

Real Estate Monitor

PwC's Real Estate Institute

April 2021

Contact

Dirk Hennig

Tel.: +49 30 2636 1166
dirk.hennig@pwc.com

Prof. Dr. Florian Hackelberg

Tel.: +49 30 2636 1044
florian.hackelberg@pwc.com

Dr. Patrick Lehmann

Tel.: +49 30 2636 5304
patrick.lehmann@pwc.com

Consolidation in commercial, recovery in residential real estate

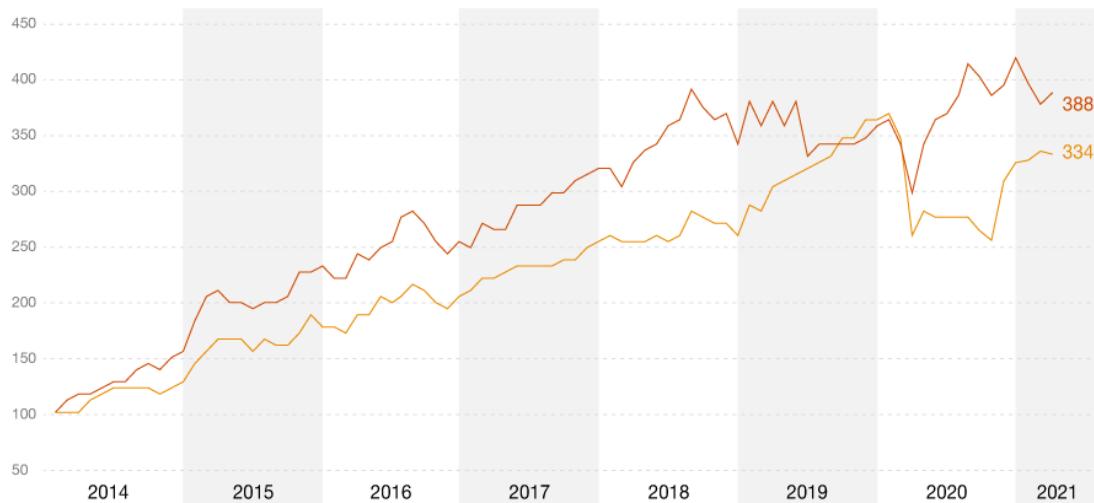
Real Estate Monitor, April 2021

After a very strong increase in value of +26.2% in the past 6 months, the PwC Real Estate Index for commercial real estate has taken a breather for the time being. In contrast to the trend of recent months, the index fell slightly by -0.5% to 334 points. In comparison, the residential counterpart was able to recover a bit from the setbacks of the past months. In March, it rose by +2.6% to 388 points.

In March, we updated the composition of the peer group of international real estate companies due to changes in the composition of the MSCI World. This lowers the international WACC to 5.0%. The German WACC, on the other hand, remains almost unchanged at 2.9%.

In comparison to Q4 2020, the EBITDA multiples for Residential fell by 2.4x to 32.8x, while the EBITDA multiples for Commercial rose by 1.5x to 20.7x.

PwC Real Estate Index – Germany (Jan 2014 – Mar 2021)



Performance (31 March 2021)

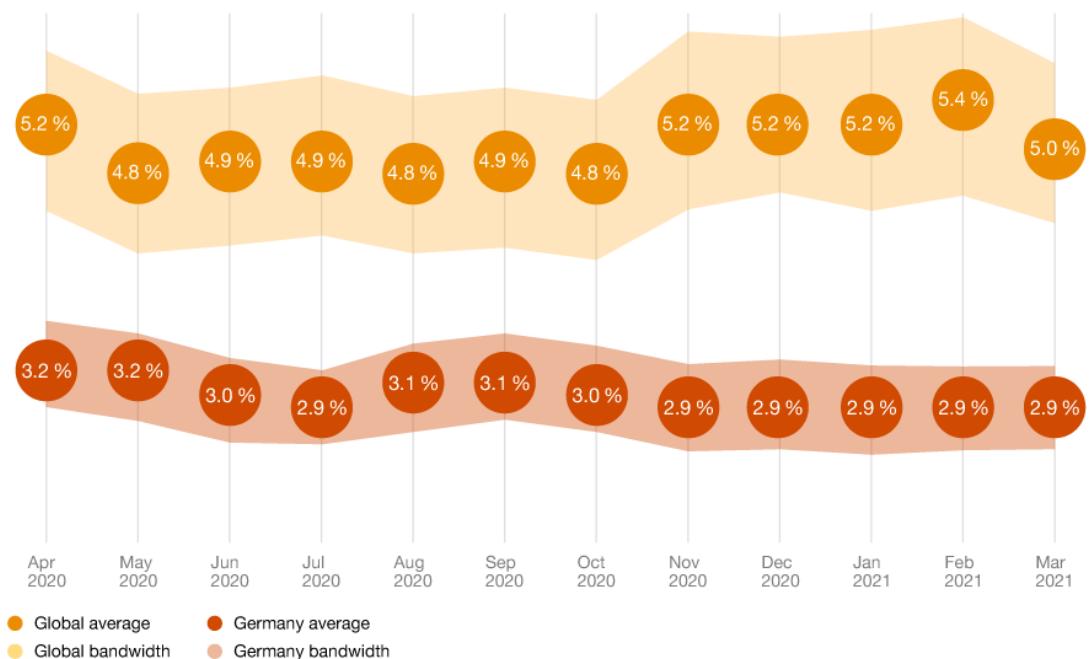
Index	YTD	1 Month	3 Month	6 Month	1 Year	2 Years	3 Years	5 Years
Commercial	3.19 %	-0.5 %	3.2 %	26.2 %	28.2 %	9.4 %	32.0 %	79.1 %
Residential	-7.50 %	2.6 %	-7.5 %	-3.8 %	29.3 %	1.6 %	19.2 %	58.6 %

Source: PwC "Real Estate Monitor"

Stock price data per company within the respective peer group is collected using the S&P Capital IQ Data Item „IQ_ClosePrice_Adj“. Capital IQ defines the Close Price as: The closing price of the day, calculated once per day after the market close. Close prices are adjusted for stock splits, cash dividends, rights offerings, and spin-offs. The underlying peer groups are revised and adjusted once per year on 31 December. New players on the German real estate market are thus identified and included, while delisted companies are excluded.

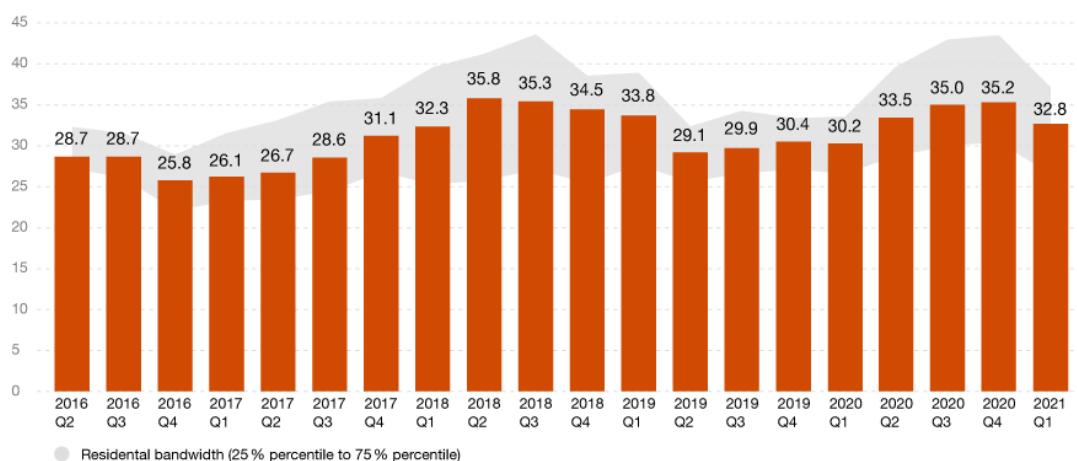
Note: Since the vacancy rates are taken from the quarterly and annual reports, they are only updated every three month and therefore not part of this edition of the RE Monitor.

Weighted Average Cost of Capital (WACC)

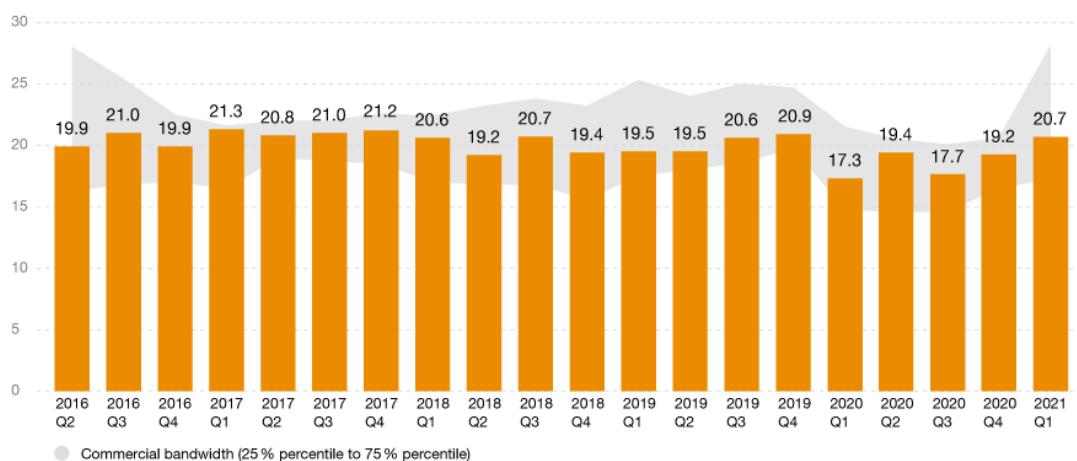


Source: PwC "Real Estate Monitor"

EBITDA Multiple – Residential Germany (per quarter)



EBITDA Multiple – Commercial Germany (per quarter)



Source: PwC "Real Estate Monitor"

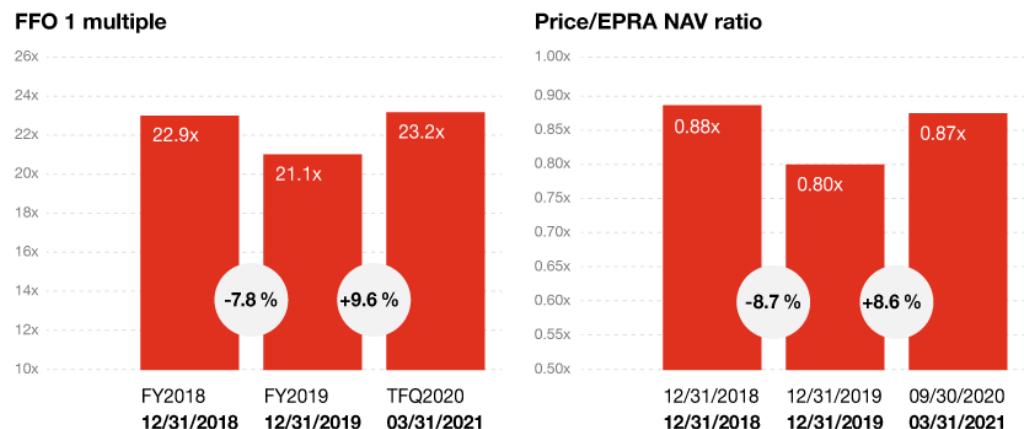
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PwC's Real Estate Institute – Real Estate KPIs

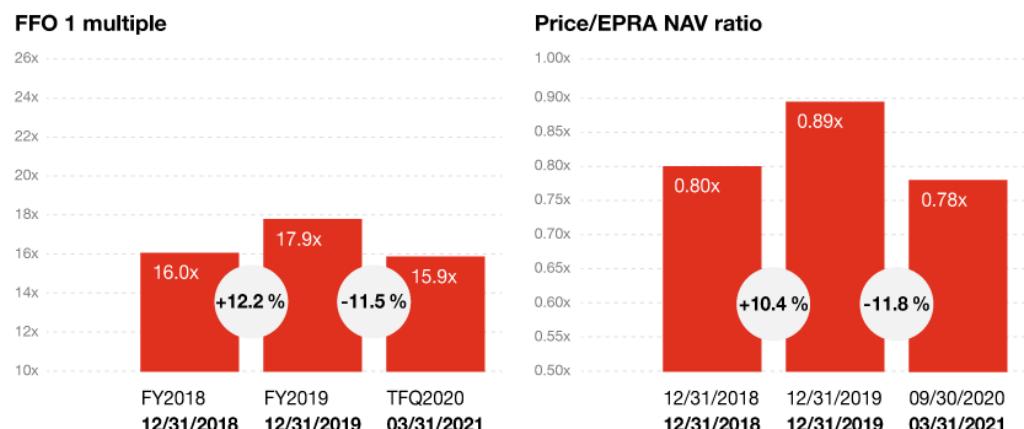
Minor increase of the gap between residential and commercial multiples

In order to gain insight into the changes in value of 18 major players in the German real estate market, we have analysed the sector-specific Real Estate KPIs FFO 1 and EPRA NAV from the financial periods FY2018, FY2019 and TFQ2020, i.e. Q4 2019 to Q3 2020 (TFQ: Trailing Four Quarters). We have put the share prices on the balance sheet dates 31 Dec 2018, 31 Dec 2019 and 31 Mar 2021 in relation to the above-mentioned key figures from the corresponding financial periods. The resulting average ratios by segment are shown in the figures below.

Sector-specific KPIs FFO 1 and EPRA NAV Residential



Sector-specific KPIs FFO 1 and EPRA NAV Commercial



Source: PwC "Real Estate Monitor"

FFO 1 multiples and Price/EPRA NAV ratios by segment

The table below shows the individual FFO 1 multiples and Price/EPRA NAV ratios of our peer group by segment. The key figures relate to the financial periods FY2018, FY2019 and TFQ2020 and the share prices as of 31 December 2018, 31 December 2019 and 31 March 2021.

Reading example: Vonovia was valued by the market at 21.3x of its FFO 1 as of 31 December 2019, whereas on 31 March 2021 it was valued at 24.2x of its FFO 1.

Stock price as of KPI (FFO and NAV) as of	FFO 1 multiple			Price/EPRA NAV ratio		
	12/31/2018	12/31/2019	03/31/2021	12/31/2018	12/31/2019	03/31/2021
	FY2018	FY2019	TFQ2020	12/31/2018	12/31/2019	09/30/2020
RESIDENTIAL						
ADLER Real Estate AG	13.9x	12.8x	**** 15.2x	0.63x	0.49x	*** 0.66x
ADO Properties SA	30.1x	22.4x	* 26.7x	0.83x	0.49x	* 0.64x
Deutsche Wohnen SE	29.4x	24.3x	25.1x	0.95x	0.77x	0.83x
Grand City Properties SA	15.9x	16.8x	17.1x	0.84x	0.87x	0.85x
GSW Immobilien AG	36.2x	29.4x	* 34.7x	-	-	-
LEG Immobilien AG	18.1x	20.0x	21.3x	0.95x	1.00x	0.97x
TAG Immobilien AG	21.6x	21.9x	20.9x	1.15x	1.08x	1.16x
Vonovia SE	18.2x	21.3x	24.2x	0.79x	0.88x	0.96x
25 %-Percentile	17.5x	19.2x	20.0x	0.81x	0.63x	0.75x
Average	22.9x	21.1x	23.2x	0.88x	0.80x	0.87x
75 %-Percentile	29.6x	22.9x	25.5x	0.95x	0.94x	0.97x
COMMERCIAL						
alstria office REIT-AG	18.8x	26.6x	21.9x	0.81x	0.94x	0.77x
Aroundtown SA	18.5x	18.6x	12.3x	0.94x	0.92x	0.57x
CPI Property Group SA	38.8x	28.3x	26.0x	1.41x	1.18x	1.19x
Deutsche EuroShop AG	10.4x	10.9x	8.5x	0.59x	0.62x	** 0.45x
Deutsche Real Estate AG	5.9x	14.4x	* 17.1x	0.21x	0.52x	* 0.65x
DIC Asset AG	9.4x	12.0x	12.0x	0.59x	0.92x	0.87x
Fair Value REIT-AG	13.8x	16.6x	* 14.0x	0.77x	0.73x	* 0.56x
Hamborner REIT AG	12.7x	14.4x	13.1x	0.78x	0.84x	0.80x
TLG Immobilien AG	18.6x	20.8x	** 17.8x	0.92x	0.87x	0.73x
VIB Vermoegen AG	12.9x	16.8x	16.0x	1.04x	1.34x	1.25x
25 %-Percentile	11.0x	14.4x	12.5x	0.63x	0.75x	0.59x
Average	16.0x	17.9x	15.9x	0.80x	0.89x	0.78x
75 %-Percentile	18.6x	20.2x	17.6x	0.93x	0.93x	0.85x

* No quarterly report available. Therefore, the stock market prices as of 31.03.2021 were put in relation to the Q2-2020 figures.

** No data available in the quarterly report. Therefore, the stock market prices as of 31.03.2021 were put in relation to the Q2-2020 figures.

*** No data available in the quarterly report. Therefore, the stock market prices as of 31.03.2021 were put in relation to the FY2019 figures.

**** Adler Real Estate is excluded from the peer group as of 31 December 2020 due to the merger with ADO Properties.

For better comparability, however, the multiple will initially be extrapolated.

Source: PwC "Real Estate Monitor"

Multiples for residential sector rising while multiples for commercial show negative development*

When analysing the FFO 1 multiple and the price/EPRA NAV ratio as at 31 March 2021, the same trend can be seen as in the development of the indices. For commercial, the average valuation level has fallen slightly, whereas the valuation for residential has risen moderately.

For better comparability, we kept ADLER Real Estate in the Peer Group, although no multiples could be calculated as of 31 March because of the merger with ADO Properties. Excluding ADLER would lead to higher multiples, since ADLER's multiples are at the lower end of the average.

*Compared with last month's issue of the RE Monitor.

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COVID-19 Special – Real Estate during the crisis

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Contact

Dirk Hennig

Tel.: +49 30 2636 1166

dirk.hennig@pwc.com

Prof. Dr. Florian Hackelberg

Tel.: +49 30 2636 1044

florian.hackelberg@pwc.com

Dr. Patrick Lehmann

Tel.: +49 30 2636 5304

patrick.lehmann@pwc.com

Real Estate sector is not able to keep the pace of the overall market

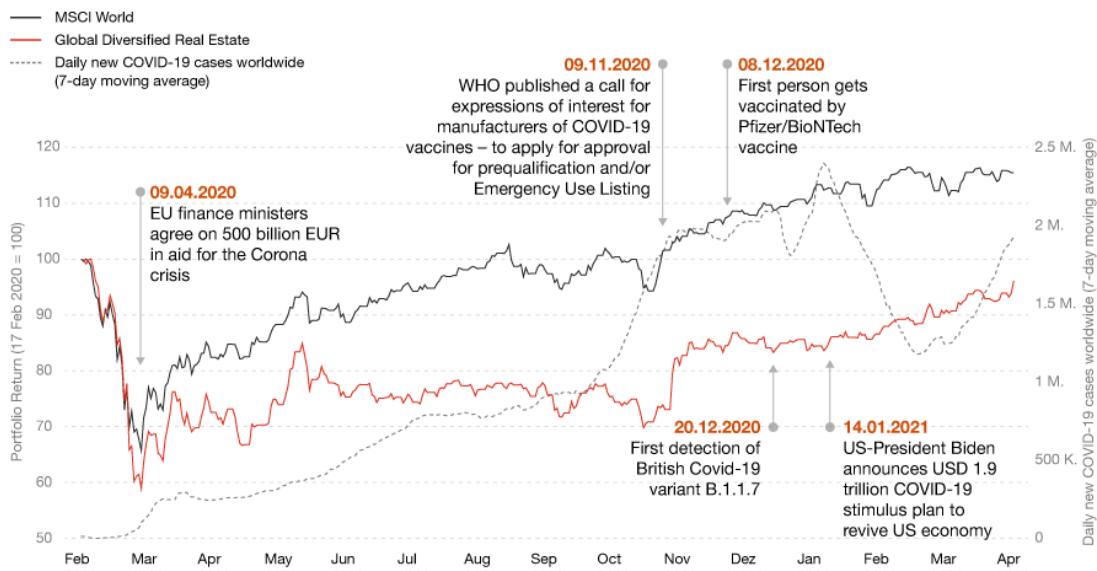
Overall market now at all-time highs after major price falls

Since we last published a COVID-19 special in May 2020, the global equity market has made an exceptionally strong comeback.

Contrary to all fears, equity markets in general have recovered in a V-scheme and are trading at new record highs at the end of the first quarter of 2021. Looking at the real estate capital markets, one has to note that real estate companies have recovered more slowly on average, and returns are clearly lagging behind those of the market. Especially companies with properties in the hotel or retail sector were hit hard in the last 12 months. In addition to lockdowns and travel restrictions, domestic tourism has also been banned in many cases.

Hopes arise from the progressive number of vaccinated people, while uncertainties result from unpredictable mutations of the virus.

Relevant COVID-19 Events: Real Estate Companies fail to recover at same pace like the global MSCI World index



Source: PwC "Real Estate Monitor"

In order to obtain an assessment of the impact of the corona pandemic on the real estate sector, we analysed the share prices of 119 real estate companies from Germany, USA, Great Britain, France and Spain from 17 February 2020 to 31 March 2021. These were divided into different peer groups by country and by segment (residential, commercial, developer).

Global market: Global Real Estate market changed from out- to underperforming the market.

Retrospective (1 Jan 2015 – 1 Jan 2020)

"Significant outperformance by the PwC Global-5 Diversified Real Estate Index."



Source: PwC "Real Estate Monitor"

"Corona-Period" (CP) (17 Feb 2020 – 31 Mar 2021)

"Global real estate can't keep up with the markets recovery during the crisis."



Source: PwC "Real Estate Monitor"

Real estate companies worldwide with massive price declines

Since the overall market collapsed by more than 30% in March 2020, global equity markets have recovered quickly and are trading at new highs. In contrast to the five years before the crisis, from 2015-2020, when the real estate market significantly outperformed the overall market, the market has outperformed the real estate market since the crisis. Overall, the MSCI World is up by +15% since 17 February 2020, despite the crisis. The diversified real estate portfolio, on the other hand, is -4% below its reference value as of 17 February 2020 and thus 19 percentage points behind the market.

By sector, the project development market has recovered best from the crisis with -2%. The second best sector is the residential market with -5% below the pre-crisis level. As expected, the commercial sector is the clear laggard with -10% price loss since 17 February 2020.

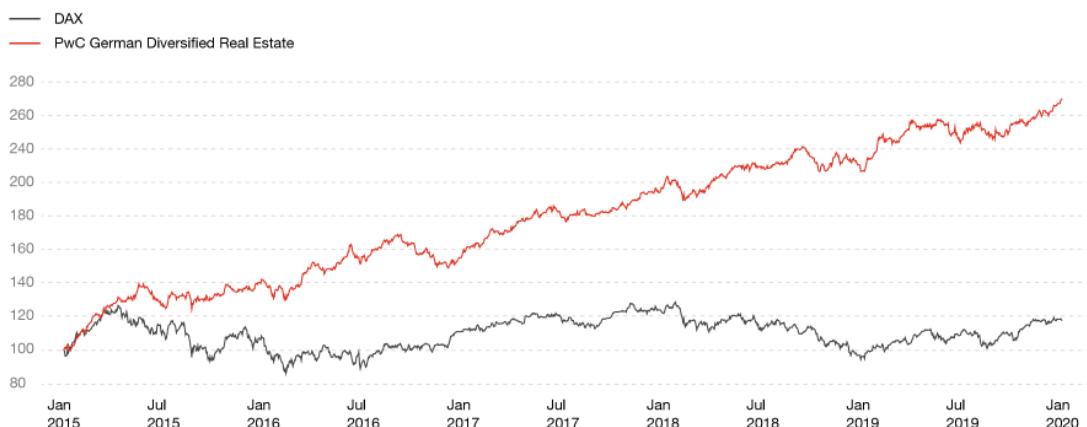
Portfolio Group	~ Return (5Y)	~ Δ to Index (PP)	~ Return (CP)	~ Δ to Index (PP)
MSCI World	+40 %	-	15 %	-
PwC Global-5 Diversified Real Estate	+50 %	+10	-4 %	-19
PwC Global-5 Residential	+70 %	+30	-5 %	-20
PwC Global-5 Commercial	+40 %	+/-0	-10 %	-25
PwC Global-5 Project Development	+70 %	+30	-2 %	-17

Source: PwC "Real Estate Monitor"

German market: Residential Real Estate Industry limit downside movements during crisis.

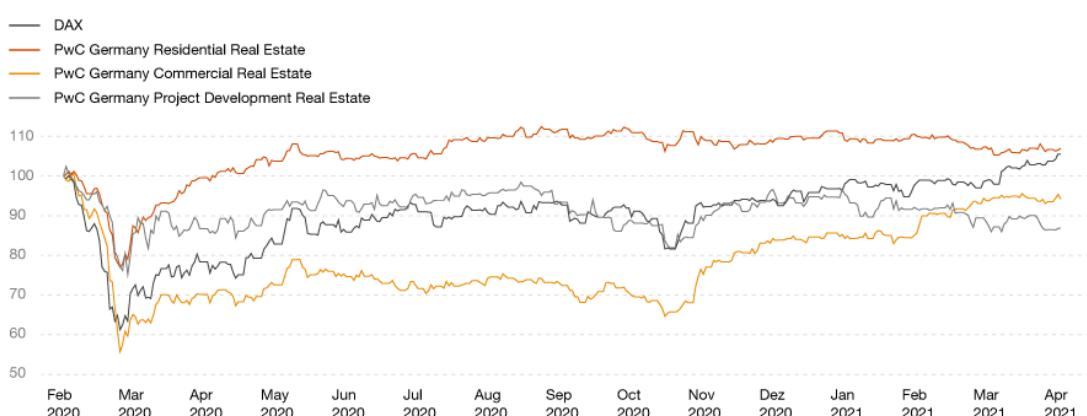
Retrospective (1 Jan 2015 – 1 Jan 2020)

"Strong outperformance by the PwC German Diversified Real Estate Index."



"Corona-Period" (CP) (17 Feb 2020 – 31 Mar 2021)

"German Residential real estate outperforms the market during the crisis. Commercial companies underperform, but beat the Development market"



German real estate market again proves more robust than abroad

Compared to the DAX, the German blue chip index, German real estate companies have on average recovered much better than those of the international real estate market.

The residential market in particular has contributed to this. While the DAX has gained +6% since 17 February 2020, German residential real estate companies have outperformed the market by 4 percentage points with a gain of +10%. In contrast to the international portfolio, German project developers have lagged the market by 22 percentage points with -14%. The German commercial sector recovered slightly better with a performance of -6%.

Portfolio Group	~ Return (5Y)	~ Δ to Index (PP)	~ Return (CP)	~ Δ to Index (PP)
DAX 30	+15 %	–	6 %	–
PwC Germany Diversified Real Estate	+160 %	+145	1 %	+5
PwC Germany Residential	+125 %	+110	+10 %	+4
PwC Germany Commercial	+190 %	+175	-6 %	-12
PwC Germany Project Development	+110 %	+95	-14 %	-20

Source: PwC "Real Estate Monitor"

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