

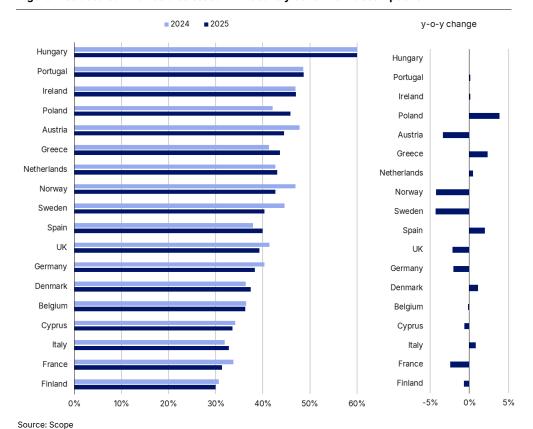
Distressed house price decline assumptions updated

We recently updated our distressed house price decline (HPD) benchmark assumptions for Structured Finance (SF) transactions across various European countries. Distressed HPD assumptions reflect potential real estate market vulnerabilities assuming a severe economic shock.

This report lays out the drivers of our latest analytical update, which addresses the impact of house price changes between 2023 and 2024 and updates to our assessment of price volatility and macroeconomic risks. The quantitative analysis is based on national nominal house price index (HPI) time series provided by the Bank for International Settlements (BIS).

Our distressed HPD assumptions are commensurate with residential market-value-decline assumptions applicable to AAA rated SF instruments. The full range of rating-conditional assumptions are provided as an appendix and explained in further detail in our General Structured Finance Methodology, published on 13 February 2025.

Figure 1: Structured Finance distressed HPD country benchmark assumptions



Analysts

Elom Kwamin

+49 30 27891 328

e.kwamin@scoperatings.com

Davide Nesa

+39 02 3054 4989

d.nesa@scoperatings.com

Paula Lichtensztein

+49 30 27891 224

p.lichtensztein@scoperatings.com

Team Leader

Antonio Casado +49 30 27891 228

a.casado@scoperatings.com

Media

Keith Mullin

k.mullin@scopegroup.com

4 March 2025 1 | 1 | 11



1. Summary

SF distressed country HPD benchmark assumptions are based on a quantitative analysis of underlying HPIs. All assumptions were calibrated considering maximum house-price declines across multiple jurisdictions during periods of stress. We used 100 years of data across different countries to determine a starting point for the HPD at 40% for all countries. We then used the country-by-country series to adjust up or down.

Distressed HPD assumption consider stresses dating back 100 years

Jurisdiction-specific adjustments are based on current nominal price levels relative to historical data and an assessment of price ranges over the last two decades, as well as our view on the resilience of each country's economy, supported by the strength of the sovereign rating.

Figure 2 shows SF's 2025 distressed HPD assumptions for the 18 European countries we cover, currently distributed across five groups with relatively homogeneous characteristics, in terms of each country's economic strength and the phase of their real estate cycles.

• Group 1: Finland, France, Belgium, Denmark

Countries with very strong to exceptionally strong sovereign ratings. Real estate markets have generally experienced sustainable nominal price increases notwithstanding occasional shallow or recent corrections. Compound annual growth rates have ranged between 0.9% and 3.1% over the last 15 years.

. Group 2: Germany, UK, Sweden, Norway, Netherlands, Austria

Countries with very strong to exceptionally strong sovereign ratings, but where real estate markets are potentially overheated. Nominal house prices have increased at compound annual growth rates between 3.7% and 5.4% over the last 15 years.

Group 3: Italy, Cyprus

Countries that have experienced a full real estate cycle in the last decade and are in the mid to advanced stage of the recovery phase. Compound annual growth rates of nominal house prices over the last 15 years have ranged between -0.4% and -0.3%. The countries' sovereign ratings reflect good to strong credit quality but are weaker than those of Group 1 and Group 2 countries.

Group 4: Spain, Ireland, Cyprus, Greece

Countries that have experienced deep real estate crises over the last decade and where current prices are close to or have exceeded previous cycle highs. Compound annual growth rates of nominal house prices over the last 15 years have ranged between 0.2% and 2.9%. The countries' sovereign ratings reflect good to strong credit quality but are weaker than those of Group 1 and Group 2 countries.

Group 5: Poland, Portugal, Hungary

Countries where real estate prices have accelerated over the last decade and are potentially overheated. Compound annual growth rates of nominal house prices over the last 15 years have ranged between 4.6% and 8.0%. The countries' sovereign ratings reflect a good to strong credit quality but are weaker than those of Group 1 and Group 2 countries.

4 March 2025 2 | 11



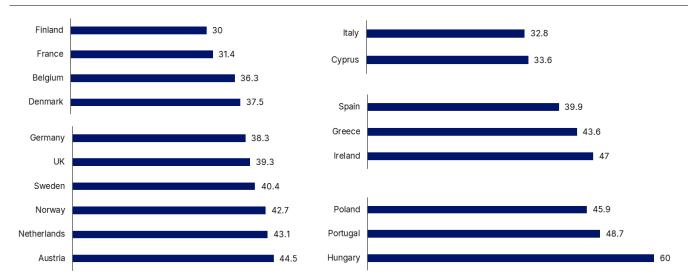


Figure 2: 2025 distressed HPD benchmark assumptions by country groups (%)

Source: Scope

The next section provides a quantitative, country-by-country disaggregation of the drivers of our updated distressed country HPD benchmark assumptions in 2025. Changes may be driven by any combination of the following factors (subject to a qualitative distressed HPD floor and cap of 30% and 60% respectively)¹:

- Further nominal HPI increases, raising concerns about the magnitude of potential future adjustments, or recent nominal HPI corrections, mitigating concerns about the magnitude of further adjustments.
- Positive or negative re-assessments of price volatility risk and macroeconomic risks
- Stability or improvement of sovereign ratings.

4 March 2025 3 | 11

 $^{^{1}}$ In some instances, changes may also be marginally driven by minor data-point revisions of the BIS time series



2. Country-by-country analysis

Austria

The SF distressed HPD benchmark assumption for Austria changed by -3.3pp from 47.8% to 44.5% between the Q2 2023 and the Q2 2024 cut-off dates.

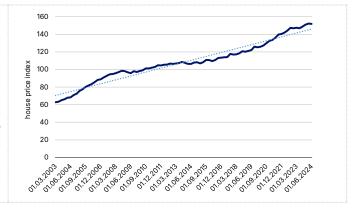
The change is attributable to: a) a decline in the HPI level between both cut-off dates (-0.7pp), b) a reassessment of price range volatility risk in the context of a very strong macroeconomic framework, notwithstanding a one-notch sovereign rating downgrade from AAA to AA+ in April 2024 (-2.6pp).



Belgium

The SF distressed HPD benchmark assumption for Belgium changed by -0.2pp from 36.5% to 36.3% between the Q2 2023 and Q2 2024 cut-off dates.

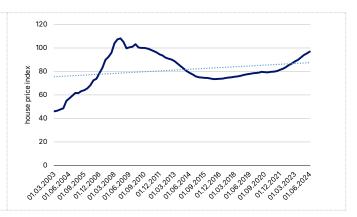
The change is attributable to the net effect of two muted and offsetting factors: a) a slight increase in the HPI peak (+0.3pp, including a marginal revision of the Q2 2023 datapoint), b) a reassessment of price range volatility risk in the context of a very strong and stable macroeconomic framework reflected in the AA-sovereign rating (-0.5pp).



Cyprus

The SF distressed HPD benchmark assumption for Cyprus changed by -0.6pp from 34.2% to 33.6% between the Q2 2023 and Q2 2024 cut-off dates.

The change is attributable to the net effect of two strong but offsetting factors: a) an HPI recovery acceleration (+4.1pp), b) a reassessment of price range volatility risk combined with improving macroeconomic conditions reflected in the one-notch upgrade of the sovereign rating from BBB+ to A- in October 2024 (-4.7pp)



4 March 2025 4 | 11



Denmark

The SF distressed HPD benchmark assumption for Denmark changed by +1.1pp from 36.4% to 37.5% between the Q1 2023 and Q2 2024 cut-off dates.

The change is attributable to the net effect of two offsetting factors: a) an increase in the HPI level between both cut-off dates including a revision of the Q1 2023 datapoint (+1.9pp), b) a reassessment of price range volatility risk in the context of a very strong and stable macroeconomic framework reflected in the AAA sovereign rating (-0.8pp).

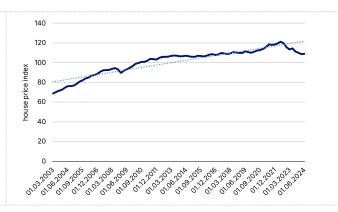


Finland

Scope qualitatively floors distressed HPD assumptions at 30%.

The 'unfloored' distressed HPD benchmark assumption for Finland changed by -3.5pp from 30.7% to 27.2% between the Q1 2023 and the Q2 2024 cut-off dates.

The change is attributable to: a) a decline in the HPI level between both cut-off dates (-1.2pp), b) a reassessment of price range volatility risk in the context of a very strong and stable macroeconomic framework reflected in the AAA sovereign rating (-2.3pp).



France

The SF distressed HPD benchmark assumption for France changed by -2.4pp from 33.8% to 31.4% between the Q1 2023 and the Q2 2024 cut-off dates.

The change is attributable to: a) a decline in the HPI level between both cut-off dates (-1.5pp), b) a reassessment of price range volatility in the context of a very strong macroeconomic framework, notwithstanding a one-notch downgrade of the sovereign rating from AA to AA- in October 2024 (-0.9pp).



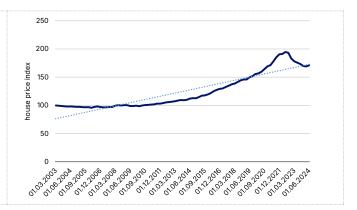
4 March 2025 5 | 11



Germany

The SF distressed HPD benchmark assumption for Germany changed by -2.1pp from 40.4% to 38.3% between the Q2 2023 and the Q2 2024 cut-off dates.

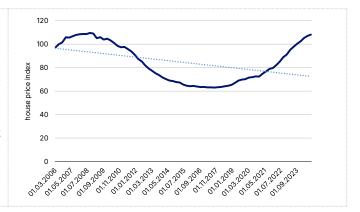
The change is attributable to: a) a decline in the HPI level between both cut-off dates including a marginal revision of the Q2 2023 datapoint (-0.7pp), b) a reassessment of price range volatility risk in the context of a very strong and stable macroeconomic framework reflected in the AAA sovereign rating (-1.4pp).



Greece

The SF distressed HPD benchmark assumption for Greece changed by +2.3pp from 41.3% to 43.6% between the Q2 2023 and Q3 2024 cut-off dates.

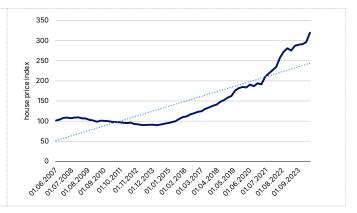
The change is attributable to the net effect of two partially offsetting factors: a) strong HPI recovery (including a marginal revision of the Q2 data point) reaching a new peak in Q3 2023 (+3.6pp), and b) a reassessment of price range volatility risk combined with improving macroeconomic conditions reflected in the one-notch upgrade of the sovereign rating from BBB+ to A- in October 2024 (-1.3pp)



Hungary

Scope qualitatively caps distressed HPD assumptions at 60%.

The SF distressed HPD benchmark assumption for Hungary remains unchanged at 60%, driven by: a) an HPI at historical highs and accelerating, b) maximum and rising price range volatility relative to European peer countries, c) a stable but weaker macroeconomic framework than peers, reflected in a BBB sovereign rating.



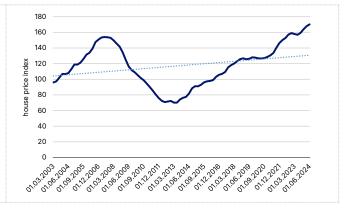
4 March 2025 6 | 11



Ireland

The SF distressed HPD benchmark assumption for Ireland marginally changed by +0.1pp from 46.9% to 47.0% between the Q2 2023 and Q2 2024 cut-off dates.

The change is attributable to the net effect of two muted and offsetting factors: a) a new HPI peak in Q2 2024 (+0.2%pp, including a marginal revision of the Q1 2023 datapoint), b) a reassessment of price range volatility risk relative to European peer countries combined with improving and strong macroeconomic conditions reflected in the one-notch upgrade of the sovereign rating from AA- to AA in December 2024 (-0.1pp).

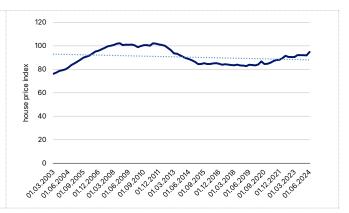


Italy

The SF distressed HPD benchmark assumption for Italy changed by +0.9pp from 31.9% to 32.8% between the Q2 2023 and Q2 2024 cut-off dates.

The change is almost fully attributable to modest nominal HPI increases since the trough in the 2015-2020 cycle.

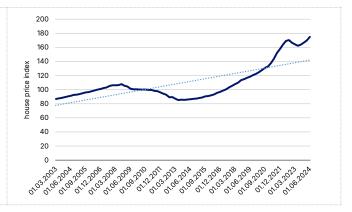
Current HPD benchmark assumptions continue to be driven by minimum price range historical volatility relative to European peers, in the context of a stable but weaker than average macroeconomic framework reflected in the BBB+ sovereign rating.



Netherlands

The SF distressed HPD benchmark assumption for the Netherlands changed by +0.4pp from 42.7% to 43.1% between the Q1 2023 and Q2 2024 cut-off dates.

The change is attributable to the net effect of two offsetting factors: a) a further increase in HPI levels reaching a new peak in Q2 2023 (+1.0pp), and b) a reassessment of price range volatility risk in the context a very strong and stable macroeconomic framework reflected in the AAA sovereign's rating (-0.6pp).



4 March 2025 7 | 11



Norway

The SF distressed HPD benchmark assumption for Norway changed by -4.2pp from 46.9% to 42.7% between the Q2 2023 and Q2 2024 cut-off dates.

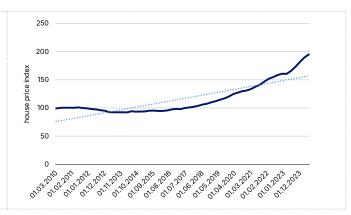
The change is attributable to: a) a slight decline in the HPI level between both cut-off dates (-0.3pp), b) a reassessment of price range volatility risk in the context of a very strong and stable macroeconomic framework reflected in the AAA sovereign rating (-3.9pp).



Poland

The SF distressed HPD benchmark assumption for Poland changed by +3.8pp from 42.1% to 45.9% between the Q2 2023 and Q2 2024 cut-off dates.

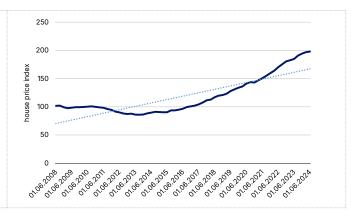
The change is almost fully attributable to a negative reassessment of price range volatility risk in the context of continued HPI acceleration beyond historical peak levels, notwithstanding stable macroeconomic conditions reflected in the stability of the A sovereign rating.



Portugal

The SF distressed HPD benchmark assumption for Portugal changed by +0.1pp from 48.6% to 48.7% between the Q2 2023 and Q2 2024 cut-off dates.

The change is fully attributable to a marginal reassessment of price range volatility risks as HPI peak levels continue their rising trend, notwithstanding improving macroeconomic conditions reflected in the one-notch sovereign rating upgrade to A in November 2024.



4 March 2025 8 | 11



Spain

The SF distressed HPD benchmark assumption for Spain changed by +1.9pp from 38.0% to 39.9% between the Q2 2023 and the Q2 2024 cut-off dates.

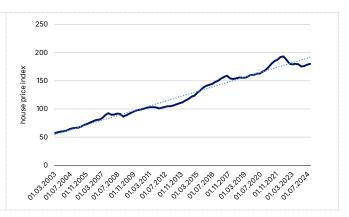
The change is attributable to: a) rising HPI surpassing previous cycle peak levels (+0.5p), and b) a negative reassessment of price range volatility risk, notwithstanding improving macroeconomic conditions reflected in a one-notch upgrade of the sovereign rating to A in September 2024 (+1.4pp)



Sweden

The SF distressed HPD benchmark assumption for Sweden changed by -4.2pp from 44.6% to 40.4% between the Q2 2023 and Q3 2024 cut-off dates.

The change is almost fully attributable to a reassessment of price range volatility risk in the context of a very strong and stable macroeconomic framework reflected in the AAA sovereign rating.



United Kingdom

The SF distressed HPD benchmark assumption for the UK changed by -2.1pp, from 41.4% to 39.3% between the Q2 2023 and Q3 2024 cut-off dates.

The change is attributable to the net effect of two offsetting factors: a) a further increase in HPI levels reaching a new peak in Q3 2024 (+0.6pp, including a revision of the Q2 2023 datapoint), b) a reassessment of price range volatility risk in the context of a very strong and stable macroeconomic framework reflected in the AA sovereign rating (-2.7pp).



4 March 2025 9 | 11



Appendix

Figure 3: Benchmark rating-conditional residential market-value-decline assumptions

Instrument's rating	AUT	BEL	СҮР	DNK	FIN ²	FRA	DEU	GRC	HUN	IRL	ITA	NLD	NOR	POL	PRT	ESP	SWE	GBR
ccc	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B-	2.2%	1.8%	1.9%	1.9%	1.5%	1.6%	1.9%	2.7%	3.8%	2.4%	2.0%	2.2%	2.1%	2.5%	2.7%	2.2%	2.0%	2.0%
В	4.4%	3.6%	3.7%	3.7%	3.0%	3.1%	3.8%	5.5%	7.5%	4.7%	4.1%	4.3%	4.3%	5.1%	5.4%	4.4%	4.0%	3.9%
B+	6.7%	5.4%	5.6%	5.6%	4.5%	4.7%	5.7%	8.2%	11.3%	7.1%	6.1%	6.5%	6.4%	7.6%	8.1%	6.7%	6.1%	5.9%
BB-	8.9%	7.3%	7.5%	7.5%	6.0%	6.3%	7.7%	10.9%	15.0%	9.4%	8.2%	8.6%	8.5%	10.2%	10.8%	8.9%	8.1%	7.9%
ВВ	11.1%	9.1%	9.3%	9.4%	7.5%	7.8%	9.6%	13.6%	18.8%	11.8%	10.2%	10.8%	10.7%	12.7%	13.5%	11.1%	10.1%	9.8%
BB+	13.3%	10.9%	11.2%	11.2%	9.0%	9.4%	11.5%	16.4%	22.5%	14.1%	12.3%	12.9%	12.8%	15.3%	16.2%	13.3%	12.1%	11.8%
BBB-	15.6%	12.7%	13.0%	13.1%	10.5%	11.0%	13.4%	19.1%	26.3%	16.5%	14.3%	15.1%	14.9%	17.8%	18.9%	15.5%	14.1%	13.8%
BBB	17.8%	14.5%	14.9%	15.0%	12.0%	12.5%	15.3%	21.8%	30.0%	18.8%	16.4%	17.2%	17.1%	20.4%	21.7%	17.7%	16.1%	15.7%
BBB+	20.0%	16.3%	16.8%	16.9%	13.5%	14.1%	17.2%	24.5%	33.8%	21.2%	18.4%	19.4%	19.2%	22.9%	24.4%	20.0%	18.2%	17.7%
Α-	22.2%	18.1%	19.2%	18.7%	15.0%	15.7%	19.2%	27.3%	37.5%	23.5%	20.5%	21.5%	21.3%	26.2%	27.8%	22.8%	20.2%	19.6%
Α	25.9%	21.1%	21.6%	21.9%	17.5%	18.3%	22.4%	30.0%	41.3%	27.4%	22.5%	25.1%	24.9%	29.5%	31.3%	25.7%	23.5%	22.9%
A+	29.6%	24.2%	24.0%	25.0%	20.0%	20.9%	25.5%	32.7%	45.0%	31.4%	24.6%	28.7%	28.4%	32.8%	34.8%	28.5%	26.9%	26.2%
AA-	33.4%	27.2%	26.4%	28.1%	22.5%	23.5%	28.7%	35.5%	48.8%	35.3%	26.6%	32.3%	32.0%	36.1%	38.3%	31.4%	30.3%	29.5%
AA	37.1%	30.2%	28.8%	31.2%	25.0%	26.1%	31.9%	38.2%	52.5%	39.2%	28.7%	35.9%	35.6%	39.3%	41.8%	34.2%	33.6%	32.7%
AA+	40.8%	33.2%	31.2%	34.4%	27.5%	28.7%	35.1%	40.9%	56.3%	43.1%	30.7%	39.5%	39.1%	42.6%	45.2%	37.1%	37.0%	36.0%
AAA	44.5%	36.3%	33.6%	37.5%	30.0%	31.4%	38.3%	43.6%	60.0%	47.0%	32.8%	43.1%	42.7%	45.9%	48.7%	39.9%	40.4%	39.3%

Source: Scope's General Structured Finance Methodology (February 2025)

4 March 2025 10 | 11

 $^{^2\,\}text{Note that in the General Structured Finance Rating Methodology, the "unfloored" quantitative assumption is shown.}$



Scope Ratings GmbH

Lennéstraße 5, D-10785 Berlin Phone: +49 30 27891-0

Fax: +49 30 27891-100 info@scoperatings.com

Scope Ratings UK Limited

52 Grosvenor Gardens London SW1W 0AU Phone: +44 20 7824 5180

info@scoperatings.com

in

Bloomberg: RESP SCOP

Scope contacts scoperatings.com

Disclaimer

© 2025 Scope SE & Co. KGaA and all its subsidiaries including Scope Ratings GmbH, Scope Ratings UK Limited, Scope Fund Analysis GmbH, Scope Innovation Lab GmbH and Scope ESG Analysis GmbH (collectively, Scope). All rights reserved. The information and data supporting Scope's ratings, rating reports, rating opinions and related research and credit opinions originate from sources Scope considers to be reliable and accurate. Scope does not, however, independently verify the reliability and accuracy of the information and data. Scope's ratings, rating reports, rating opinions, or related research and credit opinions are provided 'as is' without any representation or warranty of any kind. In no circumstance shall Scope or its directors, officers, employees and other representatives be liable to any party for any direct, incidental or other damages, expenses of any kind, or losses arising from any use of Scope's ratings, rating reports, rating opinions, related research or credit opinions. Ratings and other related credit opinions issued by Scope are, and have to be viewed by any party as, opinions on relative credit risk and not a statement of fact or recommendation to purchase, hold or sell securities. Past performance does not necessarily predict future results. Any report issued by Scope is not a prospectus or similar document related to a debt security or issuing entity. Scope issues credit ratings and related research and opinions with the understanding and expectation that parties using them will assess independently the suitability of each security for investment or transaction purposes. Scope's credit ratings address relative credit risk, they do not address other risks such as market, liquidity, legal, or volatility. The information and data included herein is protected by copyright and other laws. To reproduce, transmit, transfer, disseminate, translate, resell, or store for subsequent use for any such purpose the information and data contained herein, contact Scope Ratings GmbH at Lennéstraße 5, D-10785 B

4 March 2025 11 | 11