

⁵ European Commission: Autumn Forecast 2024 and NORD/LB: Economic Adviser, 31 January 2025 ⁶ BNP Paribas: ECOCONJONCTURE, Poland, July 2024

⁸ European Commission: Autumn Forecast 2024 and NORD/LB: Economic Adviser, 31 January 2025

⁹BNP Paribas: Ecoperspectives. Emerging Markets. 1st Quarter 2025, January 2025

2026 is also positive, with unemployment expected to continue falling slightly. Nevertheless, certain sectors such as IT and engineering still face a shortage of skilled labour, which is continuing to drive wage growth. 10 11 Nominal wages in Poland are expected to see a significant rise of 11.4% in 2024, largely driven by the continued high demand for labour and competition for qualified personnel. High inflation and the considerable rise in the minimum wage (+20% compared to 2023) further contributed to the rise in nominal wages. 12 In 2025, wage growth is expected to level off at 5.9%. 13 Wage growth strengthens the purchasing power of households, which in turn supports private consumption as the driving force behind economic growth.14

Due to increased defence spending, salary increases in the public sector and additional support for families (including an increase in monthly child benefit payments), the budget deficit is projected to reach 5.8% of GDP in 2024. Measures to cushion the social and economic impact of high energy prices have also been extended until the end of 2024. Based on the draft budget for 2025, the budget deficit is expected to fall slightly to around -5.6% of GDP in the current year. The ongoing economic recovery and the end of government support measures in relation to high energy costs are two of the factors behind this decline. According to the government, defence spending is set to increase to 2.8% of GDP based on a multi-year plan to strengthen defence capabilities. Government debt is therefore also likely to rise in the coming years, reaching a projected 62.4% of GDP in 2026.15

Key economic figures (change yoy in %)

	2021	2022	2023	2024f	2025f	2026f
GDP	6.9	5.3	0.1	3.0	3.6	3.1
Private consumption	6.2	5.2	-0.3	3.8	3.6	2.7
Inflation (CPI)	5.2	13.2	10.9	3.8	4.7	3.0
Unemployment rate*	3.4	2.9	2.8	2.9	2.8	2.7
Current account balance**	-1.3	-2.6	1.7	0.6	0.4	0.3
General government gross debt**	53.0	48.8	49.7	54.7	58.9	62.4
Budget balance**	-1.7	-3.4	-5.3	-5.8	-5.6	-5.3

Source: European Commission (Autumn Forecast 2024), f - forecast, *in % of the labour force, **in % of GDP

Poland's economic strength is characterised by stark regional disparities. While national GDP per capita rose to around EUR 16,000 in 2023, it remained below the EU average of around EUR 37,000. 16 Mazovia, with Warsaw as its heart, boasts modern infrastructure and benefits from international investment. In 2024, the region generated around 24% of the national GDP and recorded the highest growth in Poland with GDP per capita of EUR 32,500. The Krakow-Silesia region came second, producing 21% of the national GDP with a per capita value of EUR 18,200, fuelled by IT, services and green technologies. The Poznan-Szczecin metropolitan area contributed 16% of GDP, benefiting from an industrial base and trade, and posted EUR 15,500 in GDP per capita. 17 Gdańsk and Pomerania are growing at a brisk rate with a focus on logistics, tourism and renewable energies, while the structurally weak east is dependent on subsidies. EU investment and digitalisation remain key drivers for the country. 18

¹⁰ Cushman & Wakefield: Trends Radar real estate market 2024, From Stability to Optimism

¹¹ GTAI: Wirtschaftsausblick Polen, 5 December 2024

¹² GTAI: Poland: Löhne und Gehälter, July 2024

 $^{^{\}rm 13}$ European Commission: Autumn Forecast 2024

¹⁴ Eurostat: Arbeitsmarkt- und Beschäftigungsstatistiken 2024

¹⁵ European Commission: Autumn Forecast 2024

¹⁷ GTAI: Wirtschaftsausblick Polen, 5 December 2024

¹⁸ CBRE: Poland Market Outlook 2024

Poland's economic policy has seen a fundamental shift since the current government was sworn in under Prime Minister Donald Tusk in December 2023. After the Law and Justice Party (PiS) was voted out of office, the new agenda has been focused on restoring the rule of law and releasing frozen EU funds. Judicial reform is central to this and necessary to secure access to the EUR 137 billion from the EU Next Generation Fund, which accounts for 18.3% of Poland's GDP. These funds are earmarked for promoting investment in infrastructure, digitalisation and green technologies and to provide fresh impetus for the ailing economy. ¹⁹ The presidential election in May 2025 is likely to be decisive for the current government's room for manoeuvre under Tusk. ²⁰

With around 37.6 million inhabitants (mid-2024)²¹, Poland is the fifth largest country in the EU.²² However, Poland's population has been falling since 2012. By 2023, the population declined by around 2%.²³ According to official forecasts, the population is likely to fall further to 36.6 million in 2030 and to 35.3 million in 2040.²⁴ While the natural population has been on the decline for many years (low birth rate of 1.29 children per woman in 2022 (EU average: 1.46))²⁵, Poland stands to benefit from slightly positive net migration. Despite the overall decline in the population, the proportion of working age people, particularly in the 15 to 19 age group, remains considerable and offers potential for growth.²⁶ For example, the number of students has once again been on the rise since 2020. Poland is benefiting from the influx of students from abroad. The number of students is set to increase from around 1.2 million in 2022 to 1.4 million in 2030.²⁷ Moreover, the Polish labour market has benefited from an influx of Ukrainians since 2022, many of whom are likely to settle in the region in the long term, which is expected to strengthen both the population and the workforce.²⁸ A number of measures have also been taken to reverse the demographic trend, including regulations to support families. The negative effects of recent demographic developments can also be offset by building a more competitive economy.²⁹

The National Bank of Poland NBP has kept its benchmark interest rate unchanged at 5.75% since October 2023. Against the backdrop of continuing high inflation and government debt, the benchmark interest rate is unlikely to be lowered in the interim. As long as question marks remain as to whether the government will extend the introduced energy price brake beyond September 2025, the Polish central bank is likely to remain cautious about further interest rate hikes for the time being. Uncertainties regarding the outcome of the presidential election and the expected exchange rate fluctuations in the wake of growing protectionism under Trump are also expected to lead to the NBP maintaining its benchmark interest rate in the first half of 2025. Any easing of monetary policy is therefore unlikely before the start of the second half of the year and into 2026. BNP Paribas forecasts a reduction in the benchmark interest rate to 4.00% by the end of 2025 and to 3.50% in 2026.30 The yield on 10-year Polish government bonds has recovered from the peak of 8.4% in mid-2022, but remains well above the 2020 level at 5.8% (as at January 2025). The risk premium on German government bonds increased slightly at the end of 2024 and currently stands at around 340 basis points. The Polish złoty (PLN) performed relatively resiliently against the euro last year despite global uncertainties. However, like other emerging market currencies, it is subject to the influence of macroeconomic factors, including the interest rate policies of the major central banks. The current exchange rate is stable at 1 EUR = 4.21 PLN. However,

¹⁹ DZ Bank: Polen blüht 2024 konjunkturell wieder auf. 4 April 2024

²⁰ https://taz.de/Praesidentschaftswahl-in-Polen/!6057177/, accessed on 7 February 2025

²¹ Statistics Poland

²² Eurostat

²³ German Federal Agency for Civic Education: Die soziodemografische Struktur der Bevölkerung in Polen. 12 October 2023

²⁴ Statistics Poland

 ²⁵ Eurostat
 ²⁶ Savills: Polska Express: All aboard the Polish Logistics freight train. October 2024

²⁷ JLL: PRS & PBSA Market in Poland 2024

²⁸ Savills: Polska Express: All aboard the Polish Logistics freight train. October 2024

²⁹BNP Paribas: ECOCONJONCTURE, Poland, July 2024

³⁰ BNP Paribas: Ecoperspectives. Emerging Markets. 1st Quarter 2025, January 2025

pressure on the złoty could increase over the course of the year. Factors that could result in a downward trend include US President Donald Trump's tariff policy, which could dampen the economic growth prospects of the eurozone and – due to its economic and financial ties – the Polish economy. On the other hand, rising expectations of interest rate cuts could create headwinds. When it comes to country ratings, Poland is rated A by Standard & Poor's and A2 by Moody's, with both agencies maintaining a stable outlook.

Performance of 10-year government bond yields



Source: Macrobond, NORD/LB Sector Strategy Real Esate

Exchange rate development



Source: Macrobond, NORD/LB Sector Strategy Real Estate

Outlook: Continued economic growth forecast



Despite the geopolitical environment being plagued by uncertainty, Poland is expected to achieve rapid economic growth in 2025, holding onto its status as one of the fastest growing economies in the EU. With nearly full employment on the labour market, a further increase in minimum and average wages and consequent boost in private consumption are projected. On the other hand, persistently high inflation is having a dampening effect, putting pressure on disposable

income. The release of EU funding from the New Generation Fund is expected to provide greater impetus from the second half of 2025 onwards, particularly for investments in infrastructure and digitalisation. At the same time, the economic environment remains challenging due to external factors such as geopolitical tensions and weak external demand, particularly from Germany. Thanks to Poland's central location in Europe, the Polish economy is expected to benefit from the shift towards nearshoring, i.e. moving business operations closer to sales markets. In times of growing protectionism, Poland could gain the power to increase its share of global trade and attract new investment.

³¹ DZ Bank: CE3-Währungen: Auf der Sonnenseite des Währungslebens – noch! 13 February 2025

Office real estate market

Office properties stand out

Hybrid working is now a fixed part of the modern working world in Poland, although return-to-office mandates are steadily on the rise. Following a steep decline in office space utilisation as a result of the COVID-19 pandemic, demand is slowly increasing again. According to Savills, office occupancy in Warsaw has increased from below 40% in 2022 to just under 60% (average for Europe in the second half of 2024: 60%, average level before the pandemic: 70%), 32. Notably, the rate tends to be higher in smaller cities with a population of less than 200,000.33 On the whole, office design is becoming more flexible and diverse to accommodate for different working styles – from quiet concentration to creative teamwork – while at the same time fostering work-life balance. The average size per rental of office space in Poland has fallen to a historic low of around 900 m². By comparison, in the years 2017 to 2019, this figure stood at 1,000 to 1,200 m² in Warsaw and 1,300 to 1,400 m² in the regional cities.³⁴ Alongside optimising space by downsizing offices, companies are currently prioritising location and quality. As a result, office markets in both the capital of Poland and the regional markets are polarised between class A and class B office spaces. The flight-to-quality trend represents a decisive competitive component in the war of talent aimed at attracting and retaining skilled labour. On top of this, sustainability requirements are constantly increasing, resulting in growing demand for ESG-compliant properties. In line with the drive towards sustainability, investors are responding to tenant demands and paying increasingly installing technologies and building equipment designed to bring down carbon emissions, improve energy efficiency and boost the health and well-being of office employees. On account of the limited supply of new, modern and sustainable office space, modernisation measures for commercial buildings are becoming increasingly important. Notably, they can help to prevent vacancies and impairment while ensuring compliance with the requirements of the European Green Deal. 35 Mixed-use projects involving a combination of office, retail and residential use or full conversions of existing office space into alternative forms of use in non-central locations (where viable) have also gained popularity. It should be emphasised that Poland is one of the countries with the lowest risk of obsolescence for office properties in Europe. The percentage of Polish office stock at risk of becoming unmarketable by 2030 is 40%. By comparison, Milan is in the lead with 86% of its office space expected to become obsolete by 2030, and Munich is in the middle of the field at 60%. This can largely be attributed to the fact that the majority of office properties in Poland were built in the last two decades, which is typical of the Eastern European markets.³⁶ With the establishment of hybrid working models, the demand for flexible, fully furnished office workspaces has also increased significantly in Poland in recent years. After initially being concentrated on the capital, the flex office market is now growing noticeably in all Polish office locations, albeit at different rates. As regional hubs, Warsaw and Krakow lead the field, each with a flex office share of 4% of total modern office space, followed by Wrocław with 3%.³⁷ Compared to other European cities, particularly London, where the figure stands at 13%, the flex office share remains low. Poland therefore has considerable potential to catch up in the flex office market over the coming years.³⁸

³² Savills: Spotlight: European Flexible Offices, September 2023

³³ Cushman & Wakefield: UX Office in Poland, 2024

Cushman & Wakefield: Trends Radar real estate market 2024, From Stability to Optimism

³⁵ BNP Paribas: At a glance: Warsaw Office Market Q4 2024

³⁶ Cushman & Wakefield: Rethinking European Offices 2030, December 2024

³⁷ Colliers: Flex Guide ´24: A guide to flexible office space in Poland ³⁸ GTAI: Poland: Flexibel nutzbare Büroflächen liegen weiter im Trend, June 2024

Robust demand for office space with a focus on quality and sustainability

In 2024, the total office space stock in Warsaw was 6.29 million m2, equating to almost half of all office space in Poland. The highest concentration of office space, accounting for 45% of the city's total office space, can be found in the centre of Warsaw and in Służewiec, which accounts for 17% of the total stock. Since the beginning of 2024, almost 104,000 m² of office space has been added to Warsaw's office stock. Although this represents an increase of 71% compared to the same period last year, the level remains well below the five-year average of almost 219,000 m². Development activity remains limited. High borrowing and construction costs, a large volume of available office space combined with structural change as a result of hybrid working models and the limited availability of plots in prime locations have significantly dampened office development activity. Around 247,000 m² of office space is currently under construction, of which more than 69% is expected to be completed this year. The renovation of existing space accounts for roughly a quarter of the space currently under construction. The vast majority of these areas are located in the city centre, especially in the vicinity of the Daszyńskiego roundabout.³⁹

On the whole, demand for office space in Warsaw remained stable in 2024. Take-up came to around 740,000 m², which was only marginally below the previous year's level at -1%. Demand for space exceeded 244,000 m² in the fourth quarter of 2024 alone. At 46%, the largest percentage of rental agreements concerned re-negotiations. With the current lack of clarity regarding future office space requirements, contract renewals are typically favoured over relocations. Nevertheless, the increase in space expansions, which accounted for 6.7% of total demand in 2024 (+2.8 percentage points compared to 2023), is encouraging. ⁴⁰ In the fourth quarter of 2024, demand for office space in Warsaw was highest among banks and insurance companies (share: 22%), business-oriented service providers (share: 17%) and the manufacturing industry (share: 16%).⁴¹ Notably, tenants are attaching great importance to green and sustainable buildings. The number of office properties with a sustainability certificate in Warsaw is seeing a steady increase. In 2024, the percentage of rented space in certified buildings rose to 76%. 42

The vacancy rate has fallen steadily since the first half of 2024, although it is subject to significant variance depending on the location, age and quality of the property. At the end of 2024, the average vacancy rate in Warsaw was 10.6% (-0.1 percentage points compared to the previous quarter; +0.2 percentage points compared to the end of 2023). By comparison, the average vacancy rate for the entirety of Europe was 8.8%43. In newly constructed office buildings completed after 2020, the vacancy rate was just 5.5%, reflecting the preference among tenants for high-quality space. As the volume of new construction has decreased noticeably, the vacancy rate is expected to remain stable or fall slightly. 44

Prime rents in Warsaw were stable at the end of 2024, although they varied greatly depending on location and quality, in line with the vacancy rates. In class A office buildings in the central business district (CBD), prime rents were between EUR 22.00 and EUR 26.00 per m² per month. In non-central locations, they ranged between EUR 13.50 and EUR 16.50 per m² per month.⁴⁵ In addition to the rent, tenants are required to pay ancillary costs to cover building maintenance and utilities along with other outgoings. Ancillary costs continued to rise in 2024, albeit at a slower rate than in 2022 and 2023.46

³⁹ Knight Frank: Warsaw Office Market Q4 2024

⁴¹ BNP Paribas: At a glance: Warsaw Office Market Q4 2024

⁴² Knight Frank: Warsaw Office Market Q4 2024

⁴³ BNP Paribas: Office Markets Europe Q4 2024

⁴⁴ Knight Frank: Warsaw Office Market Q4 2024

⁴⁵ Cushman & Wakefield: Marketbeat Warsaw Office Q4 2024

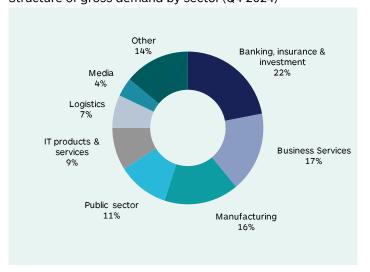
⁴⁶ Savills: Market In Minutes: Warsaw Office market Q4 2024

Warsaw:
Annual take-up, new supply and vacancy rate



Source: Knight Frank, NORD/LB Sector Strategy Real Estate

Warsaw: Structure of gross demand by sector (Q4 2024)



Source: BNP Paribas, NORD/LB Sector Strategy Real Estate

At the end of 2024, the total office space stock of the eight largest Polish regional cities (Krakow, Wrocław, Tricity, Katowice, Poznan, Lodz, Lublin and Szczecin) came to around 6.78 million m². With 1.83 million m² of office space, Krakow is the second largest office market in Poland after Warsaw, followed by Wrocław (1.38 million m²) and the Tricity (1.07 million m²). Total office space take-up (gross) in the eight regional cities reached around 714,000 m² in 2024 (a mere -4% compared to the record year of 2023), with the highest take-up registered in Krakow (share: 37%), Wrocław (share: 21%) and the Tricity (share: 16%).

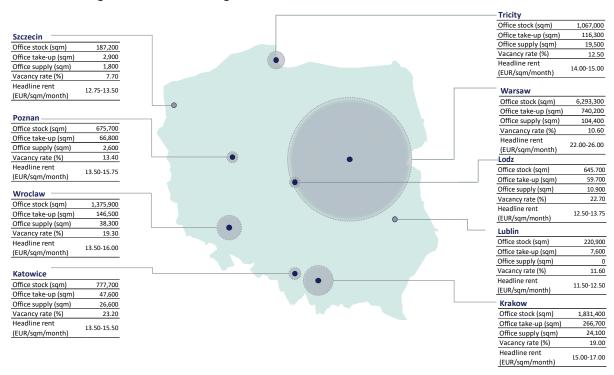
By the end of 2024, the average vacancy rate for the eight regional office markets had fallen to 17.8%. The highest vacancy rate was registered in Lodz at 22.7%, with the lowest vacancy rate of 7.7% registered in Szczecin. Office buildings more than ten years old are more likely to be vacant, driving up the office vacancy rate as a result. Yet, after years of speculative construction activity, the vacancy rate has started to stabilise due to the declining supply of new buildings in combination with a limited development pipeline. ⁴⁷ In 2024, the regional cities are likely to have experienced the first significant decline in new office space (-65% compared to the period 2010-2022 forecast). This development has been delayed by around one year compared to the Warsaw market. ⁴⁸ The development pipeline for the upcoming three years is also only marginally stocked.

Prime rents in the regional cities analysed have risen slightly from quarter to quarter since the beginning of 2024, ranging from EUR 11.50 to EUR 17.00 per m² per month at the end of 2024. Rents are likely to be exposed to upward pressure in the future due to the limited supply of new builds in conjunction with a moderate fall in vacancy rates. The average duration of leases for new office buildings is five to seven years, but leases of up to ten years are becoming increasingly common due to increased office design costs. In older office buildings, on the other hand, leases are generally limited to a maximum of five years. ⁴⁹

⁴⁷ Cushman & Wakefield: Marketbeat Warsaw Office Q4 2024

⁴⁸ Cushman & Wakefield: Trends Radar real estate market 2024, From Stability to Optimism

⁴⁹ BNP Paribas: At a Glance: Regional Office Markets in Poland Q3 2024



Poland's leading office locations at a glance (Q4 2024)*

Source: Cushman & Wakefield, NORD/LB Sector Strategy Real Estate, *office take-up and supply in the year to date

Investment market sees significant upturn in 2024

The nationwide transaction volume for office properties increased strongly in 2024 to around EUR 1.7 billion, constituting 33% of the total transaction volume across all asset classes. Stable market conditions paired with favourable macroeconomic conditions in conjunction with the ECB's monetary easing policies provided tailwind.⁵⁰ With a transaction volume of around EUR 1.4 billion – 3.2 times higher than 2023 and only -5% below the five-year average - Warsaw was by far the most popular Polish office investment location.⁵¹ The prime yield for properties in the central office districts in Warsaw remained stable at around 5.75%⁵², by comparison, the average prime yield in Europe CBDs came to 5.03%.⁵³ On the whole, the transaction market is segmented in a similar way to the rental market. Investors primarily favour class A properties in prime locations, which has created a liquidity gap for core+ products.⁵⁴

Outlook: Polarisation of the office market expected to continue into 2025

Supply	Я
Demand	→
Vacancy rate	Я
Prime rent	7
Investment volume	7
Prime yield	Я

Structural changes resulting from hybrid working, combined with the flight-to-quality trend, will continue to shape the Polish office real estate market in 2025. Core office properties in prime locations that meet sustainability criteria are proving to be particularly resilient and should continue to perform well, even in the face of economic and structural uncertainties. Rental and vacancy trends are likely to continue to vary depending on location and quality. Overall, the vacancy rate is projected to continue gradually

⁵⁰ Knight Frank: Investment market in Poland in 2024

⁵¹ ibid.

⁵² Cushman & Wakefield: Marketbeat Warsaw Office Q4 2024

⁵³ Savills: Spotlight: European Investment – Q4 Preliminary Results and Forecasts, January 2025

⁵⁴ Cushman & Wakefield: Trends Radar real estate market 2024, From Stability to Optimism

declining due to the limited development of new builds and the shift towards older space being taken off the market for modernisation purposes. Warsaw has already made more progress in this development than the regional office markets, although they are likely to follow suit this year. Rental prices are likely be subject to marginal upward pressure this year in key markets such as Warsaw, Krakow and Wrocław. However, the availability of office space is expected to have a stabilising effect.⁵⁵ Overall, the outlook for the investment market is positive for 2025; the market is forecast to build on the momentum of 2024 and continue to expand in terms of volume. In light of the improving market conditions, prime yields in Warsaw are likely to fall slightly.

Retail real estate market

Retail sales on course for further growth

The Polish retail real estate market has developed at an extremely brisk pace over the past decade. Retail sales recorded cumulative growth of 70% in the period from 2014 to 2023. By contrast, in the period from 2019 to 2023, market activity slowed (average annual growth rate of around 4.5%) as the retail real estate market was confronted with a rising number of challenges, including higher inflation and the repercussions of the COVID-19 pandemic.⁵⁶ This was followed by a significant recovery in 2022 (retail sales at constant prices up +5.0% YoY) and a slight market compression in 2023 (-2.7% YoY). However, lower inflation rates and a higher average income led to a noticeable rebound in retail sales in 2024 (+2.7% compared to the previous year).⁵⁷ According to forecasts, retail sales are expected to continue growing by 3 to 4% each year in the period from 2024 to 2026.⁵⁸ This positive outlook underscores the future market potential in the Polish retail sector. In line with the momentum on the market as a whole, online retail has gained in importance, even if its share of total retail sales has remained relatively stable since 2022. Online retail accounted for 10.2% of total retail sales in December 2024 (same month in the previous year: 9.4%).⁵⁹ Following a tangible rebound from the consequences of the war in Ukraine in 2023, consumer confidence is currently on the rise, even if only marginally. In January 2025, it rose for the second time in a row to -15.10 points (December 2024: -16.70 points). Nevertheless, consumer confidence is still 2.5 percentage points below the figure posted in January 2024.

Poland achieved an average per capita purchasing power of EUR 12,561 in 2024, putting it in 27th place among 42 European countries in a ranking compiled by GfK. Despite moving up one place compared to the previous year, Poland is still around 33% below the European average. By comparison, Germany is in 9th place with an average per capita purchasing power of EUR 27,848, which is around 48% above the European average. With a purchasing power of EUR 19,878, the capital city Warsaw holds the lead position in the country; exceeding the national average by 58%. All of the densely populated areas exhibit above-average purchasing power. Notably, the purchasing power gap between the Polish regions appeared to slowly close for the first time in 2024 contrary to the trend in recent years.⁶⁰

⁵⁵ Colliers: Highlight 2024 Predictions 2025 CEE-6 Real Estate Market, January 2025

⁵⁶ JLL: Retail parks and convenience centres in Poland, September 2024.

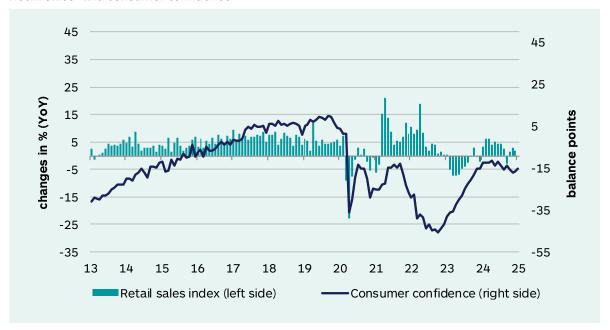
⁵⁷ Statistics Poland

⁵⁸JLL: Retail parks and convenience centres in Poland, September 2024.

⁵⁹ Statistics Poland

⁶⁰ NIQ-GfK: Die Kaufkraft der Europäer steigt 2024 auf 18.768 Euro. Press release from 24 October 2024

Retail sales* and consumer confidence



Source: Statistics Poland, Macrobond, NORD/LB Sector Strategy Real Estate *at constant prices

The Polish retail real estate market is one of the largest and most advanced markets in Central and Eastern Europe. In mid-2024, the stock of retail space, including both large-scale retail with a gross leasable area (GLA) ≥ 5,000 m² and convenience stores (2,000 ≤ GLA ≤ 4,999 m²) was around 17.3 million m² (GLA).⁶¹ Poland has 647 shopping centres,⁶² which continue to dominate the retail landscape, accounting for 57% of total retail space. However, their prominent position is gradually declining due to the high construction volumes for retail parks and convenience centres at market shares of 17% and 9% respectively. The annual supply of new retail space in the retail park segment exceeded the 300,000 m² mark (GLA) for the first time at the end of 2023. This figure was as high as new construction activity in the shopping centre segment in previous years (see chart below). On the one hand, this transformation has been fuelled by demand for new retail concepts in underserved areas and, on the other, by changing customer requirements, including the growing importance of proximity and convenience. Retail parks are increasingly meeting the demand for everyday, convenience shopping, expanding on the inadequate range of shopping facilities. They can therefore be viewed as complementary to shopping centres, which continue to lead the way in terms of market debuts, showrooms and complementary leisure offerings.⁶³

An impressive 545,000 m² (GLA) of retail space was completed in 2024. This marks the highest annual completion volume since 2015, when 620,000 m² of modern retail space entered the market. At the end of 2024, around 330,000 m² of retail space was under construction.⁶⁴ Most of the space is being built in small towns with fewer than 50,000 inhabitants.65

Of the eight largest densely populated areas in the country, the capital Warsaw has the highest stock of modern retail space (2.3 million m2), followed by Katowice (1.5 million m2) and the Tricity (around 1.0

⁶¹ JLL: Retail parks and convenience centres in Poland, September 2024.

⁶² Colliers: Market Insights - Retail Market in Poland. Quarterly Report Q3 2024; Definition of a shopping centre: 5,000 m² with at least 10 tenants, centrally planned, developed and managed.

⁶³ JLL: Retail parks and convenience centres in Poland, September 2024

⁶⁴ BNP Paribas: At a glance: Poland's modern retail market Q4 2024

⁶⁵ CBRE: Retail Market Snapshot Poland Q3 2024

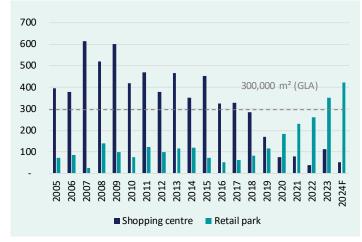
million m²). By contrast, the highest market saturation rate has now been reached in Wrocław and Poznan, with 1,024 m² and 973 m² per 1,000 inhabitants respectively. Market potential can still be found in Katowice and Lodz, with take-up rates of 728 m² and 706 m² per 1,000 inhabitants respectively.⁶⁶

Retail market stock by formats (in %, H1 2024)



Source: JLL, NORD/LB Sector Strategy Real Estate

Annual supply of new retail space in shopping centres and retail parks (in thousands of m² GLA)



Source: JLL, NORD/LB Sector Strategy Real Estate

Retail letting market with sustained momentum

Along with the rise in availability, demand for retail space is also growing continuously. In 2024 alone, 26 new brand manufacturers entered the Polish market, following a record 30 debutants in the previous year. Newcomers in the fourth quarter of 2024 include MR.DIY, Santoni, Isei, Andre Tan, PHOme!, Atac Hiper Discount by Auchan and Calliope. Four of these manufacturers opened their first Polish stores in Warsaw, while two opted for Poznan and MR.DIY opened its first shop in Zabrze. In 2024, the average footfall in shopping centres was 410,000 customers per retail unit, roughly the same level as the previous year. Both the largest and the particularly small shopping centres were among the best performers in terms of customer traffic. By contrast, large and medium-sized centres experienced a slight decline in footfall (-1%). The regions of Wrocław, Krakow and Warsaw recorded the highest increases in footfall, while Tricity and Poznan recorded the lowest growth rates. Shopping centre tenants posted a marginal increase in real retail turnover in the past year. The highest increase was recorded by large centres, particularly in Krakow, Lodz and Silesia. Prime rents in all three retail segments were subject to a continuous upward trend in 2024 with prime rents in shopping centres reaching an average of EUR 160 per m² per month – up +23% compared to 2023. Alongside index-linked rents tied to inflation, this sharp rise can also be attributed to the high demand for retail space and the high level of investment by many shopping centres in the quality of the customer experience and related improvements. Annual rental growth in retail parks and in the high street segment was also impressive at 22% and 17% respectively. The vacancy rate in the leading 16 densely populated areas fell to 3% in 2024, down from 3.3% in the year prior and thereby reflecting the gradual recovery of the retail real estate market. The highest vacancy rates were recorded in Lublin (4.8%) and Poznan (4.6%). By contrast, retail space was least available in Torun (0.8%), Kielce (0.8%) and Rzeszów (0.9%).⁶⁷

⁶⁶ BNP Paribas: At a glance: Poland's modern retail market Q4 2024

⁶⁷ Cushman & Wakefield: Marketbeat Poland Retail Q4 2024

Although a growing number of retail parks are currently coming onto the market, there is also a lot of movement in the shopping centre segment with a rise in the number of revitalisation projects. Moreover, retail shop owners are increasingly working on omnichannel strategies to provide customers with an attractive shopping experience both online and in-store due to the expected further growth of ecommerce.68

Investor interest returns

Following a decline in investor activity in 2023 owing to increased financing costs, the economic slowdown and geopolitical uncertainties, the Polish investment market for retail real estate is once again expanding. In 2024, the transaction volume reached approx. EUR 1.6 billion, almost triple the volume recorded in the year prior (+272%). Along with several other medium-sized retail projects, two major Silesian shopping centres (Magnolia Park, Silesia City Center) changed hands. In the fourth quarter of 2024 alone, the total retail investment volume came to almost EUR 1.0 billion. ⁶⁹ The Polish market is currently developing at a much quicker pace than the European average. Investors are focusing on the implementation of ESG principles as well as the modernisation and expansion of existing retail spaces. Thanks to strong economic fundamentals and the growing popularity of retail parks, which are increasingly located in smaller towns and serve the local population, the investment market is projected to continue attracting local and international investors in the future. 70 Prime yields for shopping centres were stable at 6.50% in mid-2024 after a previous increase. Prime yields of 7.25% were reported for retail parks.71

Outlook: Retail real estate market on course for expansion

Supply	7
Demand (stationary retail)	71
Prime rent	7
Vacancy rate	Я
Investment volumes	7
Prime yield	→

2024 saw a rise in activity on the letting and investment markets, accompanied by an improved market environment. In view of the expected strong increase in retail sales, the Polish retail real estate market is forecast to continue to grow in 2025 and 2026. The stock of modern retail space is likely to increase further this year. Construction activity is expected to remain at a stable level.⁷² The shift in construction activity from shopping centres to retail stores and convenience centres is likely to continue. Due to the lack of large-scale retail projects

and market saturation, the availability of space will be a decisive factor in attracting major tenants. Competition for prime locations in shopping centres can therefore be expected to further intensify. Optimising space, contract re-negotiations and renewals are becoming increasingly important.⁷³ Consequently, prime rents in this segment are projected to continue rising over the course of the year.⁷⁴ The improvement in conditions on the retail real estate market is accompanied by growing investor interest. According to estate agent forecasts, the transaction volume in 2025 is likely to exceed the previous year's result by around 12%.⁷⁵ Prime yields for shopping centres are expected to remain stable.⁷⁶ Poland remains one of the most promising retail markets in the region, offering both stability and opportunities for fast-paced growth.

⁶⁸ Cushman & Wakefield: Marketbeat Poland Retail Q4 2024

⁶⁹ CBRE: Poland Real Estate Investment Q4 2024

⁷⁰ Savills News: Development of the Retail Real Estate Sector in Poland in 2024. 19 December 2024

⁷¹ JLL: Retail parks and convenience centres in Poland, September 2024.

⁷² JLL: Poland Retail H1 2024

⁷³ Colliers: Highlights 2024 & Predictions 2025. CEE-6 Real Estate Market. January 2025

⁷⁴ Cushman & Wakefield: Marketbeat Poland Retail Q4 2024

 $^{^{75}}$ Savills News: Development of the Retail Real Estate Sector in Poland in 2024. 19 December 2024

⁷⁶ Cushman & Wakefield: Marketbeat Poland Retail Q4 2024

Logistics real estate market

Polish logistics real estate market shows its strength

Forming a robust pillar of the Polish economy, the Polish logistics real estate market proved its resilience to the uncertainties and challenges faced in 2024. Located at the nexus between the developed markets of Western Europe and the emerging economies of Eastern Europe, Poland offers favourable conditions on account of its economic stability. The stock of logistics real estate has rapidly increased in recent years. At the end of 2024, the total logistics real estate space across the country was around 33.9 million m². This corresponds to a year-on-year increase of +9.2% and is almost double the figure from 2019.⁷⁷ Evidently, Poland's significance as a logistics hub in the centre of Europe is steadily growing. Thanks to extensive EU funding, Poland has been able to significantly improve its infrastructure in recent years, making the country an efficient hub for road freight transport to Germany. In addition to a comprehensive expansion of the road network, extensive investments have been made in maritime infrastructure, making Polish seaports some of the largest in the Baltic Sea region and thereby key transhipment centres for Central European countries. Polish seaports are also feeling the effects of the Russian war of aggression against Ukraine with the related loss of Ukrainian Black Sea ports impacting Polish seaports. The loading of goods from other regions, such as crude oil from Saudi Arabia or Norway, has increased considerably at Poland's largest port in Gdansk in particular. 78 In 2024, the total freight tonnage handled in Polish seaports rose to a record 3.2 million TEU⁷⁹, up approx. 9.0% compared to 2023. The port of Gdansk handled 2.2 million TEU of this volume, around 9.0% higher than the volume handled in 2023, making it one of the ten largest seaports in Europe. Further investments in maritime infrastructure aimed at promoting the positive growth of the Polish logistics market totalling around EUR 467 million are planned for 2025.80

Triggered by the COVID-19 pandemic and reinforced by geopolitical uncertainties, nearshoring and reshoring activities have become a key growth driver for the Polish logistics real estate market. The need for more control over supply chains combined with demand for faster response and lead times is driving companies to relocate their production closer to their customers, increasing demand for logistics space on the European market as a result. Poland is benefitting from these favourable conditions. With its central geographical location in Europe, companies can reduce their transport and logistics costs and respond quickly to their customers' needs while simultaneously optimising their supply chains and making them more sustainable by relocating their production facilities to Poland. Poland also offers stable economic structures, ever-improving infrastructure and a business-friendly climate, including a lower wage level than in Western Europe, although wages are growing significantly faster than the EU average. 81 Poland has therefore become an attractive nearshoring and reshoring location for companies. 82 With this, demand for space is growing, which is benefiting the light industrial real estate segment in particular.

⁷⁷ CBRE: Poland: Industrial and Logistics market Q4 2024

⁷⁸ GTAI: Seehäfen befinden sich auf Expansionskurs, 7. Februar 2024

⁷⁹ Twenty-foot equivalent unit

⁸⁰ DVZ: Polens Häfen erzielen Rekordergebnisse, 18 January 2025

⁸¹ GTAI: Polen: Löhne und Gehälter, 23 July 2024

⁸² DVZ: Verlagerung: Wie attraktiv ist Polen als Nearshoring-Standort wirklich?, 14 June 2024

Another growth driver in the logistics real estate market is the rapid development of e-commerce in Poland. According to forecasts by Statista, Polish e-commerce sales are expected to grow from EUR 23.63 billion in 2025 to EUR 32.9 billion in 2029, equating to a compound annual growth rate (CAGR) of 8.63%. In 2025, the market penetration rate is projected to reach 43.2% and this figure is expected to rise to 71.0% by 2029.83 Accordingly, the Polish e-commerce market is set for expansion. This is underscored by Poland's strong economic growth.⁸⁴ This growth is expected to significantly strengthen the Polish logistics sector in central locations, near important transport hubs in particular. Last-mile space demand has also skyrocketed in recent years as a result.

ESG criteria have also taken centre stage in the Polish logistics sector. 85 It is worth noting that around 35% of the available space has been built in the last three years, meaning the quality of the Polish logistics stock is above average. Increased attention is being paid to energy-efficient construction methods and sustainable utilisation concepts, resulting in the use of renewable energies and modern automation technologies, including roofs with photovoltaic systems, walls and partition walls to reduce heat/cold transfer, being prioritised in new buildings. These efforts are likely to catch the eyes of international investors who are aware of the importance of ESG.86

Declining construction activity paired with stable vacancy and rental development

In the first half of 2024, nationwide take-up (gross) totalled 2.69 million m², marking an increase of 22% compared to the first half of 2023. While 60% of the volume was attributable to new lets and space expansions, the remaining 40% was accounted for by contract renewals. Broken down by sector, retailers and e-commerce companies were able to significantly increase their share of net sales to 34%. In contrast, the share of logistics providers fell from 36% to 22% compared to the first half of the previous year. Other prominent sectors were light industry (18%), the automotive industry (9%) and the food industry (7%).⁸⁷ In 2024 as a whole, take-up is likely to be slightly lower than in 2023 at around 5 million m². ⁸⁸ New construction activity fell significantly last year. At the end of 2024, space under construction totalled around 1.76 million m² (-37% compared to the same period of the previous year and the lowest figure since the third quarter of 2020), of which just over half has been pre-let. There was also a significant decline in project developments (estimated at 67%).89

The nationwide vacancy rate before the outbreak of the COVID-19 pandemic was 7.5%. In line with other European markets, the supply of space fell to a historically low level during the pandemic, with the vacancy rate in Poland falling to a record low of 3.2% at the beginning of 2022. Following the sharp rise in available space in recent years, the vacancy rate has significantly increased. At the end of the first half of 2024, the nationwide vacancy rate was 8.3%, significantly above the European average of 5.9%. 90 The slowdown in new construction activity is now expected to stabilise the vacancy rate, which is forecast to have plateaued to between 7.0% and 8.0% by the end of 2024.91

⁸³ https://de.statista.com/outlook/emo/ecommerce/polen, accessed on 2 January 2025

⁸⁴ Polska Express: All aboard the Polish Logistics freight train, October 2024

⁸⁵ Cushman & Wakefield: Trends Radar real estate market 2024, From Stability to Optimism

⁸⁶ Savills: Polska Express: All aboard the Polish Logistics freight train, October 2024

⁸⁷ Cushman & Wakefield: Marketbeat Poland Industrial Q2 2024

⁸⁸ Colliers: Highlights 2024 & Predictions 2025 CEE6: Real Estate Market

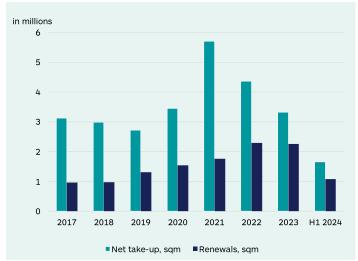
⁸⁹ CBRE: Poland Industrial & Logistics Figures Q4 2024

BNP Paribas: Europäischer Logistik-Vermietungsmarkt 2024: Mangel an neuen Projektentwicklungen treibt Mietpreise in Top-Segmenten weiter in die Höhe,

⁹¹ Colliers: Highlights 2024 & Predictions 2025 CEE6: Real Estate Market

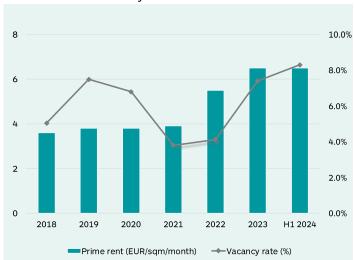
Following a sharp rise in rents in 2022 and 2023, the rental price trend has stabilised since the beginning of 2024, although some regions, particularly Lower Silesia, Central Poland and the suburbs of Warsaw, have seen declines in rental prices for older properties. In the first half of 2024, monthly prime rents remained unchanged overall at EUR 3.60-6.50 per m² for large warehouses and EUR 5.00-7.50 per m² for SBU/city logistics projects. Poland therefore remains significantly more affordable than other European locations. Despite the improved availability of warehouses, rental prices are unlikely to fall in the near future due to the high cost of development financing. However, developers are a little more willing to negotiate in certain locations. With financial incentives such as rent-free periods or contributions offered to tenants for space adaptations, effective rents can be up to 15-25% lower than headline rents.92

Nationwide take-up



Source: Cushman & Wakefield, NORD/LB Sector Strategy Real Estate

Prime rent* und vacancy rate*



Source: Cushman & Wakefield, NORD/LB Sector Strategy Real Estate *at the end of the vear

Investment market in 2024 marked by growth and decline in prime yields

In 2024, the nationwide transaction volume for logistics properties increased significantly year-on-year to EUR 1.3 billion, constituting 25% of the total transaction volume across all asset classes. 93 The number of active investors is growing steadily, with modern ESG-compliant properties in central logistics locations drawing significant attention. Typically high quality, centrally located and let on long-term leases often with a lease renewal option, light industrial properties have also gained in popularity. At the end of the fourth quarter of 2024, the prime yield in Warsaw fell for the first time since the beginning of 2022 to 6.25%, down 25 basis points compared to the previous quarter. However, it remains one of the highest in Europe (for comparison: Europe: 5.01%⁹⁴; Frankfurt: 4.40% with the lowest prime yield in Europe).95

⁹² Cushman & Wakefield: Marketbeat Poland Industrial Q2 2024

 $^{^{\}rm 93}$ Knight Frank: Investment market in Poland in 2024

⁹⁴ Savills: Spotlight: European Investment – Q4 Preliminary Results and Forecasts, January 2025

⁹⁵ CBRE: European Industrial and Logistics Capital Market Figures Q4 2024, February 2025

Outlook: Stable market development likely to continue

	1
Supply	7
Demand	7
Vacancy rate	И
Prime rent	→
Investment volume	7
Prime yield	Я

Forecasts predict that the Polish logistics real estate market will, despite the challenging market conditions, continue to maintain its strength in 2025. In the face of a slowdown in development activity last year after the boom years of 2022 and 2023, the total amount of logistics space across Poland is likely to exceed 35.0 million m2 in 2025, which wouldcorrespond to an increase of over 80% in just five years. 96 Poland's central geographical location in Europe and its stable economic market environment are expected to further bolster its strategic suitability as a hub for production

and logistics centres. Continuous growth in e-commerce will also likely provide a tailwind. Demand for logistics space should therefore develop robustly in 2025. From a regional perspective, the focus of demand is likely to be on the five major logistics markets of Warsaw and suburbs, Upper Silesia, Central Poland, Poznan and Wroclaw, as well as the border cities of Tricity, Krakow and Szczecin. Demand is particularly strong for ESG-compliant and high-quality properties. Taking into account the slowdown in development activity coupled with stable demand, the vacancy rate is likely to remain stable or drop slightly this year. Prime rents are projected to remain stable in 2025. Nevertheless, in view of the low rent levels by European standards and the relatively high proportion of modern space, prime rents are expected to rise in the long term.⁹⁷ Investors will likely continue targeting the Polish logistics investment market this year, although a slight decline in prime yields - particularly for light industrial properties and in Warsaw – can be expected despite high financing costs.

Residential real estate market (Build-To-Rent)

Transformation process in the residential real estate market offers development potential

In line with Europe-wide trends, the Polish residential real estate market is also showing growing demand on the rental housing market, particularly due to demographic and economic change as well as the influx of Ukrainian refugees. Investors are increasingly eyeing the build-to-rent (BTR) sector. In this segment, which is characterised by professional, specialised investors, buildings are designed and constructed specifically for letting. Tenants have access to dedicated customer service, professional flat maintenance and concierge services.98

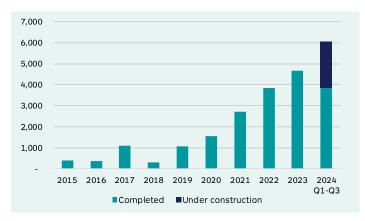
The Polish BTR sector is still in its infancy. Nevertheless, the segment has experienced remarkable growth in recent years and is driving the rapid change in the country's housing landscape as a result. Poland has traditionally had a strong culture of home ownership. 87.2% of the housing stock was privately owned in 2022 (for comparison: EU: 69.1%, Germany: 46.7%). However, the rental real estate market is becoming increasingly important. At the end of the third quarter of 2024, the portfolio of BTR flats in the hands of institutional investors came to more than 19,800, with over 3,840 residential units still under construction. The total number of BTR residential units is therefore likely to have risen by almost a third in the past year. Compared to 2023, the annual number of completions is also projected to have increased

⁹⁶ Cushman & Wakefield: Trends Radar real estate market 2024, From Stability to Optimism

⁹⁷ Savills: Polska Express: All aboard the Polish Logistics freight train, October 2024 98 PWC: Private Rented Sector – a lasting trend, not a fleeting fad. April 2022

by around a third (see figure). However, it should be noted that BTR residential units only account for approx. 1.4% of the total rental housing stock in major Polish cities, with the stock of privately owned rental residential units estimated to be over 1.2 million units. 99 At present, the BTR market is mainly concentrated in the six largest Polish cities, with Warsaw leading the way. The capital covers 41% of the nation's entire BTR portfolio. Investors are also active in Wrocław, Krakow and other regional markets. On account of the changes in Poland's demographics and the needs of families, the market is likely to expand to less centralised areas and smaller towns in the long term. 100

Annual supply of BTR market



Source: Knight Frank 2024, NORD/LB Sector Strategy Real Estate

BTR stock and supply under construction by location (Q4 2023)



Source: Knight Frank 2024, NORD/LB Sector Strategy Real Estate

The rapid market development has been fuelled by a number of factors: In recent years, Poland's major cities have benefited from the influx of young professionals seeking employment in the services, IT and construction sectors. The influx of Ukrainian war refugees since 2022 has further increased demand for rental properties. Warsaw, Krakow and Wrocław also have a significant student population, with a rising number of international students. As household sizes continue to shrink, the total number of households looking for housing is likewise on the rise. Despite a well-functioning project development market, the housing shortage that has plagued the market for years still persists. Poland's low level of urbanisation compared to the rest of Europe and the low level of residential construction activity in the 1940s are two of the main reasons behind the considerable structural housing deficit. Ongoing urbanisation is likely to lead to growing demand in the major cities and their surrounding areas over the next two to three decades. In the six largest cities alone, the supply gap is only slightly south of 500,000 flats – without taking Ukrainian migration into account (migration deficit: 100,000-200,000 residential units). All things considered, Poland is one of the countries with the least favourable living conditions within the EU due to its low number of residential units per 1,000 inhabitants (Poland: 412.4; EU: 494.7), small average size of units, low average number of rooms per inhabitant (Poland: 1.1; EU: 1.7) and low quality affecting a large part of the housing stock.¹⁰¹

Due to insufficient construction activity (2023: 221,000 new flats; +7% YoY), prices on the residential real estate market are continuously on the up. The average asking price per square metre for an apartment in Warsaw was PLN 16,500 in Q4 2023, a 20% increase compared to the beginning of 2023. In the regional cities, this figure rose by 12% over the same period to PLN 14,100.102 Affordability of housing is another

⁹⁹ Knight Frank: Build to rent Living Sector - Review, trends and outlook for BTR market in Poland. 2024

¹⁰⁰ JLL: PRS & PBSA Market in Poland. 2024

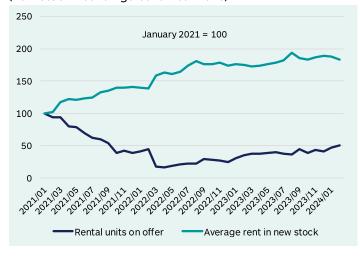
¹⁰² Knight Frank: Build to rent Living Sector - Review, trends and outlook for BTR market in Poland. 2024

factor influencing the development of the institutional rental market. Wages rose noticeably in 2022 and 2023. Nevertheless, affordability has fallen in recent years due to the disproportionate increase in the purchase price of owner-occupied residential units. Due to the high financing costs, renting a flat was cheaper than taking out a mortgage until recently. 103

Growing demand leads to rent hikes

Over the past four years, the Polish rental market has experienced phases of significantly increased demand and phases of stabilisation. Demand for rental units has risen since the start of the postpandemic year 2021. Shortages on the rental supply market led to a 10-50% increase in average rents for new-build properties in eight major cities (see figure). In February 2022, the outbreak of war in Ukraine led to a massive influx of refugees in need of rental accommodation, especially in the largest cities. The supply of rental properties fell by around 60% in just one month in March 2022 and remained low for the remainder of 2022. Average rents in the top eight cities were up 18-34% over the course of the year as a result. In 2023, the number of units available to rent increased slightly due to the return of refugees to Ukraine. Nevertheless, there are still over one million Ukrainians living in Poland and the country may experience a further influx of refugees depending on how the war progresses. As interest rates were high and the creditworthiness of young Poles stayed low, demand on the letting market remained high. While the supply side gradually recovered over the course of 2023 due to a large number of completions in 2022, average rents remained subject to a slight upward trend. Despite an increase in supply, the vacancy rate rose only slightly. New-build units are considered a very attractive segment of the rental market. Among the units completed in the last five years, the vacancy rate is only 2%. Overall, rents in the top eight cities rose by 85% between January 2021 and January 2024, while the available rental supply fell by 54%.104

Rental growth of the new stock and available rental offer (new stock - buildings built after 2010)



Source: JLL, NORD/LB Sector Strategy Real Estate

Rent versus mortgage (December 2023)

		Warsaw	Wroclaw	Krakow	Gdansk	Poznan	Lodz
Average asking monthly rental rate for 1- bedroom	Private landlord market	3,010	2,380	2,430	2,430	1,990	1,700
apartment (PLN)	BTR market	3,380	2,415	2,440	2,580	2,482	1,710
Monthly loan repayment for mortgage with 10 % of own contribution for 30 years		4,109	3,255	3,812	3,106	2,876	2,298
Difference	Private landlord market	1,098	875	1,382	676	886	598
	BTR market	728	840	1,372	526.00	394	588

Source: Knight Frank 2024, NORD/LB Sector Strategy Real Estate

In the major Polish cities, rents on both the private rental market and the BTR market are lower than the realisable monthly mortgage instalments (see table). This reflects the growth potential of the BTR sector. The difference is more pronounced on the private rental market, where rents are typically lower than on the BTR market due to the lower quality of the available units. 105

¹⁰³ JLL: PRS & PBSA Market in Poland. 2024

¹⁰⁵ Knight Frank: Build to rent Living Sector - Review, trends and outlook for BTR market in Poland. 2024

An analysis by JLL for the Mokotów district in Warsaw also revealed that rents in the BTR segment are generally higher than on the private rental market. The location has the highest concentration of BTR flats. With nine projects currently in use and four under construction, the location is attractive for both investors and tenants, offering a large office portfolio, a wide range of services and well-developed infrastructure. Rents for BTR projects in the region are around 7% higher than on the private rental market. This difference becomes all the clearer when broken down by type of flat: It is most pronounced for studios, which are generally 9% more expensive than flats available on the private market. For larger flats, however, the variation in rent is less pronounced. One and two-bedroom flats in BTR properties are only 1% more expensive than in the surrounding rental market, as the target tenants of BTR flats typically young professionals in the city, singles and couples without children – typically prefer smaller flats such as studios. 106

The vacancy rate in the BTR segment is extremely low. For properties that came onto the market more than 12 months ago and have since stabilised, the vacancy rate stands at around 1.6% across Poland. Among the top eight cities, the vacancy rate was lowest in Poznan at 0.7% and highest in Lodz at 2.9%. In Warsaw, the nation's largest market, the vacancy rate was just 1.9%. It should be noted that the completion of larger BTR units in smaller markets can temporarily inflate the vacancy rate. In relation to the total portfolio of BTR flats in Poland, the average vacancy rate at the end of 2023 was 3.5% (previous year: 3.8%).107

Investment market attractive thanks to good fundamentals

The institutional rental market has been on the rise for around 10 years. In 2014, the state rental housing fund "Fundusz Mieszkań na Wynajem" (FMnW) acquired its first building with rental flats. The year 2017 saw Poland's largest BTR platform Resi4Rent launch its first project on Zakładowa Street in Wrocław. Since then, new investors have gradually entered the Polish market and the BTR market has become noticeably more dynamic. As an investor, project developer and manager (JV Echo Investment, Griffin Capital Partners and PIMCO), the market leader Resi4Rent, together with the two rental platforms Vantage Rent and Life Spot, is now responsible for over 46% of operational BTR projects. ¹⁰⁸ In 2021, a record value of almost EUR 700 million was achieved on the Polish residential investment market. By contrast, in light of the turbulent macroeconomic and geopolitical environment and the associated rise in interest rates in 2022, investment volume fell by 28% to just under EUR 500 million. Investor sentiment in the Polish residential sector remained subdued in 2023 despite a marginal fall in financing costs. With single-asset transactions marred by exchange rate risk, continued high financing costs and a booming BTR market, investors increasingly looked to joint ventures, particularly equity investments in BTR platforms, as well as M&A opportunities. On account of the strong fundamentals, namely high demand for rental units, expected rental growth and high capacity utilisation in current BTR projects, the market is expected to continue attracting foreign investors in the future. 109 In spring 2024, the net initial yield for BTR investments in the relatively new, unregulated Polish market was around 5.50%. By contrast, it was significantly lower in the leading Western European cities (3.75-4.50%; see table). According to the latest figures from CBRE, the prime yield in the BTR segment actually fell slightly in the fourth quarter of 2024 compared to the previous quarter (by 25 bps to 5.85%) in anticipation of further interest rate cuts by the ECB.110

¹⁰⁶ JLL: PRS & PBSA Market in Poland, 2024

¹⁰⁷ Knight Frank: Build to rent Living Sector - Review, trends and outlook for BTR market in Poland. 2024

¹⁰⁸ Cushman & Wakefield: The Housing Sector at the Crossroads 2.0, 2024.

 $^{^{109}\,\}mathrm{JLL}$: PRS & PBSA Market in Poland. 2024

¹¹⁰ CBRE: Poland Real Estate Investment Q4 2024

BTR investments: Net initial yields* in selected European countries

	Sep 23	Oct 23	Nov 23	Dec 23	Jan 24	Feb 24	Mar 24	Market sentiment	Rent regulations
Austria	3.90%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	stable	regulated and un-regulated
France	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	stable	Rent controls in Paris and other cities
Germany	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	stable	Rental indexation (Mietspiegel)
Ireland	4.50%	4.50%	4.75%	4.75%	4.75%	4.75%	4.75%	stable	Rentcontrols in "Rent Pressure Zones"
Netherlands	4.20%	4.20%	4.40%	4.40%	4.40%	4.40%	4.40%	stable	Points based indexation
Poland	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	stable	-
Spain	4.40%	4.40%	4.00%	4.00%	4.00%	4.00%	4.00%	stable	Rent caps
UK	3.75%	3.75%	3.90%	3.90%	3.90%	3.90%	3.90%	stable	Some affordability requirement

Source: Knight Frank 2024, NORD/LB Sector Strategy Real Estate, *in main and gateway cities

Outlook: BTR segment on course for expansion

Household demand	7
Supply/ construction activity	7
Prices	7
Rents	7
Investment volumes	7
Prime yield	Я

The institutional lettings market has become an integral part of the Polish residential real estate market. Demand for residential real estate is likely to remain high in the future. With the shift towards ever smaller households, the influx of young workers and the growing number of international students, the number of households in the major Polish cities¹¹¹ is expected to continue to rise. According to CBRE forecasts, the number of households is likely to increase by 1.7% in the period 2024-2028. Growth is projected to be highest in Warsaw (+3.2%).¹¹² The major metropolitan areas

are already facing a severe housing shortage. Despite only accounting for a small percentage of the total housing stock at present, the BTR segment is expected to see further rapid market growth in the coming years. By the end of 2027, the BTR portfolio is forecast to increase 2.5-fold to over 40,000 rental units.¹¹³ Investors are prioritising central locations with good public transport links and easy access to universities and office hubs. The Polish BTR segment continues to be perceived as an attractive market as investors target opportunities with secure cash flows and strong rental growth potential. The latter of these is attributable to the limited supply of rental units, the rapid rise in house prices and high financing costs. While the currency risk associated with leases predominantly denominated in PLN remains a challenge for some investor groups, others are either willing to bear the hedging costs or simply accept the exchange rate risk, which is reflected in the strong presence of international capital in the Polish BTR sector. 114 In line with developments in other European markets, transaction activity on the investment market has been somewhat subdued since 2022 due to high interest rates. However, falling financing costs are expected to cause investor demand to rise again due to the favourable fundamentals offered by the Polish BTR market. This also applies to other sub-sectors of the residential segment, such as student housing, co-living and serviced flats for senior citizens. 115 As a result, the prime yield is also likely to fall further.116

¹¹¹ Warsaw, Krakow, Wrocław, Tricity, Poznan, Szczecin

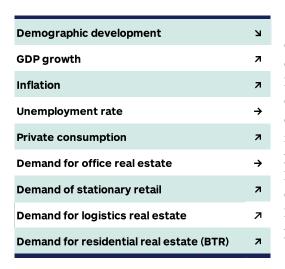
¹¹² CBRE: Real Estate Market Outlook Poland 2024

¹¹³ JLL: PRS & PBSA Market in Poland. 2024

¹¹⁵ Cushman & Wakefield: Trends Radar real estate market 2024, From Stability to Optimism

¹¹⁶ CBRE: Poland Real Estate Investment Q4 2024

Conclusion and outlook



Following a phase of stabilisation in 2024, the economic outlook and the future development of Poland's real estate markets are characterised by increasing optimism. Real GDP is expected to grow by 3.6% in 2025. Private consumption will remain the most important growth driver alongside public investment by the EU. The forecast upturn in economic growth in key trading partners should have a positive impact on net exports. However, this is likely to be countered by the dampening effect of US President Donald Trump's tariff policy. Inflation, which is expected to rise again this year before plateauing in 2026, also remains a challenge.

The outlook for the Polish real estate investment market is also promising. The further upturn in transaction activity expected for the current year is underpinned not only by favourable macroeconomic conditions, but also by stable rental markets and ongoing monetary easing by major central banks. The European Central Bank is likely to cut its key interest rate to 2.00% in the course of the year. The US Federal Reserve is also projected to lower its interest rate to 3.50% over the next twelve months.¹¹⁷ Although the National Bank of Poland is unlikely to cut interest rates until the second half of 2025 at the earliest due to increased inflation, the aforementioned easing measures should spur further investments in the commercial real estate market. The recovery of the investment markets led to a stabilisation of prime yields last year. The trend in favour of yield compression is likely to continue in 2025, particularly in the capital-intensive logistics segment. 118 In the office sector, prime yields are predicted to take a slight downturn on the Warsaw investment market. In the retail segment, yield compression will take some time after a stabilisation phase. 119 On the whole, Poland remains particularly attractive for foreign investors due to the higher yield level compared to other Western European countries. 120

The high attractiveness of Poland as a destination for cross-border property investments is also reflected in a survey conducted by CBRE among European property investors. For the second year in a row, Poland has ranked in third place after the UK and Spain. Accordingly, Poland promises investors higher returns than Germany or Sweden (4th and 5th place). 121 Annual reports by PwC and ULI have also confirmed that confidence in Central European cities such as Warsaw is growing among European real estate investors in view of the growth prospects. Against this backdrop, the Polish capital was able to move up two places to 12th place in the ranking of the most attractive European cities in 2025 compared to the previous year.122

¹¹⁷ NORD/LB: Economic Adviser, 31 January 2025

¹¹⁸ Knight Frank: Investment market in Poland in 2024

¹¹⁹ Cushman & Wakefield: Trends Radar real estate market 2024, From Stability to Optimism

¹²⁰ Knight Frank: Investment market in Poland in 2024

¹²¹ CBRE: European Investor Intentions Survey, January 2025

¹²² PwC und Urban Land Institute: Emerging Trends in Real Estate®: Europe 2025

Individual asset classes are likely to continue stabilising and recovering at different paces. The following asset-specific developments deserve special mention:

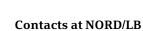
- // In 2025, the development of the **office real estate market** will continue to be governed by the rise of hybrid working along with the flight-to-quality trend. Class A office space in central locations will continue to drive demand. The segmentation between modern and energy-efficient space in central locations and older space in decentralised locations is likely to drive a further wedge between the development of rents and vacancies. While construction activity in Warsaw is likely to increase in 2025, the supply of new office space in the regional office markets is expected to remain limited.
- // The Polish retail real estate market recovered significantly last year. Retail sales have risen and the outlook for 2025 and 2026 is also extremely positive, underscoring the future market potential in this sector. As the economy continues to recover, consumer confidence will likely follow this trend over time. Demand from international brand manufacturers making their debut on the Polish market remains high. Competition for prime space in shopping centres is likely to continue to increase, causing prime rents to further increase. While construction activity in this segment continues to plateau and the implementation of ESG principles as well as the modernisation and expansion of existing space are coming to the fore in view of increasing market saturation, investor interest in retail parks is growing steadily. In the case of retail parks, the focus is on supplying the local population, particularly in small towns.
- // Despite the challenging market conditions, the logistics real estate market is expected to maintain its strength in 2025. Poland's importance as a logistics hub in Europe is growing at a steady pace. In addition to its central geographical location in Europe and its impressive economic strength, further planned investments in infrastructure are likely to increase Poland's attractiveness as a hub for logistics and distribution networks. The logistics real estate market also harbours impressive potential with its sustainable and high-quality stock, which is expected to pick the interest of international investors.
- // Furthermore, the institutional lettings market (BTR) is likely to continue its rapid growth trajectory moving forward. The number of households in the major cities is expected to grow further in the coming years. At the same time, urban centres are already confronted with a major housing shortage. The BTR segment is of particular interest to investors due to the secure cash flows and the expected rental growth potential. Central locations with good public transport links and easy access to universities and office centres are particularly in demand. In addition to the BTR segment, investor demand for other sub-sectors such as student housing, co-living and serviced flats for senior citizens is also likely to increase further.

After the Polish economy and real estate markets performed better than expected in the past year, we can look forward to the current year with renewed optimism. Improved economic indicators such as strong economic growth and robust labour markets combined with more favourable financing conditions will provide positive impetus for the Polish real estate market in 2025. The stabilisation and predictability of the framework conditions have proven to be key factors for business activity and investment planning. Trends such as sustainability, artificial intelligence and demographic change will shape the future development of the real estate market. Demand for energy-efficient and smart buildings will continue to increase, as will the use of renewable energy sources and environmentally friendly building materials.

Poland has demonstrated its resilience in recent years and shown that it can adapt to changing conditions. On account of this and other factors, the Polish real estate market is well equipped for further growth across all asset classes. This will primarily be driven by the strong fundamentals and growing investor confidence in the nation's long-term market potential. $^{\rm 123}$

 $^{^{123}\,\}mathrm{Knight}$ Frank: European Commercial Outlook 2025, 11 December 2024

Appendix





Dr Martina Noß Head of Research/Economics +49 511 361 - 2008 +49 172 512 2742 martina.noss@nordlb.de



Claudia Drangmeister Sector Research Real Estate +49 511 361 - 6564 +49 172 451 6503 claudia. drang meister @nordlb. de



Julia Müller-Siekmann Sector Research Real Estate +49 511 361 - 5375 +49 174 189 7790 julia.mueller-siekmann@nordlb.de

Additional contacts at Deutsche Hypo - NORD/LB Real Estate Finance:

Deutsche Hypo - NORD/LB Real Estate Finance - is the centre of competence for the commercial real estate financing business of NORD/LB. The unit has a presence in Germany, the UK, France, Benelux, Spain, Poland and Austria and maintains its headquarters in Hanover. It also has offices in Berlin, Düsseldorf, Frankfurt, Hamburg and Munich, as well as Amsterdam, London, Madrid, Paris and Warsaw. NORD/LB is one of Germany's largest real estate financing institutes. Further information on Deutsche Hypo can be found at www.deutsche-hypo.de.

Beata Latoszek

Head of Representative Office Warsaw +48 22 828 0253 +48 786 865 732 or 608 306 460 beata.latoszek@deutsche-hypo.de

Ingo Martin

Bank Director Head of Real Estate Finance Origination +49 511 361-2217 +49 172 140 2847 ingo.martin@deutsche-hypo.de

Heiko Muchall

Valuation Management Head of DH International +31 621425747 heiko.muchall@deutsche-hypo.de

Important legal framework conditions

This Information report (hereinafter referred to as "Material") was drawn up by NORDDEUTSCHE LANDESBANK GIROZENTRALE ("NORD/LB"). The supervisory authorities in charge of NORD/LB are the European Central Bank ("ECB"), Sonnemannstraße 20. D-60314 Frankfurt am Main, and the Federal Financial Supervisory Authority (Bundesanstalt für Finanz dienst leitung sauf sicht-"BaFin"), Graurheindorfer Str.108, D-53117 Bonn, and Marie-Curie-Str. 24-28, D-60439 Frankfurt am Main. If this Material has been provided to you by your Sparkasse, this Sparkasse is also subject to supervision by BaFin and, if applicable, also by the ECB. Generally, this Material or the products or services described therein have not been reviewed or approved by the competent supervisory authority.

This Material is addressed exclusively to recipients in Australia, Austria, Belgium, Canada, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Indonesia, Ireland, Italy, Korea, Luxembourg, the Netherlands, New Zealand, Poland, Portugal, Singapore, Spain, Sweden, Switzerland, the Republic of China (Taiwan), Thailand, the United Kingdom and Vietnam (hereinafter the "Relevant Persons" or "Recipients"). The contents of this Material are disclosed to the Recipients on a strictly confidential basis and, by accepting this Material, the Recipients agree that they will not forward to third parties, copy in whole or in part or translate into other languages, and/or reproduce this Material without NORD/LB's prior written consent. This Material is only addressed to Persons must not rely on the information in this Material. In particular, neither this Material nor any copy thereof must be forwarded or transmitted to Japan or the United States of America or its territories or possessions or distributed to any employees or affiliates of Recipients resident in these jurisdictions

This Material is not an investment recommendation/investment strategy recommendation, but customer information solely intended for general information purposes. For this reason, this Material has not been drawn up in consideration of all statutory requirements with regard to the impartiality of investment recommendations/investment strategy recommendations. Furthermore, this Material is not subject to the prohibition of trading before the publication of investment recommendations/investment strategy recommendations.

This Material have been compiled and are provided exclusively for information purposes. This Material is not intended as an investment incentive. It is provided for the Recipient's personal information, subject to the express understanding, which is acknowledged by the Recipient, that it does not constitute any direct or indirect offer, recommendation, solicitation to purchase, hold or sell or to subscribe for or acquire any securities or other financial instruments nor any measure by which financial instruments might be offered or sold.

All actual details, information and statements contained herein were derived from sources considered reliable by NORD/LB. For the preparation of this Material NORD/LB uses issuer-specific financial data providers, own estimates, company information and public media. However, since these sources are not verified independently, NORD/LB cannot give any assurance as to or assume responsibility for the accuracy and completeness of the information contained herein. The opinions and prognoses given herein on the basis of these sources constitute a non-binding evaluation of NORD/LB. Any changes in the underlying premises may have a material impact on the developments described herein. Neither NORD/LB nor its governing bodies or employees can give any assurance as to or assume any responsibility or liability for the accuracy, adequacy and completeness of this Material or any loss of return, any indirect, consequential or other damage which may be suffered by persons relying on the Material or any statements or opinions set forth in this Material (irrespective of whether such losses are incurred due to any negligence on the part of these persons or otherwise).

Past performances are not a reliable indicator of future performances. Exchange rates, price fluctuations of the financial instruments and similar factors may have a negative impact on the value and price of and return on the financial instruments referred to herein or any instruments linked thereto. In connection with securities (purchase, sell, custody) fees and commissions apply, which reduce the return on investment. An evaluation made on the basis of the historical performance of any security does not necessarily give an indication of its future performance

Also this Material as a whole or any part thereof is not a sales or other prospectus. Correspondingly, the information contained herein merely constitutes an overview and does not form the basis for an investor's potential decision to buy or sell. A full description of the details relating to the financial instruments or transactions, which may relate to the subject matter of this Material is set forth in the relevant (financing) documentation. To the extent that the financial instruments described herein are NORD/LB's own issues and subject to the requirement to publish a prospectus, the conditions of issue applicable to any individual financial instrument and the relevant prospectus published with respect thereto as well NORD/LB's relevant registration form, all of which are available for downloading at www.nordlb.de and may be obtained, free of charge, from NORD/LB, Friedrichswall 10, 30159 Hanover, shall be solely binding. Any potential investment decision should at any rate be made exclusively on the basis of such (financing) documentation. This Material cannot replace personal advice. Before making an investment decision, each Recipient should consult an independent investment adviser for individual investment advice with respect to the appropriateness of an investment in financial instruments or investment strategies as contemplated herein as well as for other and more recent information on certain investment opportunities.

Each of the financial instruments referred to herein may involve substantial risks, including capital, interest, index, currency and credit risks, political, fair value, commodity and market risks. The financial instruments could experience a sudden substantial deterioration in value, including a total loss of the capital invested. Each transaction should only be entered into on the basis of the relevant investor's assessment of its individual financial situation as well as of the suitability and risks of the investment

The information set forth in this Material shall supersede all previous versions of any relevant information and refer exclusively to the date as of which this Material has been drawn up. Any future versions of this Material shall supersede this present version. NORD/LB shall not be under any obligation to update and/or review this Material at regular intervals. Therefore, no assurance can be given as to its currentness and continued

By making use of this Material, the Recipient shall accept the foregoing terms and conditions.

NORD/LB is a member of the protection scheme of Deutsche Sparkassen-Finanzgruppe. Further information for the Recipient is set forth in clause 28 of the General Terms and Conditions of NORD/LB or at www.dsgv.de/sicherungssystem

Additional information for recipients in Australia

NORD/LB IS NOT A BANK OR AN AUTHORISED DEPOSIT TAKING INSTITUTION AUTHORISED UNDER THE BANKING ACT 1959 OF AUSTRALIA. IT IS NOT REGULATED BY THE AUSTRALIAN PRUDENTIAL REGULATION AUTHORITY.

NORD/LB is not providing personal advice with this Material, and has not considered one or more of the recipient's objectives, financial situation and need (other than for anti-money laundering purposes).

Additional information for recipients in AustriaNone of the information contained in this Material constitutes a solicitation or offer by NORD/LB or its affiliates to buy or sell any securities, futures, options or other financial instruments or to participate in any other strategy. Only the published prospectus pursuant to the Austrian Capital Market Act should be the basis for any investment decision of the Recipient.

For regulatory reasons, products mentioned in this Material may not being offered into Austria and are not available to investors in Austria. Therefore, NORD/LB might not be able to sell or issue these products, nor shall it accept any request to sell or issues these products, to investors located in Austria or to intermediaries acting on behalf of any such investors.

Additional information for recipients in Belgium

Evaluations of individual financial instruments on the basis of past performance are not necessarily indicative of future results. It should be noted that the reported figures relate to past years

Additional information for recipients in Canada

This Material has been prepared solely for information purposes in connection with the products it describes and should not, under any circumstances, be construed as a public offer or any other offer (direct or indirect) to buy or sell securities in any province or territory of Canada. No financial market authority or similar regulatory body in Canada has made any assessment of these securities or reviewed this Material and any statement to the contrary constitutes an offence. Potential selling restrictions may be included in the prospectus or other documentation relating to the relevant product.

Additional information for recipients in Cyprus

This Material constitutes an analysis within the meaning of the definition section of the Cyprus Directive D1444-2007-01(No 426/07). Furthermore, this Material is provided for informational and advertising purposes only and does not constitute an invitation or offer to sell or buy or subscribe any investment product.

Additional information for recipients in Czech Republic

There is no guarantee to get back the invested amount. Past performance is no guarantee of future results. The value of investments could go up and down.

The information contained in this Material is provided on a nonreliance basis and its author does not accept any responsibility for its content in terms of correctness, accuracy or otherwise.

Additional information for recipients in Denmark

This Material does not constitute a prospectus under Danish securities law and consequently is not required to be nor has been filed with or approved by the Danish Financial Supervisory Authority as this Material either (i) has not been prepared in the context of a public offering of securities in Denmark or the admission of securities to trading on a regulated market within the meaning of the Danish Securities Trading Act or any executive orders issued pursuant thereto, or (ii) has been prepared in the context of a public offering of securities in Denmark or the admission of securities to trading on a regulated market in reliance on one or more of the exemptions from the requirement to prepare and publish a prospectus in the Danish Securities Trading Act or any executive orders issued pursuant thereto.

Additional information for recipients in Estonia

It is advisable to examine all the terms and conditions of the services provided by NORD/LB. If necessary, Recipient of this Material should consult with an expert.

Additional information for recipients in Finland

The financial products described in this Material may not be offered or sold, directly or indirectly, to any resident of the Republic of or sold, directly or indirectly, to any resident of the Republic of Finland or in the Republic of Finland, except pursuant to applicable Finnish laws and regulations. Specifically, in the case of shares, those shares may not be offered or sold, directly or indirectly, to the public in the Republic of Finland as defined in the Finnish Securities Market Act (746/2012, as amended). The value of investments may go up or down. There is no guarantee to get back the invested amount. Past performance is no guarantee of future results.

Additional information for recipients in France

NORD/LB is partially regulated by the Autorité des Marchés Financiers for the conduct of French business. Details about the extent of our regulation by the respective authorities are available from us on request.

This Material constitutes an analysis within the meaning of Article 24(1) Directive 2006/73/EC, Article L.544-1 and R.621-30-1 of the French Monetary and Financial Code and does qualify as recommendation under Directive 2003/6/EC and Directive 2003/125/EC

Additional information for recipients in Greece The information herein contained describes the view of the author at

the time of its publication and it must not be used by its Recipient unless having first confirmed that it remains accurate and up to date at the time of its use.

Past performance, simulations or forecasts are therefore not a reliable indicator of future results. Mutual funds have no guaranteed performance and past returns do not guarantee future performance.

Additional information for recipients in Indonesia

This Material contains generic information and has not been tailored to certain Recipient's specific circumstances. This Material is part of NORD/LB's marketing materials.

Additional information for recipients in Ireland

This Material has not been prepared in accordance with Directive 2003/71/EC, as amended, on prospectuses (the "Prospectus Directive") or any measures made under the Prospectus Directive or the laws of any Member State or EEA treaty adherent state that implement the Prospectus Directive or those measures and therefore may not contain all the information required where a document is prepared pursuant to the Prospectus Directive or those laws

Additional information for recipients in Korea

This Material has been provided to you without charge for your convenience only. All information contained in this Material is factual information and does not reflect any opinion or judgement of NORD/LB. The Material contained in this Material should not be construed as an offer, marketing, solicitation or investment advice with respect to financial investment products in this Material.

Additional information for recipients in Luxembourg

Under no circumstances shall this Material constitute an offer to sell, or issue or the solicitation of an offer to buy or subscribe for Products or Services in Luxembourg.

Additional information for recipients in New Zealand

NORD/LB is not a registered Bank in New Zealand. This Material is general information only. It does not take into account your financial situation or goals and is not a personalized financial adviser service under the Financial Advisers Act 2008

Additional information for recipients in Netherlands

The value of your investments may fluctuate. Results achieved in the past do not offer any guarantee for the future (De waarde van uw belegging kan fluctueren. In het verleden behaalde resultaten bieden geen garantie voor de toekomst).

Additional information for recipients in Poland

This Material does not constitute a recommendation within the meaning of the Regulation of the Polish Minister of Finance Regarding Information Constituting Recommendations Concerning Financial Instruments or Issuers thereof dated 19

Additional information for recipients in Portugal

This Material is intended only for institutional clients and may not be (i) used by, (ii) copied by any means or (iii) distributed to any other kind of investor, in particular not to retail clients. This Material does not constitute or form part of an offer to buy or sell any of the securities covered by the report nor can be understood as a request to buy or sell securities where that practice may be deemed unlawful. This Material is based on information obtained from sources which we believe to be reliable, but is not guaranteed as to accuracy or completeness. Unless otherwise stated, all views herein contained are solely expression of our research and analysis and subject to change without notice.

Additional information for recipients in Singapore

This Material is intended only for Accredited Investors or Institutional Investors as defined under the Securities and Futures Act in Singapore. If you have any queries, please contact your respective financial adviser in Singapore.

This Material is intended for general circulation only. It does not constitute investment recommendation and does not take into account the specific investment objectives, financial situation or particular needs of the Recipient. Advice should be sought from a financial adviser regarding the suitability of the investment product, taking into account the specific investment objectives, financial situation or particular needs of the Recipient, before the Recipient makes a commitment to purchase the investment product.

Additional information for recipients in Sweden

This Material does not constitute or form part of, and should not be construed as a prospectus or offering memorandum or an offer or invitation to acquire, sell, subscribe for or otherwise trade in shares, subscription rights or other securities nor shall it or any part of it form the basis of or be relied on in connection with any contract or commitment whatsoever. This Material has not been approved by any regulatory authority. Any offer of securities will only be made pursuant to an applicable prospectus exemption under EC Prospectus Directive, and no offer of securities is being directed to any person or investor in any jurisdiction where such action is wholly or partially subject to legal restrictions or where such action would require additional prospectuses, other offer documentation, registrations or other actions.

Additional information for recipients in Switzerland This Material has not been approved by the Federal Banking Commission (merged into the Swiss Financial Market Supervisory Authority "FINMA" on 1 January 2009).

NORD/LB will comply with the Directives of the Swiss Bankers Association on the Independence of Financial Research, as

This Material does not constitute an issuing prospectus pursuant to article 652a or article 1156 of the Swiss Code of Obligations. This Material is published solely for the purpose of information on the products mentioned in this Material. The products do not qualify as units of a collective investment scheme pursuant to the Federal Act on Collective Investment Schemes (CISA) and are therefore not subject to the supervision by the Swiss Financial Market Supervisory Authority (FINMA).

Additional information for recipients in the Republic of China

This Material is provided for general information only and does not take into account any investor's particular needs, financial status, or investment objectives. Nothing in this Material should be construed as a recommendation or advice for you to subscribe to a particular investment product. You should not rely solely on the Material provided when making your investment decisions. When considering any investment, you should endeavour to make your own independent assessment and determination on whether the investment is suitable for your needs and seek your own professional financial and legal advice.

NORD/LB has taken all reasonable care in producing this Material and trusts that the information is reliable and suitable for your situation at the date of publication or delivery, but no representation or warranty of accuracy or completeness is given. To the extent that NORD/LB has exercised the due care of a good administrator, we accept no responsibility for any errors, omissions, or misstatements in this Material. NORD/LB does not guarantee any investment results and does not guarantee that the strategies employed will improve investment performance or achieve your investment objectives.

Additional information for recipients in the UK

NORD/LB is subject to limited regulation by the Financial Conduct Authority ("FCA") and the Prudential Regulation Authority ("PRA"). Details about the extent of our regulation by the FCA and PRA are available from NORD/LB on request.

This Material is a financial promotion. Relevant Persons in the UK should contact NORD/LB's London Branch, Investment Banking Department, Telephone: 0044 / 2079725400 with any gueries

Investing in financial instruments referred to in this Material may expose an investor to a significant risk of losing all of the amount invested.

Editorial deadline: Thursday, 20 February 2025, 11:00 AM.