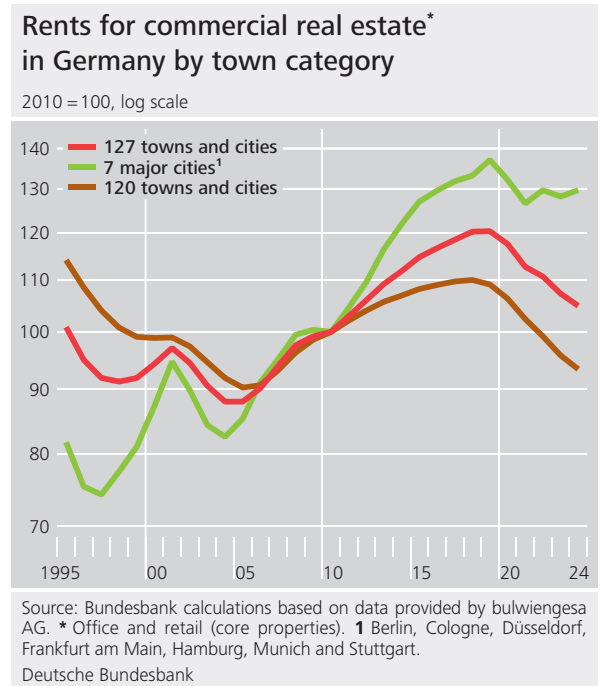
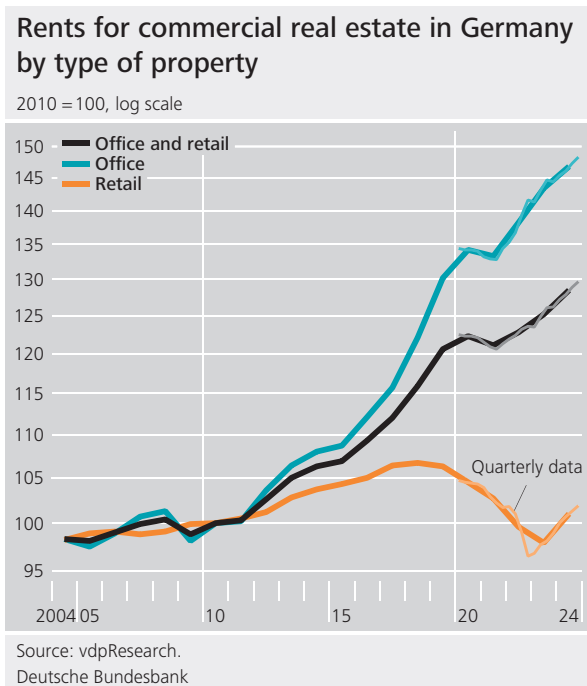
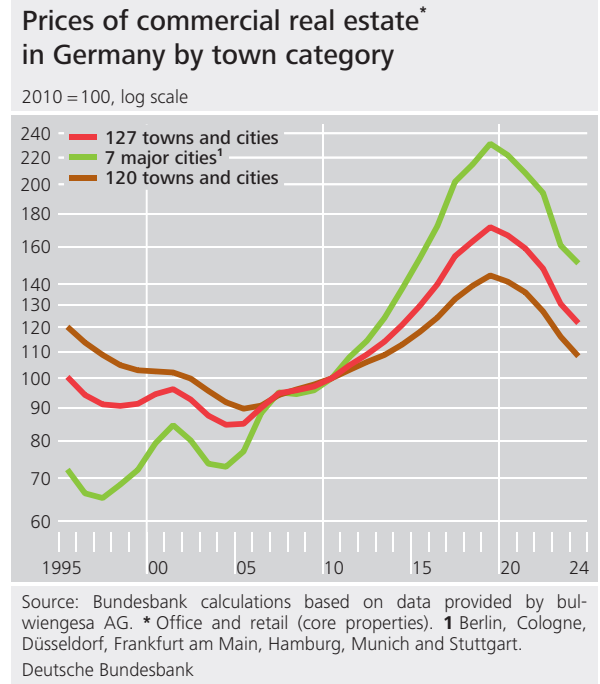
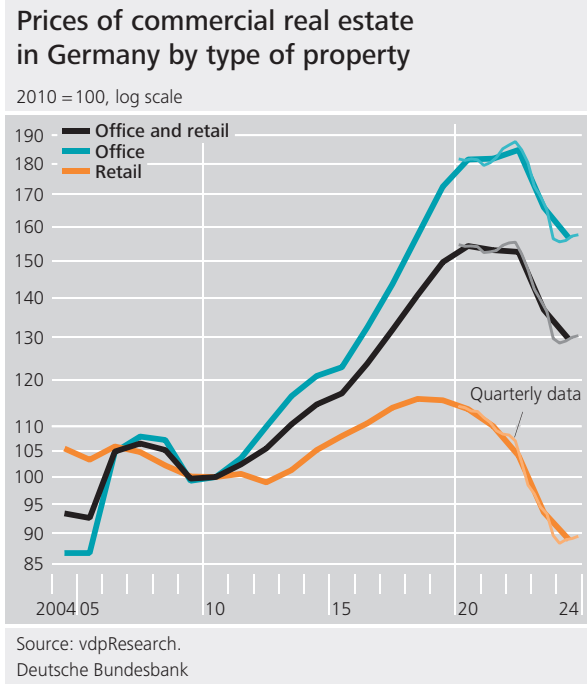


System of indicators for the German commercial real estate market

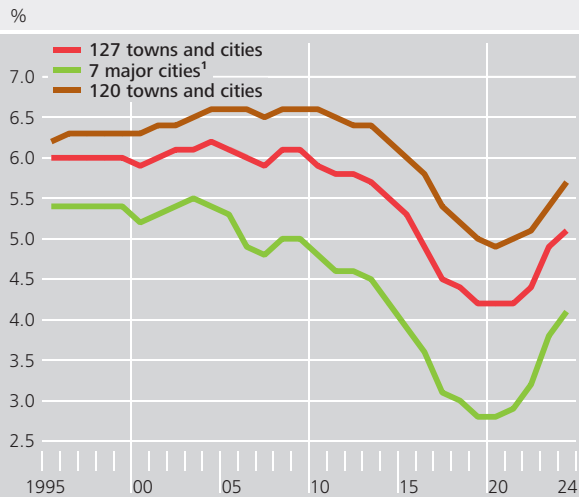
Price indicators



System of indicators for the German commercial real estate market

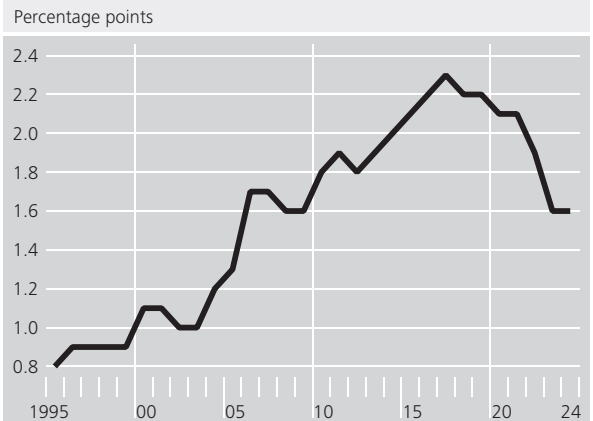
Price indicators

Net initial yield for commercial real estate* by town category



Source: Bundesbank calculations based on data provided by bulwiengesa AG. * Office and retail (core properties). ¹ Berlin, Cologne, Düsseldorf, Frankfurt am Main, Hamburg, Munich and Stuttgart.
Deutsche Bundesbank

Yield differential between commercial real estate in 120 towns and cities and 7 major cities*



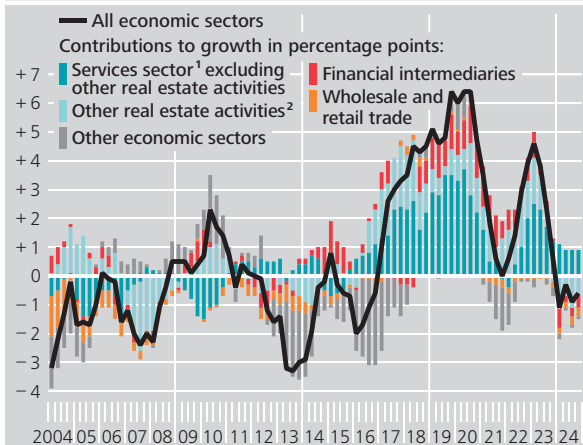
Source: Bundesbank calculations based on information provided by bulwiengesa AG. * Office and retail (core properties), net initial yield of commercial real estate in 120 towns and cities minus net initial yield of commercial real estate in 7 major cities (Berlin, Cologne, Düsseldorf, Frankfurt am Main, Hamburg, Munich and Stuttgart).
Deutsche Bundesbank

System of indicators for the German commercial real estate market

Financial Indicators

Mortgage loans on property for commercial use in Germany*

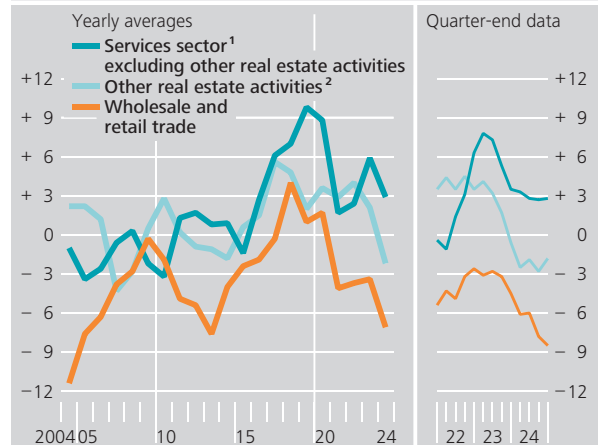
Year-on-year percentage changes, quarter-end data



* Total mortgage loans minus mortgage loans on residential real estate according to the borrowers statistics. **1** Including self-employment. **2** Purchase, sale, rental and management of commercial real estate, facility management enterprises.
Deutsche Bundesbank

Mortgage loans on property for commercial use in selected economic sectors*

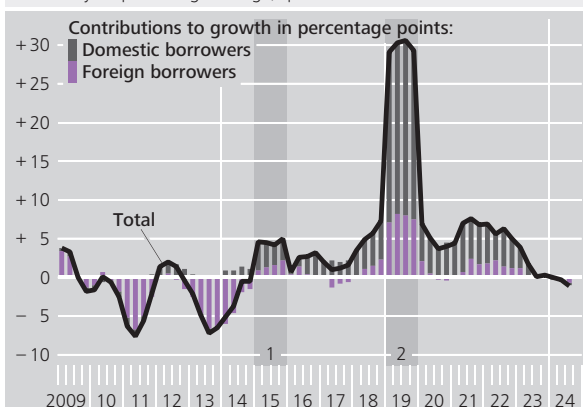
Year-on-year percentage change



* Total mortgage loans minus mortgage loans on residential real estate according to the borrowers statistics. **1** Including self-employment. **2** Purchase, sale, rental and management of commercial real estate, facility management enterprises.
Deutsche Bundesbank

Loans by domestic credit institutions entailing commercial property risk*

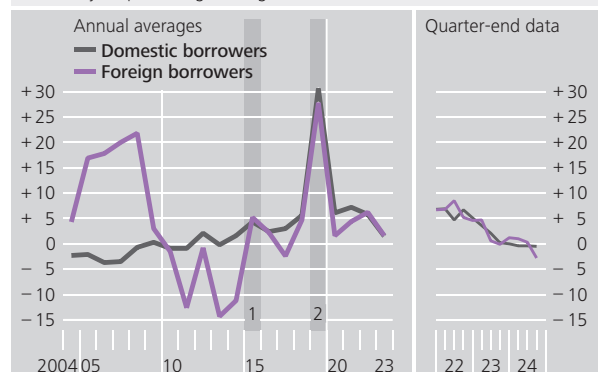
Year-on-year percentage change, quarter-end data



* Source: Bundesbank calculations consisting of balance sheet items, off-balance-sheet items and derivatives, based on data from the Deutsche Bundesbank's central credit register. Approximate implementation of the classification put forward by the European Systemic Risk Board ((ESRB), 2016/14). **1** Reporting threshold lowered from 2015. **2** Definition of "credit" expanded from 2019.
Deutsche Bundesbank

Loans by domestic credit institutions entailing commercial property risk to domestic and foreign borrowers*

Year-on-year percentage change



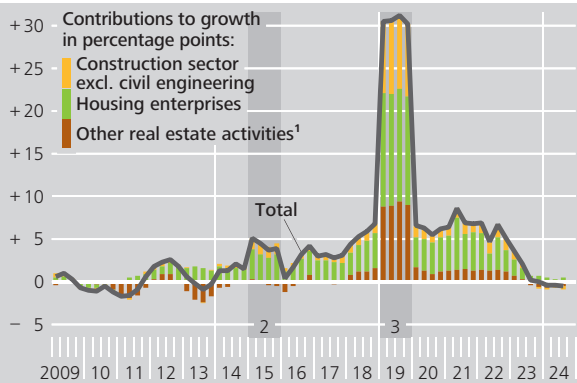
* Source: Bundesbank calculations consisting of balance sheet items, off-balance-sheet items and derivatives, based on data from the Deutsche Bundesbank's central credit register. Approximate implementation of the classification put forward by the European Systemic Risk Board ((ESRB), 2016/14). **1** Reporting threshold lowered from 2015. **2** Definition of "credit" expanded from 2019.
Deutsche Bundesbank

System of indicators for the German commercial real estate market

Financial Indicators

Loans to domestic borrowers entailing commercial property risk*

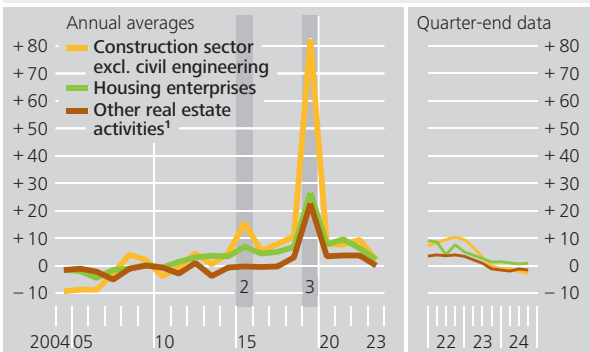
Year-on-year percentage change, quarter-end data



* Source: Bundesbank calculations consisting of balance sheet items, off-balance-sheet items and derivatives, based on data from the Deutsche Bundesbank's central credit register. Approximate implementation of the classification put forward by the European Systemic Risk Board ((ESRB), 2016/14). **1** Purchase, sale, rental and management of commercial real estate. **2** Reporting threshold lowered from 2015. **3** Definition of "credit" expanded from 2019.
Deutsche Bundesbank

Loans to domestic borrowers entailing commercial property risk by economic sector*

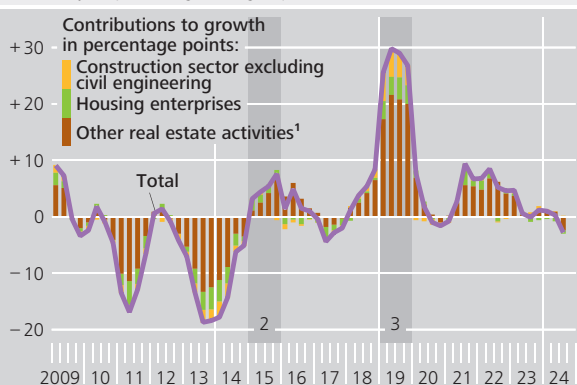
Year-on-year percentage change



* Source: Bundesbank calculations consisting of balance sheet items, off-balance-sheet items and derivatives, based on data from the Deutsche Bundesbank's central credit register. Approximate implementation of the classification put forward by the European Systemic Risk Board ((ESRB), 2016/14). **1** Purchase, sale, rental and management of commercial real estate. **2** Reporting threshold lowered from 2015. **3** Definition of "credit" expanded from 2019.
Deutsche Bundesbank

Loans to foreign borrowers entailing commercial property risk*

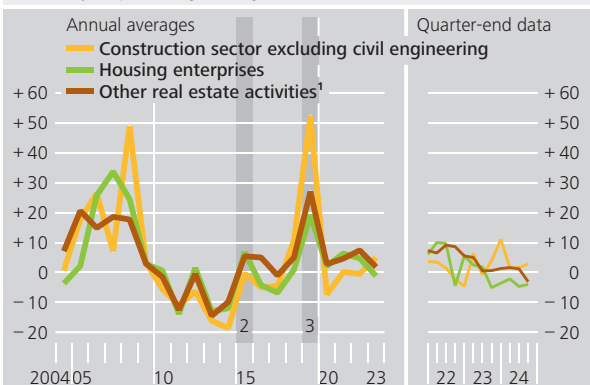
Year-on-year percentage change, quarter-end data



* Source: Bundesbank calculations consisting of balance sheet items, off-balance-sheet items and derivatives, based on data from the Deutsche Bundesbank's central credit register. Approximate implementation of the classification put forward by the European Systemic Risk Board ((ESRB), 2016/14). **1** Purchase, sale, rental and management of commercial real estate. **2** Reporting threshold lowered from 2015. **3** Definition of "credit" expanded from 2019.
Deutsche Bundesbank

Loans to foreign borrowers entailing commercial property risk by economic sector*

Year-on-year percentage change



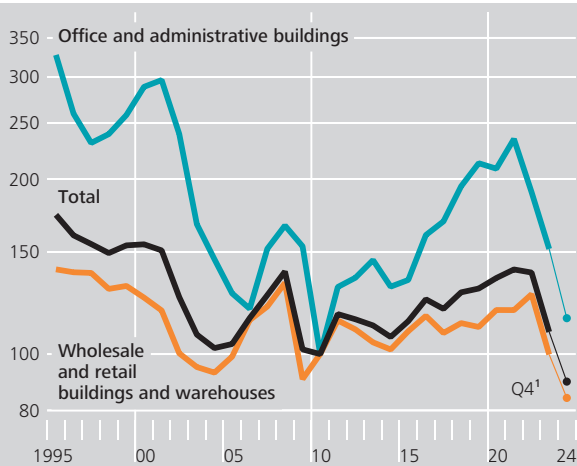
* Source: Bundesbank calculations consisting of balance sheet items, off-balance-sheet items and derivatives, based on data from the Deutsche Bundesbank's central credit register. Approximate implementation of the classification put forward by the European Systemic Risk Board ((ESRB), 2016/14). **1** Purchase, sale, rental and management of commercial real estate. **2** Reporting threshold lowered from 2015. **3** Definition of "credit" expanded from 2019.
Deutsche Bundesbank

System of indicators for the German commercial real estate market

Real economic indicators

Building permits for commercial real estate in Germany by type of property*

2010 = 100, log scale

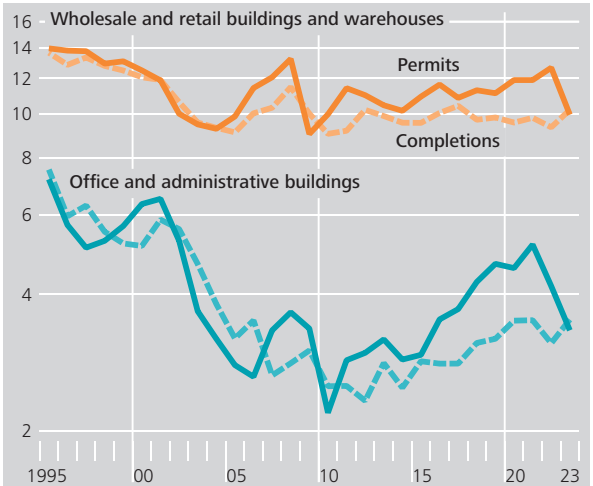


Source: Federal Statistical Office. * Floor space of new buildings and existing buildings undergoing construction work. **1** Seasonally and calendar adjusted.

Deutsche Bundesbank

Building permits for and completions of commercial real estate in Germany*

Floor space in millions of square metres, log scale

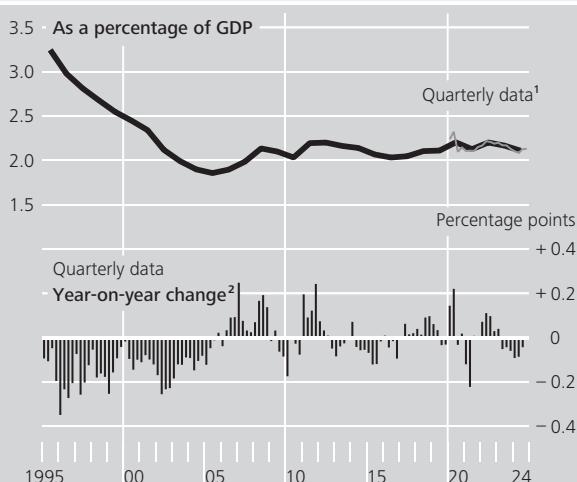


Source: Federal Statistical Office. * Construction of new buildings and construction work on existing buildings.

Deutsche Bundesbank

Commercial building construction in Germany

Annual data, at current prices

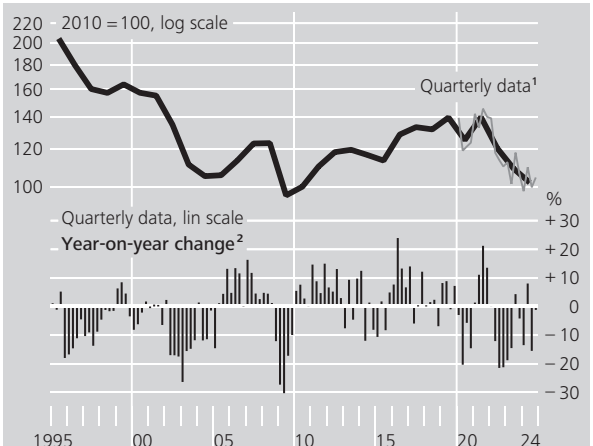


Source of the unadjusted figures: Federal Statistical Office. **1** Seasonally and calendar adjusted. **2** Only calendar adjusted.

Deutsche Bundesbank

New orders for commercial building construction in the main construction industry in Germany

Annual data, at constant prices



Source of the unadjusted figures: Federal Statistical Office. **1** Seasonally and calendar adjusted. **2** Only calendar adjusted.

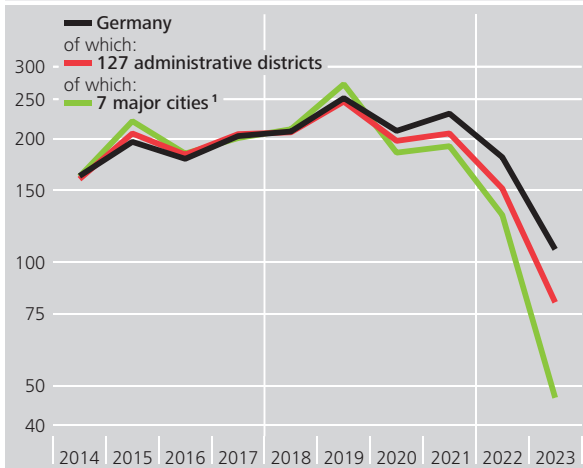
Deutsche Bundesbank

System of indicators for the German commercial real estate market

Real economic indicators

Transaction volumes for commercial real estate in Germany

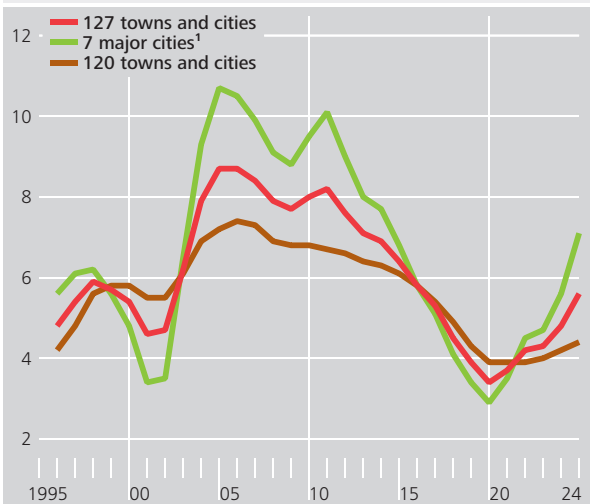
2010 = 100, log scale



Source: Extrapolation by vdpResearch GmbH based on purchase price data provided by surveyor committees. Excluding Share-Deals. ¹ Berlin, Düsseldorf, Frankfurt am Main, Hamburg, Cologne, Munich and Stuttgart. Deutsche Bundesbank

Vacancy rate for offices in Germany

%



Source: Bundesbank calculations based on data provided by bulwiengesa AG. ¹ Berlin, Cologne, Düsseldorf, Frankfurt am Main, Hamburg, Munich and Stuttgart. Deutsche Bundesbank