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EDW'S 2026 GERMAN SECURITISATION EVENT

4 NOVEMBER 2026



AGENDA

WELCOME & INTRODUCTION
DR. CHRISTIAN THUN, EUROPEAN DATAWAREHOUSE

EUROPEAN ECONOMIC OUTLOOK
YESENN EL-RADHI, MORNINGSTAR DBRS

REGULATORY UPDATE: CURRENT DISCUSSIONS IN BRUSSELS
JAN-PETER HÜLBERT, TSI

BUILDING TRUST: DATA QUALITY ENHANCEMENTS & THE NEW DEALDOX® SOLUTION
DR. CHRISTIAN THUN, EUROPEAN DATAWAREHOUSE

FROM HYPE TO PRACTICE: HOW AI IS TRANSFORMING STRUCTURED FINANCE
DEJAN MALESIC, BANCA FININT

TURNING DATA INTO INSIGHT: ANOMALY DETECTION FOR BETTER TRANSPARENCY
GEORGE PESTEAN, EUROPEAN DATAWAREHOUSE

SECURITISATION MARKET OUTLOOK: TRENDS & PERSPECTIVES
MARTIN KUHN, EDW; SANDRA WITTINGHOFER, BAKER MCKENZIE; MICHAEL OSSWALD, SVI; TOBIAS BUTTE, SMBC; CHRISTIAN AUFSATZ, MORNINGSTAR DBRS

CLOSING REMARKS
CHRISTIAN THUN, EUROPEAN DATAWAREHOUSE

AT TODAY'S EVENT



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WELCOME & INTRODUCTION

DR. CHRISTIAN THUN, EDW

EUROPEAN ECONOMIC OUTLOOK

YESENN EL-RADHI, MORNINGSTAR DBRS

MORNINGSTAR | DBRS

European Economic Outlook

Yesenn El-Radhi
Senior Vice President
Global Sovereign Ratings
Morningstar DBRS

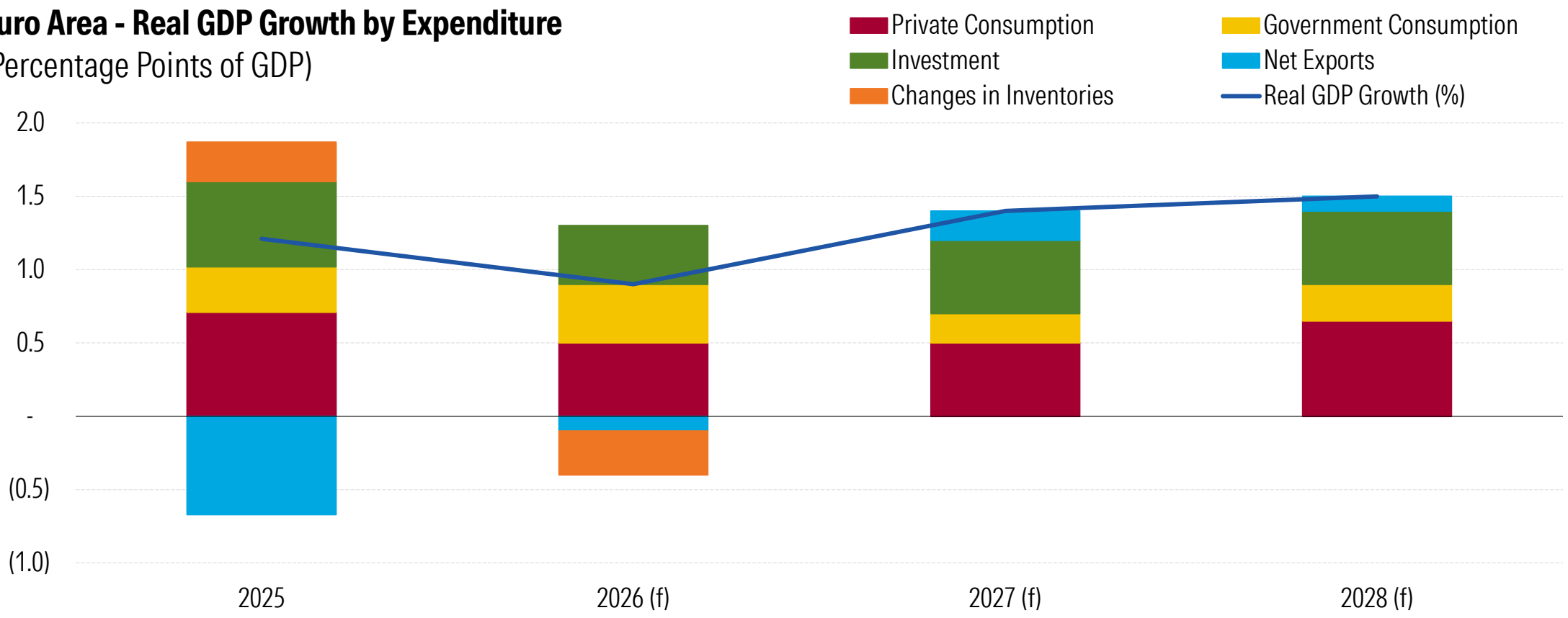
4 November 2026

Agenda

- Euro Area Real GDP – Recent Developments and Projections
- Main Growth Drivers
  - Private Consumption
  - Investment
  - Exports
- Conclusion

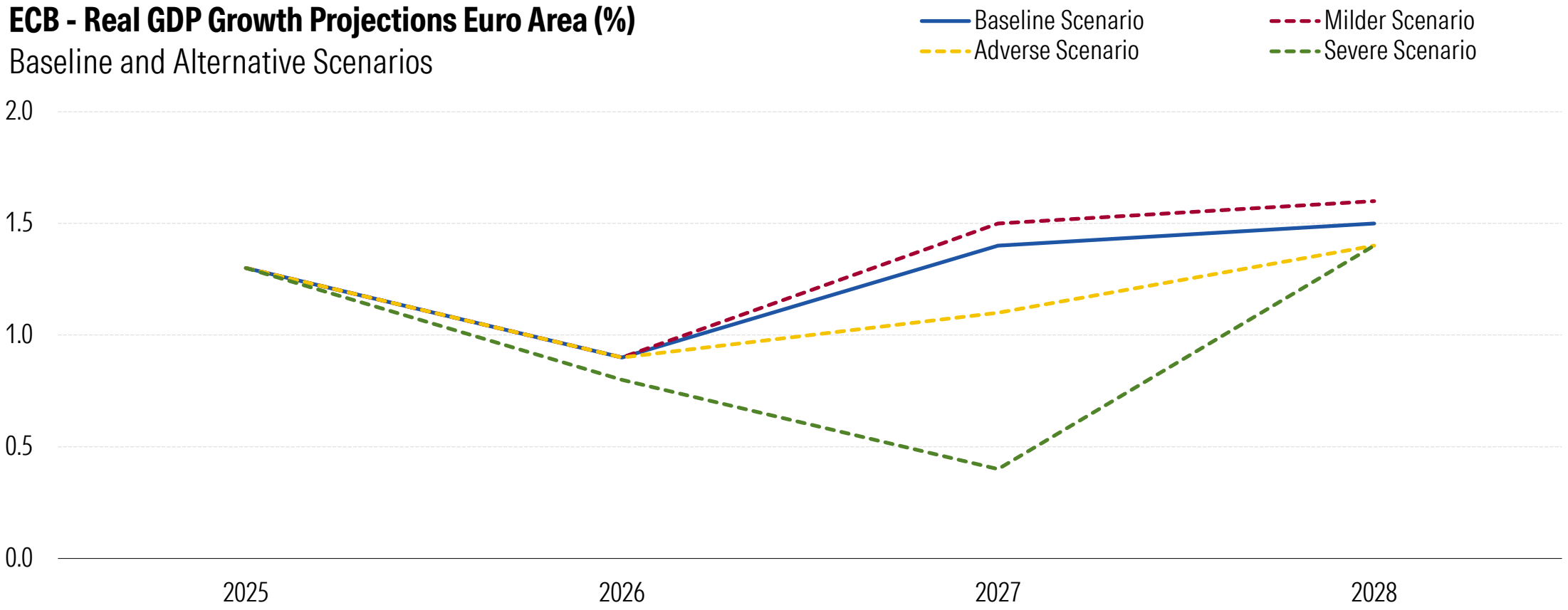
Economic Growth Softened in 2026 but is Projected to Strengthen in 2027

Euro Area - Real GDP Growth by Expenditure
(Percentage Points of GDP)



Source: Eurostat, ECB (Macroeconomic Staff Projections September 2026), Morningstar DBRS.

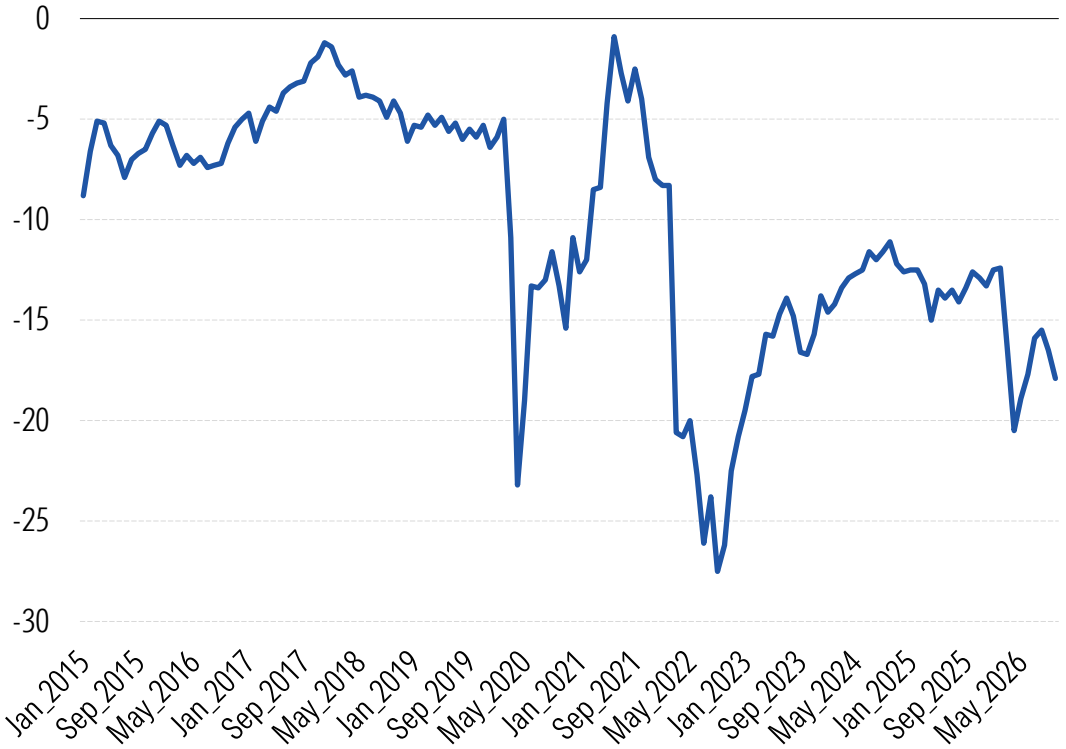
However, Uncertainty on Economic Outlook for 2027 Is High



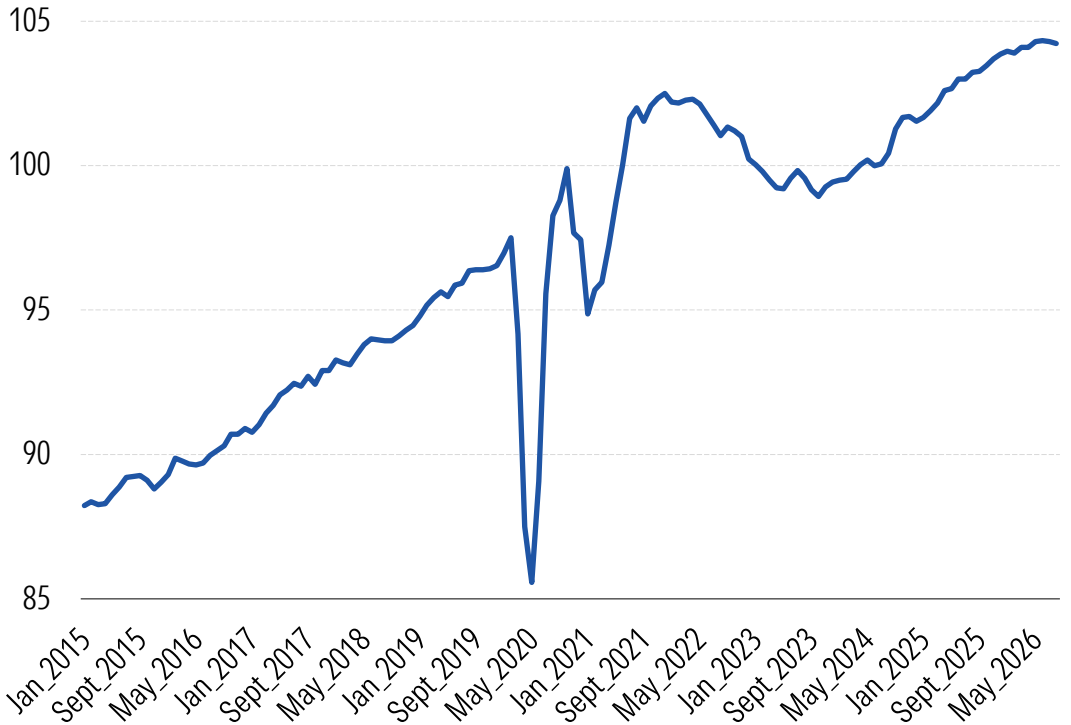
Source: ECB (Macroeconomic Staff Projections September 2026), Morningstar DBRS.

The Increase in Energy Prices Weighed on Consumer Confidence

Euro Area - Consumer Confidence
(% balance)



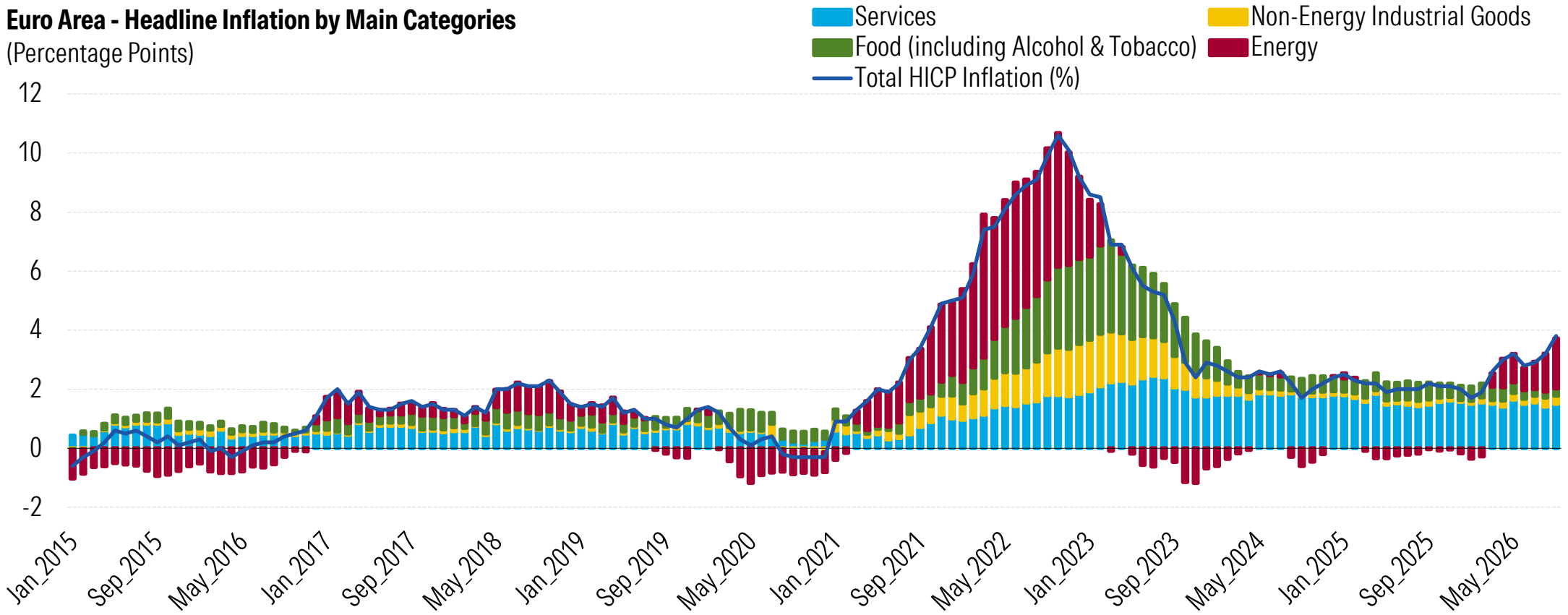
Euro Area - Retail Sales
(real, 2021=100)



MORNINGSTAR

Sources: Eurostat, European Commission (DG ECFIN), Macrobond, Morningstar DBRS. Notes: Both time series are seasonally adjusted. Retail sales volumes are displayed as a 3-month moving average. Last observations are October 2026 (consumer confidence) and August 2026 (retail sales).

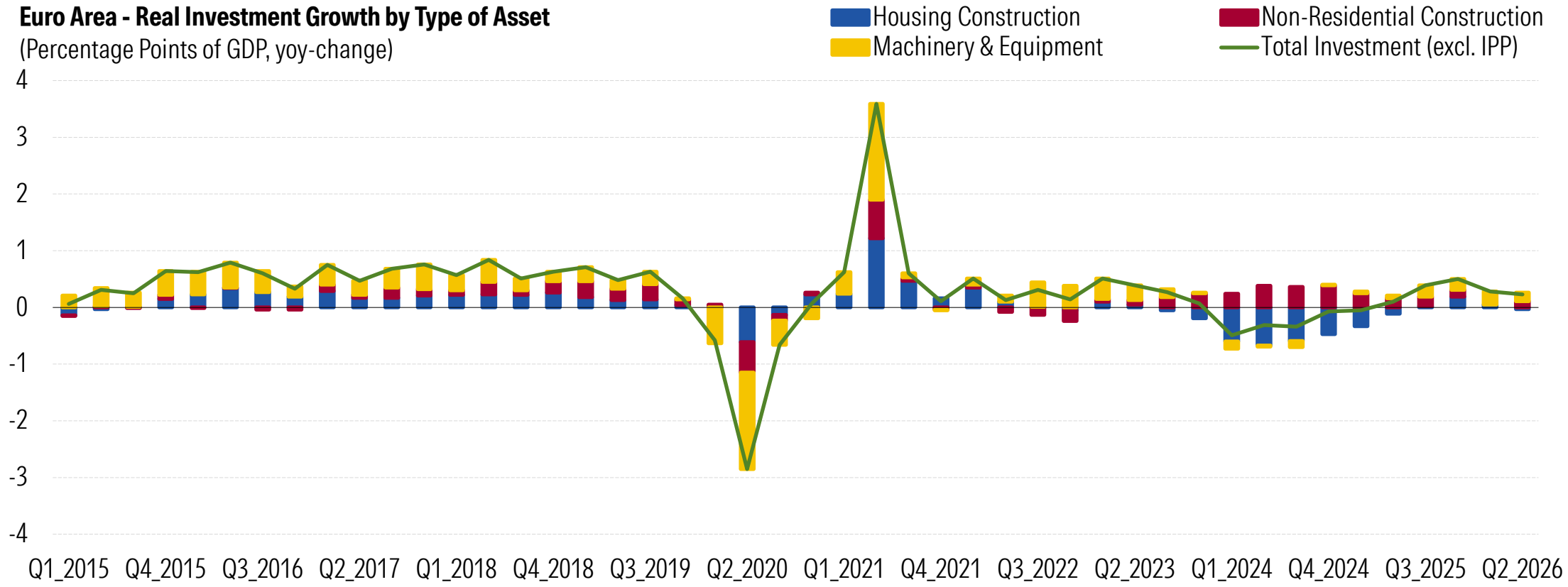
Future Development of Energy Inflation Is Key Driver of Private Consumption



MORNINGSTAR

Source: Eurostat. Calculations by Morningstar DBRS. Last observation is September 2026.

Investment Activity Recovered Only Partially

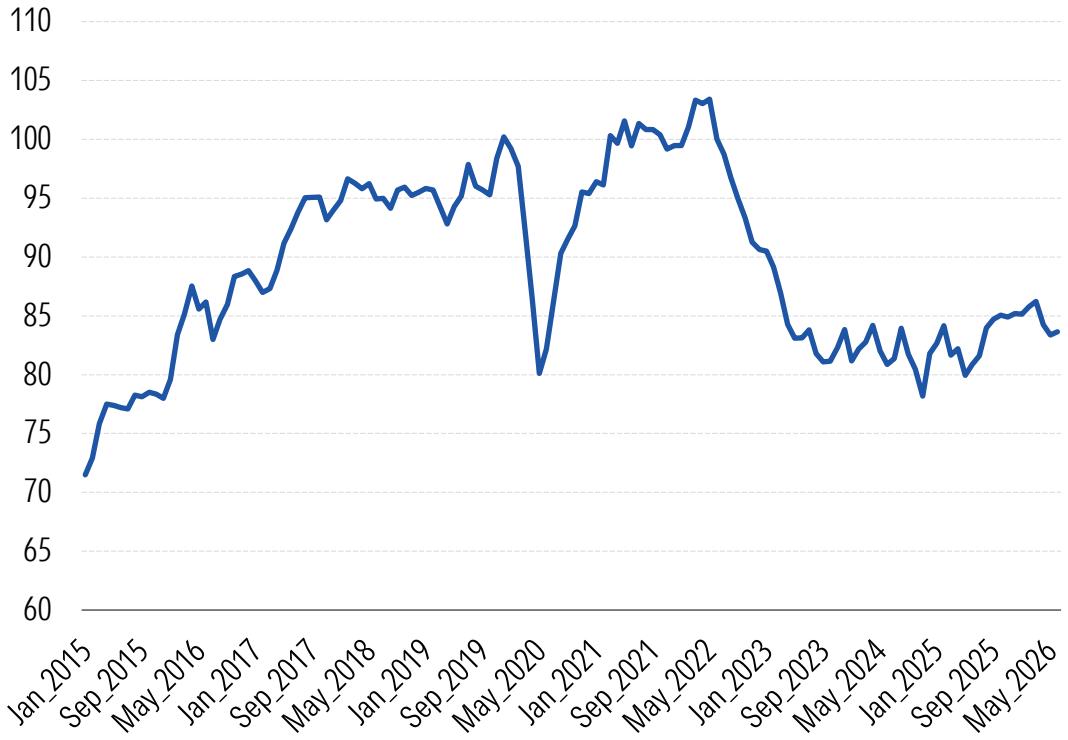


Sources: Eurostat, Morningstar DBRS. Total investment does not include intellectual property products (IPP). Last observation is Q2 2026.

Public Investment Will Support Growth but Building Permits Remain Subdued

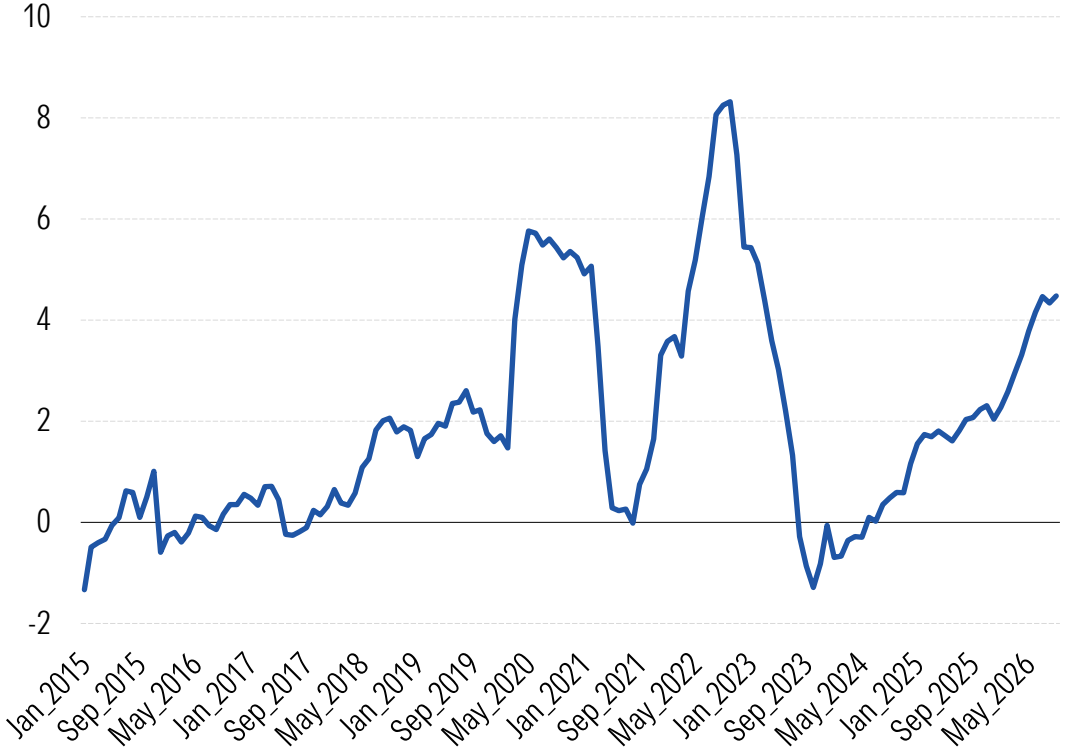
Euro Area - Building Permits

(2021=100)



Euro Area - Bank Loans to Non-Financial Corporates

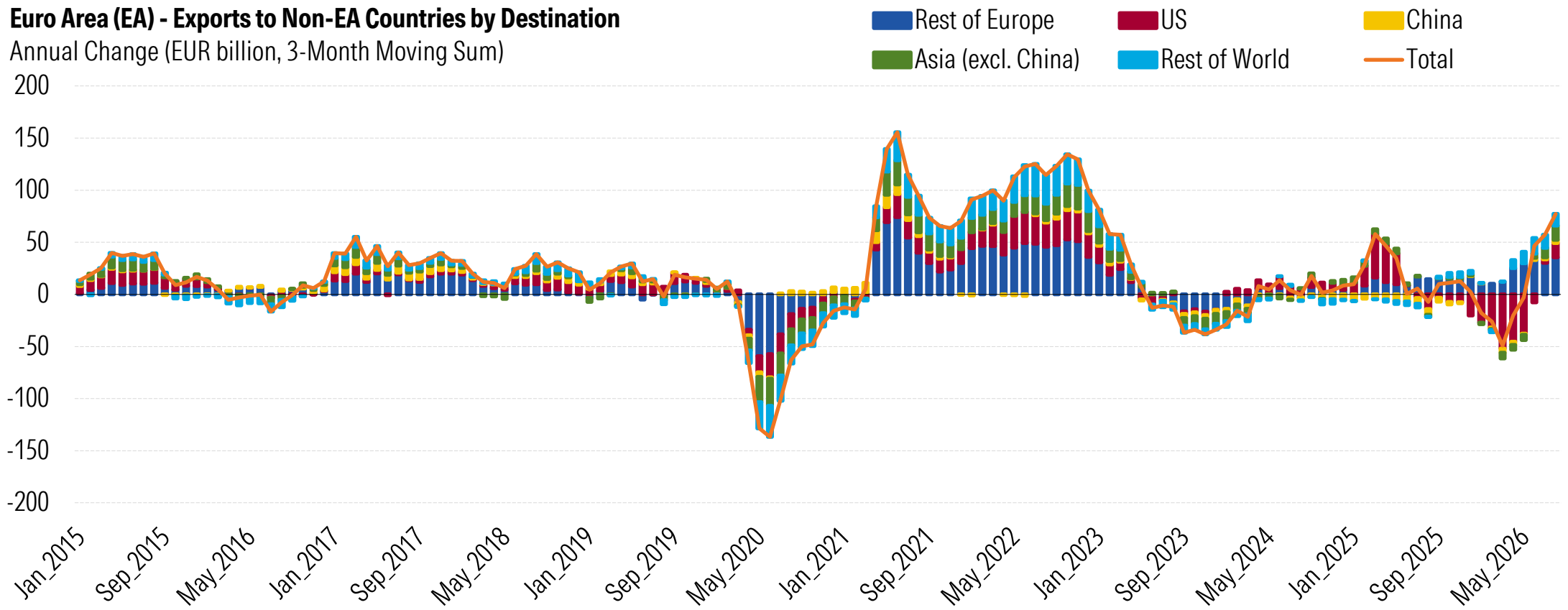
Annual Change (%)



MORNINGSTAR

Sources: Eurostat, ECB, Macrobond, Morningstar DBRS. Notes: Building permits are seasonally adjusted and displayed as a 3-month moving average. Building permits index relates to square meters of floor area (residential and non-residential buildings). Last observations are June 2026 (building permits) and September 2026 (bank loans).

Euro Area Exports Benefitted from Rising Demand in Other European Countries



MORNINGSTAR

Sources: Eurostat, Macrobond, Morningstar DBRS. Last observation is August 2026.

Conclusion

- Economic growth in euro area is projected to strengthen next year but downside risks are large
- Main factors to watch:
  - Geopolitical risks (e.g. Middle East, Ukraine)
  - Global energy prices
  - Interest rate developments in the euro area

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REGULATORY UPDATE: CURRENT DISCUSSIONS IN BRUSSELS

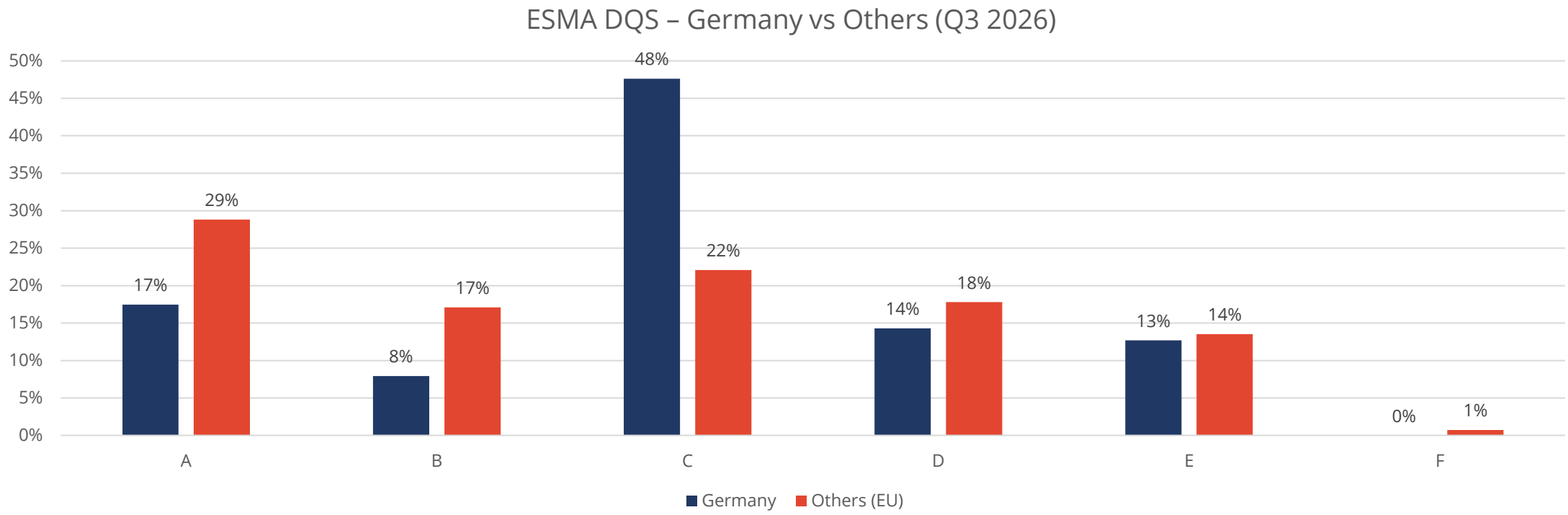
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BUILDING TRUST: DATA QUALITY ENHANCEMENTS & THE NEW DEALDOX® SOLUTION

DR. CHRISTIAN THUN, EDW

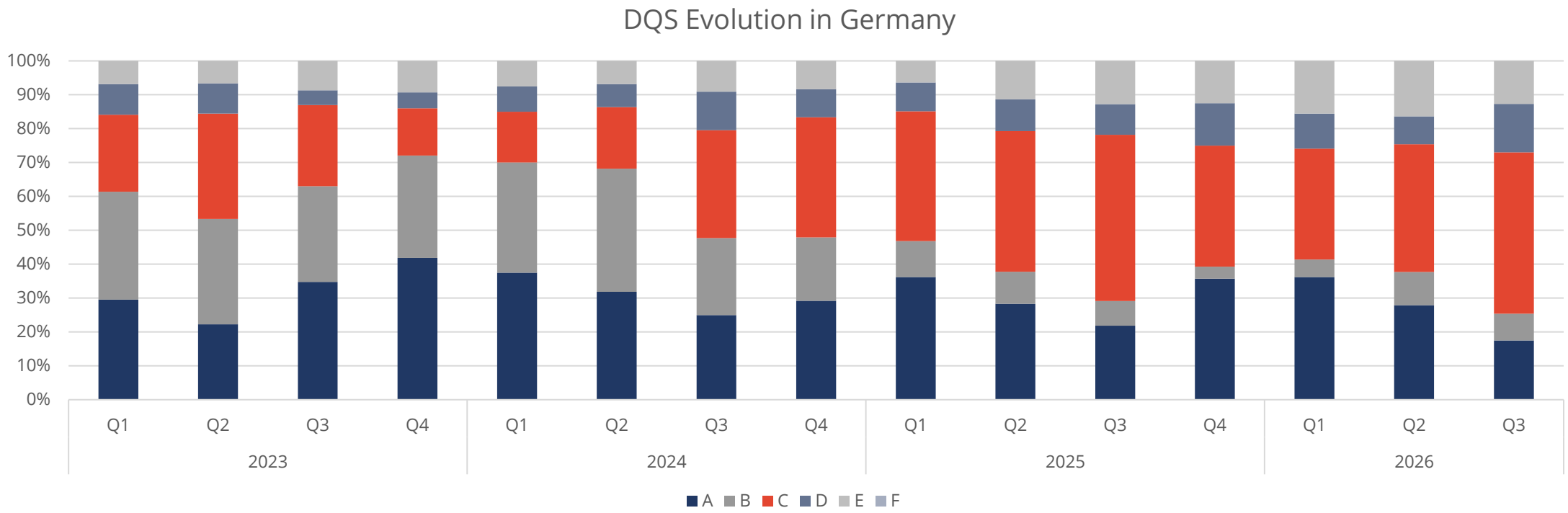
DATA QUALITY SCORES LAG BEHIND IN GERMANY

48% OF GERMAN SUBMISSIONS FALL INTO CATEGORY C, MORE THAN TWICE THE SHARE ACROSS OTHER EU COUNTRIES



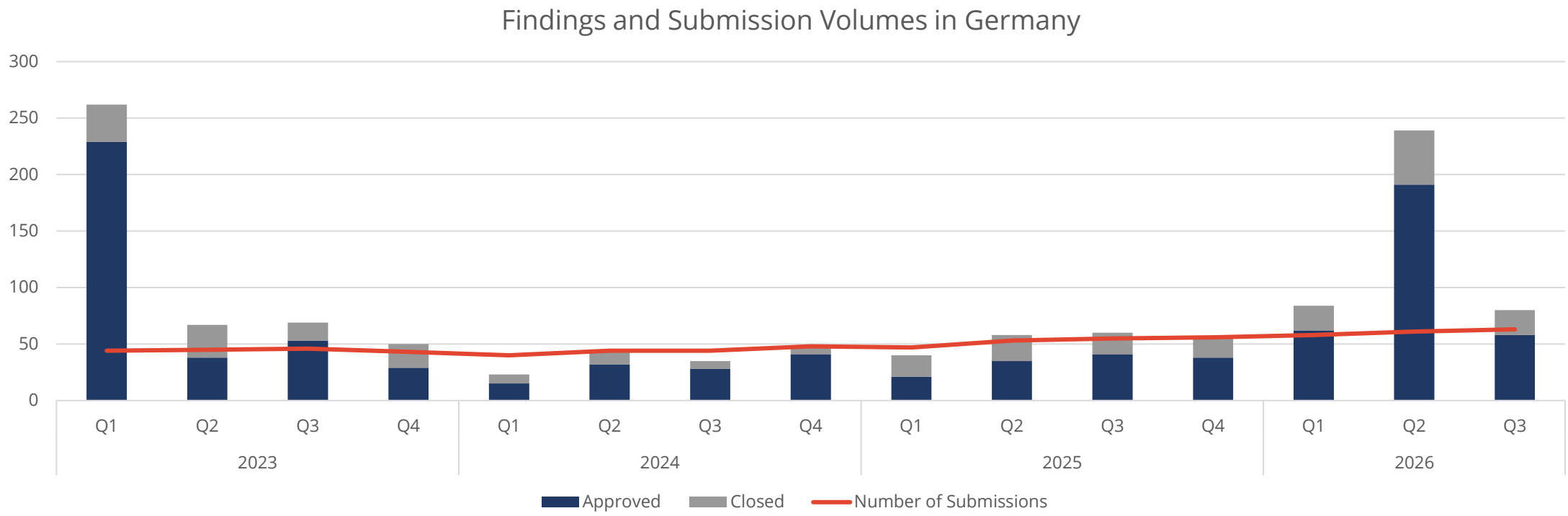
DATA QUALITY SCORE PROGRESSION SINCE 2023

GERMANY'S SCORE DISTRIBUTION REMAINS MIXED, WITH C SCORES INCREASING IN RECENT QUARTERS



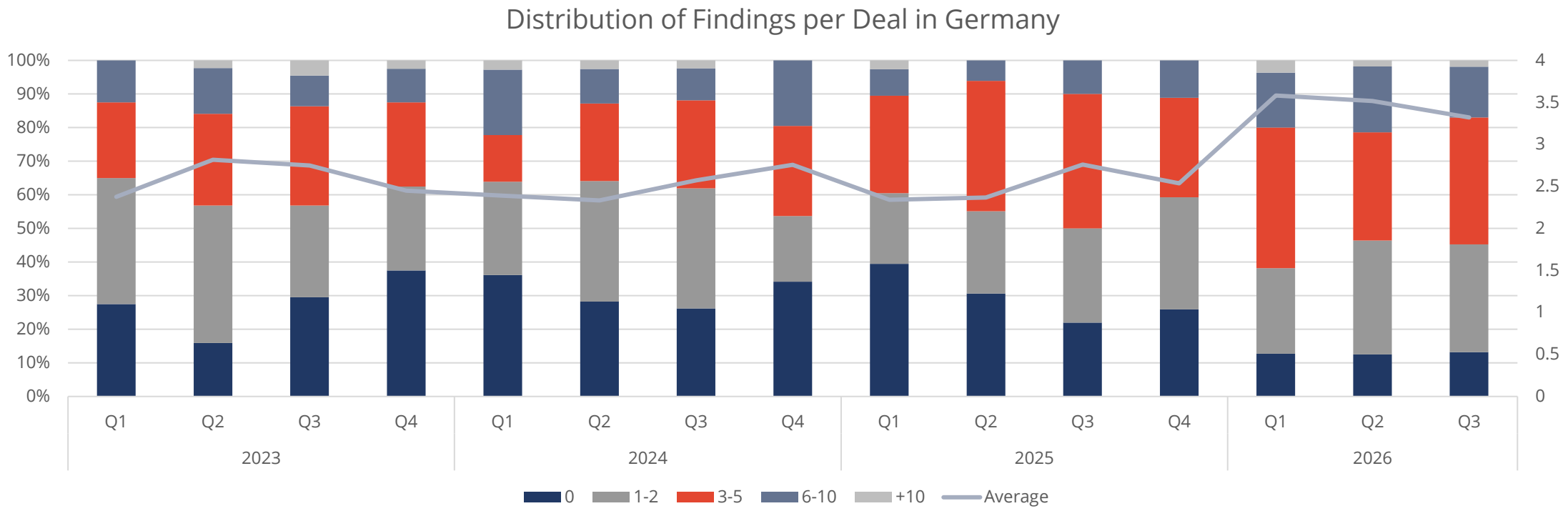
EVOLUTION OF DATA QUALITY FINDINGS IN GERMANY

FINDINGS HAVE INCREASED SIGNIFICANTLY IN RECENT QUARTERS, DRIVEN BY DEEPER ANALYSIS OF SPECIFIC DATA POINTS



RISING FINDINGS PER DEAL IN GERMANY

AVERAGE FINDINGS PER DEAL REACHED ITS HIGHEST LEVELS IN 2026

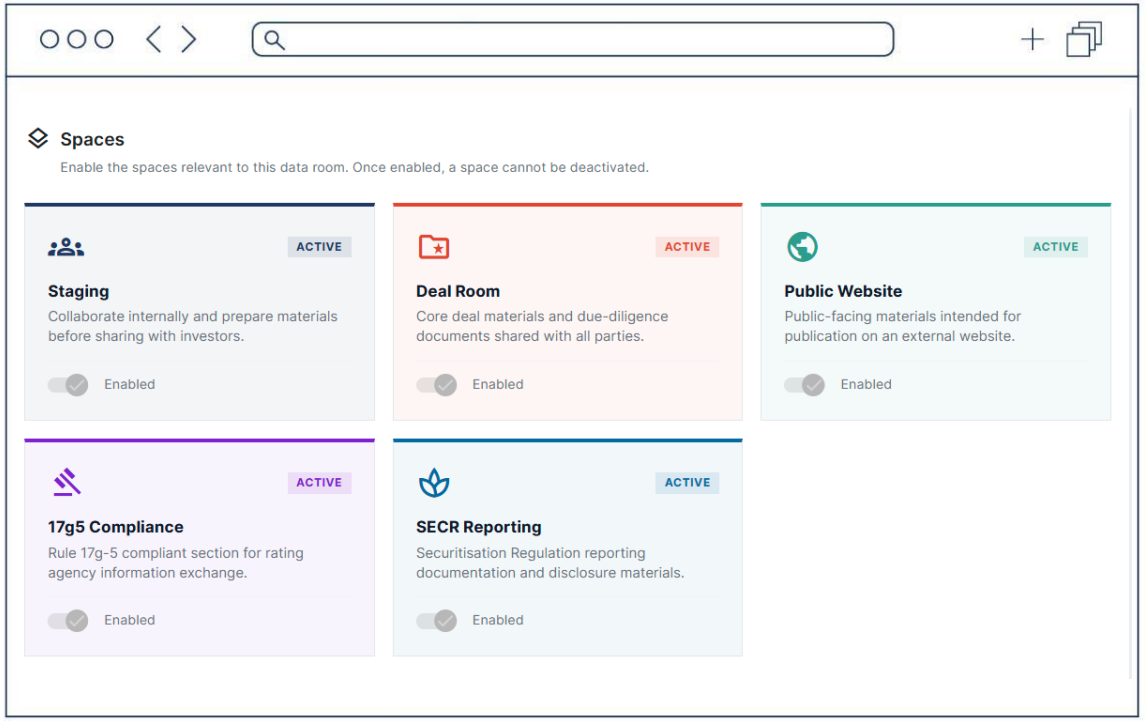


THE NEW DEALDOX® SOLUTION

DEALDOX®

A NEW ERA OF EFFICIENCY AND SECURITY IN DEAL DOCUMENTATION HOSTING

In response to the evolving needs of the structured finance industry, EDW has developed a **bespoke virtual data room solution** tailored to the needs of the market. Crafted with **meticulous attention to detail** and informed by years of expertise in data management, this specialised offering promises to **elevate your document management experience**, offering unparalleled features and benefits.



THE CHALLENGE

THE PROBLEM

Issuers were stretching EDITOR into a virtual data room.

- Built for regulatory reporting
- Never designed for collaboration
- No deal structuring tools
- No stakeholder coordination

MARKET SCAN

EDW evaluated every leading VDR provider.

- None understood securitisation
- Generic approach
- No regulatory awareness
- No deal-lifecycle management

THE GAP

Private deal volumes were growing fast.

- Issuers needed more than reporting
- Investors needed structured access
- Arrangers needed real collaboration
- No SINGLE tool met all of these needs

THE DECISION

We chose to build it ourselves.

- In the best interest of our customers
- Designed by the securitisation experts
- Built for securitisation experts
- Embedded in the EDW ecosystem

DEALDOX

OUR PRIORITIES

THE FOUR CORE PRINCIPLES BEHIND DEALDOX®

SPEED & FLEXIBILITY

Launch deals faster with pre-built templates, one-click setup, and zero naming conventions.

SECURITY

Bank-grade security with SOC2 Type 1 & 2, and ISO 27001 certifications, DORA compliance.

CONTROL

Granular permissions, NDA management, and full audit trails keep every stakeholder on the right track.

COMPLIANCE

Native ESMA, FCA, and Prospectus Regulation support. Submit directly from within the deal room.

BUILT FOR

- ISSUERS
- ARRANGERS
- INVESTORS
- LAW FIRMS
- RATING FIRMS

COLLABORATION AND CONTROL

EVERY STAKEHOLDER INTERACTION MANAGED INSIDE THE DEAL ROOM

PERMISSION GROUPS

Give the right access to the right team. Bulk edit, view, edit, and download rights.

DOCUMENT SIGN-OFF

Request and track stakeholders sign-off in real time, then mark final documents once they are approved.

VERSION CONTROL

Every upload is versioned automatically, view history and roll back to see changes in real-time.

FOLDER TEMPLATES

Start from sector-specific templates like ABS public & private, covered bonds, CLOs, and many more.

LIVE CO-EDITING

Collaborate on Word, Excel, and PDFs in real time, with presence indicators.

WATERMARKING & AI

Protect sensitive drafts with dynamic watermarks on every view and download.

NEVER MISS A MILESTONE

DEAL TRACKER: A PROJECT-MANAGEMENT TOOL INSIDE EVERY DATA ROOM

TEMPLATES

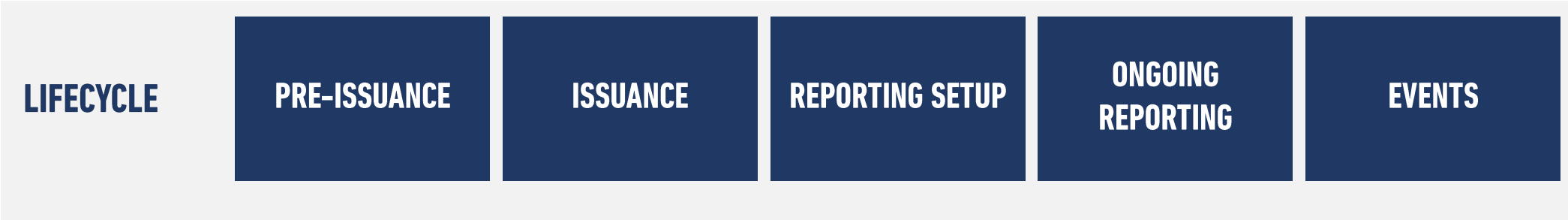
Ship faster with predefined lifecycle templates that map every phase, milestone, and document.

MILESTONES

Track scheduled and actual dates, variances, notes, and link closing documents.

PHASES

Define you own phases and build around how your team works best.



BUILT FOR COMPLIANCE

MEET EU, UK, AND PROSPECTUS REGULATION REQUIREMENTS FROM ONE DATA ROOM

ESMA	**EU REPORTING, NATIVE** Generate loan-level XML files with automatic schema validation; publish to the EDW EDITOR in one click.
FCA	**UK REPORTING, SAME ROOM** One workspace for both regimes; switch between EU and UK tape production without re-entering data.
PROSPECTUS	**PUBLIC DISCLOSURE LINK** Create a no-login public website per deal, with chosen folders, logos, and custom URLs.

THE HIGHEST SECURITY STANDARDS

BANK-LEVEL SECURITY AND STABILITY

Certifications / Attestations:

- ISO 27001
- SOC2 Type 1
- DORA compliant
- ESMA regulated Securitisation Repository Standards





FROM HYPE TO PRACTICE: HOW AI IS TRANSFORMING STRUCTURED FINANCE

DEJAN MALESIC, BANCA FININT

GRUPPO BANCA FININT

EUROPEAN DATAWAREHOUSE

FROM HYPE TO PRACTICE

How AI Is Transforming Structured Finance

2026 EDW'S GERMAN SECURITISATION EVENT

Dejan Malesic – Director, International Business | Banca Finint

4 November 2026 | Frankfurt



02

Banca Finint & AI: from ideas to operational value

A PRAGMATIC, BUSINESS-LED ADOPTION MODEL

INNOVATION AMBASSADORS

A cross-team network that captures ideas, identifies high-value use cases and connects technology with real business needs.

The starting question: where are we spending time and human intelligence on work that machines can perform more consistently?

REAL USE CASE | AI-SUPPORTED COVENANT MONITORING (≈300 MINIBONDS) in cooperation with Accuria

01 READ	→	02 EXTRACT & PROCESS	→	03 CALCULATE	→	04 FLAG
Agreements, financial statements and certificates		Covenant definitions, thresholds and financial inputs		Recalculate compliance and compare borrower figures		Identify inconsistencies and generate reporting

FROM AUTOMATION

AI industrialises the information layer.

TO DYNAMIC RISK

Professionals interpret exceptions, risks and scenarios.

THE REAL GAIN

More time for judgment , risk interpretation and decisions, not information search.

AI is helping us think dynamically about risk.

Obstacles to AI adoption in financial markets

THE BOTTLENECK IS INSTITUTIONAL READINESS, NOT MODEL POWER

AI adoption slows when technology moves faster than the operating environment around it.

01 **LEGACY SYSTEMS**

Fragmented architecture

Disconnected platforms make integration slow, costly and difficult to scale.

02 **DATA QUALITY**

Incomplete or inconsistent inputs

Weak source data reduces confidence in AI-generated analysis and decisions.

03 **GOVERNANCE**

Explainability and decision rights

Controls, auditability, escalation and accountability must be explicit.

PRACTICAL RESPONSE

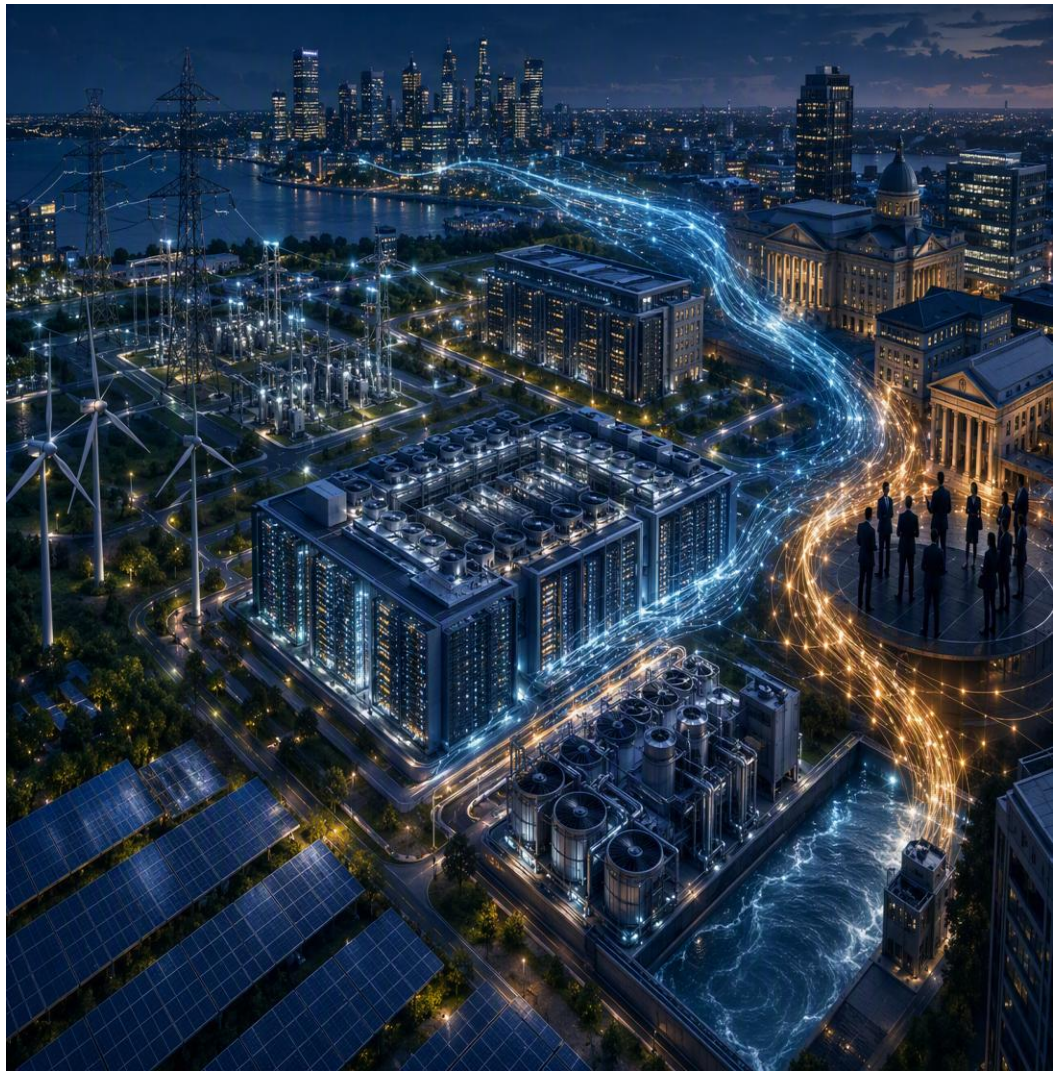
Modernise systems | Standardise data | Govern decisions

At Banca Finint, every extraction and calculation remain fully traceable and auditable.

04

A stronger model: Human-in-the-Loop + AI-in-the-Loop

CONTROL SHOULD WORK IN BOTH DIRECTIONS



HUMAN → CHECKS → AI

AI performs the heavy analytical work. People retain judgment, accountability and decision rights.

AI → CHECKS → HUMAN

AI independently recalculates, compares human-reported figures and highlights discrepancies for investigation.

The objective is not autonomous finance. It is mutual challenge.

05

Will AI change market economics? Indirectly, yes.

LOWER FRICTION CAN EXPAND WHAT IS FINANCEABLE

AI may not reprice credit risk tomorrow. It can reduce the fixed and friction costs around a transaction.

LOWER OPERATING FRICTION

Cheaper due diligence, monitoring and reporting

GREATER SCALE

More transactions monitored without weakening control

NEW FINANCEABLE ASSETS

Granular or heterogeneous pools become more viable

The impact comes first through lower operating friction, then through scale and market reach.

What survives AI?

THE MORE WE AUTOMATE, THE MORE CLEARLY HUMAN VALUE STANDS OUT

AI can accelerate analysis. It cannot absorb responsibility.

ADMINISTRATIVE

Highly automatable by AI

Extraction · reconciliation · reporting · covenant monitoring

ANALYTICAL

Increasingly augmented by AI

Credit analysis · scenarios · surveillance · anomaly detection

RELATIONSHIP & JUDGMENT

Fundamentally human

Negotiation · structuring judgment · investor dialogue · accountability · investment decision

What remains distinctly human

JUDGMENT

Interpret ambiguity and trade-offs

ACCOUNTABILITY

Own decisions and consequences

TRUST

Build confidence across stakeholders

Focus human intelligence where judgment, accountability and trust matter most.

07

AI is not only changing finance. It is creating assets to finance.

THE AI INFRASTRUCTURE AND ESG PARADOX



DATA CENTRES · POWER · GRIDS
COOLING · WATER · FIBRE

The financing opportunity

Capital-intensive, long-duration infrastructure can generate cash flows that structured finance can analyse and transform into investable products.

AI & ESG Paradox

- Will sufficient electricity be available?
- What if energy prices rise materially?
- Is cooling and water capacity resilient?
- What is the carbon and grid exposure?

Power availability risk may become as critical as credit risk.

The future of structured finance is augmented intelligence

Using human intelligence where it matters most

TIME AND RESOURCE SAVINGS + COST REDUCTION

Less human information search, focus on risk interpretation and decision making. Reduction of the friction cost of securitization.

DYNAMIC APPROACH TO RISK

AI simulation of possible alternative and future scenarios.

DUAL APPROACH

Humans supervise the AI work. AI also simultaneously verifies human work. AI becomes an additional layer of control.

HUMAN JUDGMENT

Accountability, trust and action.

The winners will combine technology, governance, infrastructure and human judgment into one trusted ecosystem.

Thank you

TURNING DATA INTO INSIGHT: ANOMALY DETECTION FOR BETTER TRANSPARENCY

GEORGE PESTEAN, EDW

FRAUD RISK ANALYTICS

1. Layered Approach
2. Standard Deviation Refresher
3. Standard Deviation Outputs
4. What is an Isolation Forest
5. Isolation Forest Graphs

OUR LAYERED APPROACH TO DETECTING LOAN-LEVEL ANOMALIES

EDW COMBINES RULE-BASED VALIDATION, STATISTICAL AND MACHINE LEARNING TO IDENTIFY UNUSUAL REPORTING PATTERN AND DATA-QUALITY ISSUES

Layer 1 – Consistency Checks

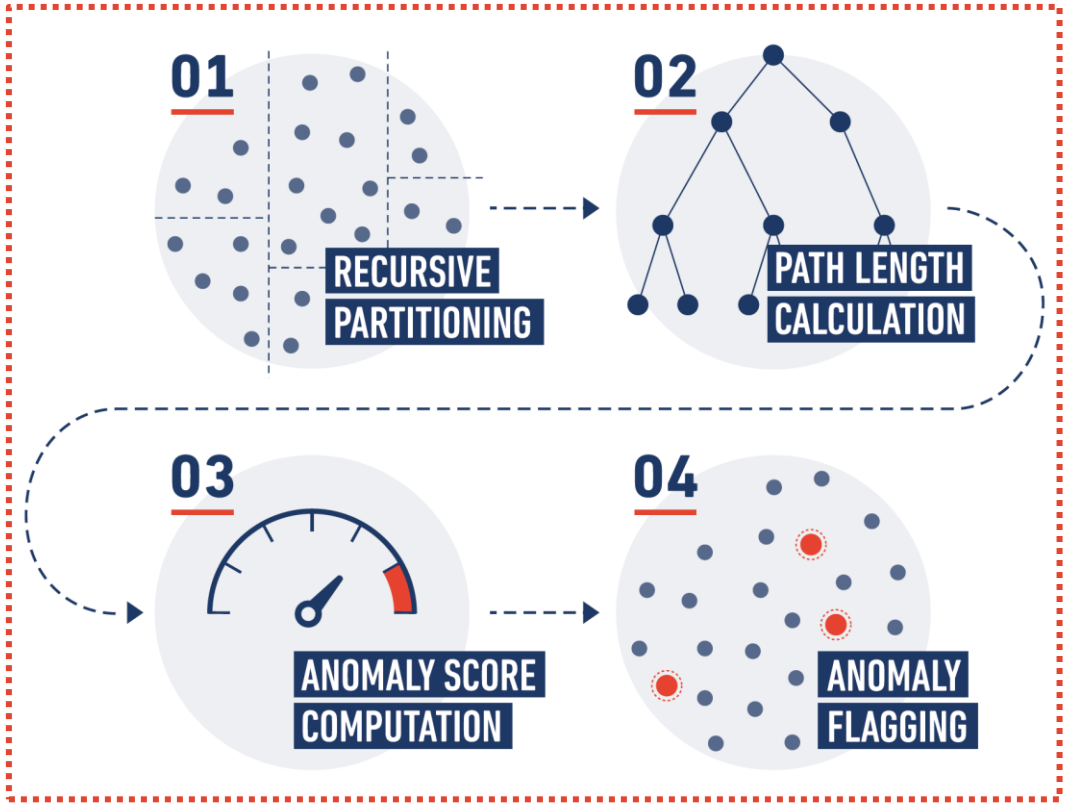
Identifies inconsistent amortisation values and potentially anomalous use of loan or collateral identifiers.

Layer 2 – Statistical Outlier Detection

Measures how far selected loan characteristics deviate from the mean within comparable geographic segments, flagging observations at least four standard deviations away.

Layer 3 – Isolation Forest Analysis

Analyses selected data points using an Isolation Forest algorithm. Through recursive partitioning and path-length calculation, each loan receives an anomaly score, helping identify unusual loan profiles based on combinations of multiple characteristics.

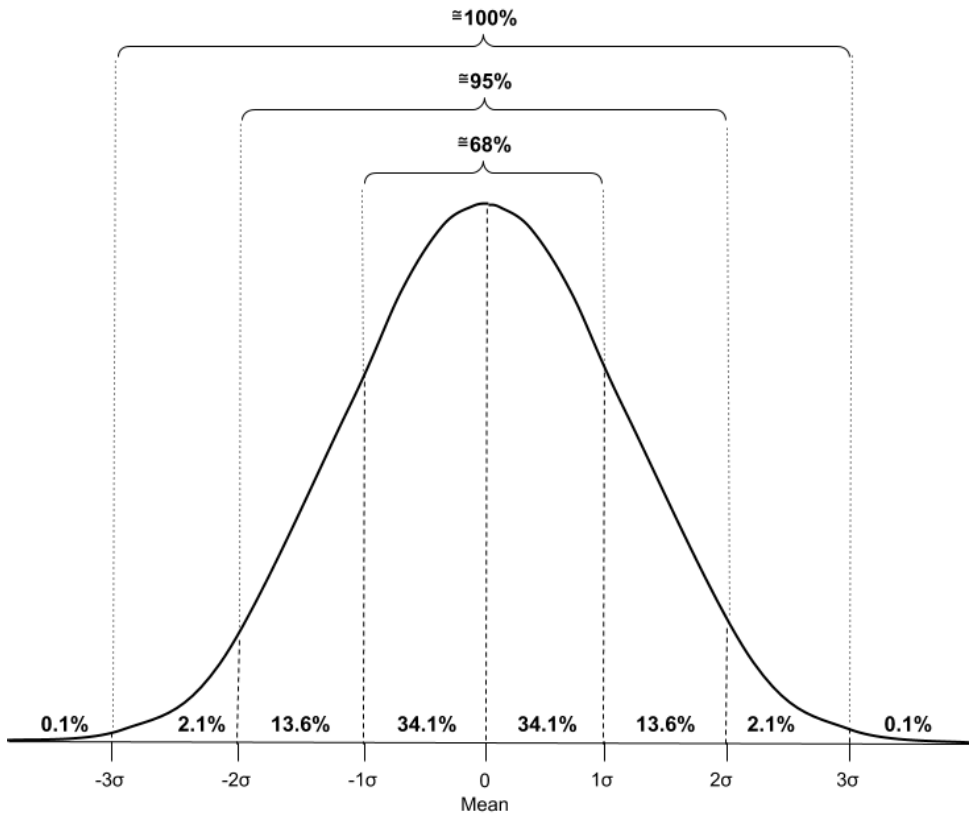


QUICK REFRESHER: STANDARD DEVIATIONS

Standard deviation is a statistical measure that quantifies the **amount of variation** or **dispersion** of a set of values from their **mean**.

To compute how many standard deviations a certain point is away from the mean we use **Z-Scores**.

We compute **regional means** in each data set and calculate Z-scores based on the regional means to see how many Standard Deviations a point is away from the regional mean.



Standard Normal Distribution - MathBitsNotebook(A2)

STANDARD DEVIATION–WHAT ARE THE OUTPUTS?

THREE COMPLEMENTARY OUTPUT VIEWS FOR STANDARD DEVIATION ANALYSIS

1. EXECUTIVE SUMMARY

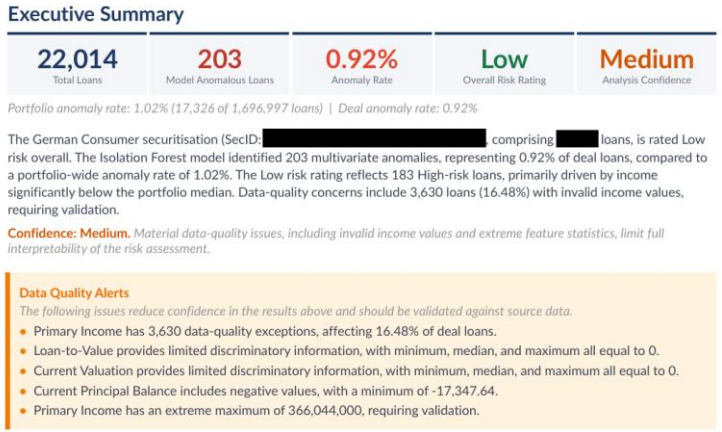
Helps benchmark the portfolio's risk profile, anomaly levels, and data quality against its asset class population.

2. RISK DETAILS

Explains the key factors behind flagged observations and highlights the main areas requiring attention.

3. STATISTICAL AGGREGATES

Provides distribution metrics and validation checks to support the interpretation of portfolio characteristics.



Executive Summary

22,014	203	0.92%	Low	Medium
Total Loans	Model Anomalous Loans	Anomaly Rate	Overall Risk Rating	Analysis Confidence

Portfolio anomaly rate: 1.02% (17,326 of 1,696,997 loans) | Deal anomaly rate: 0.92%

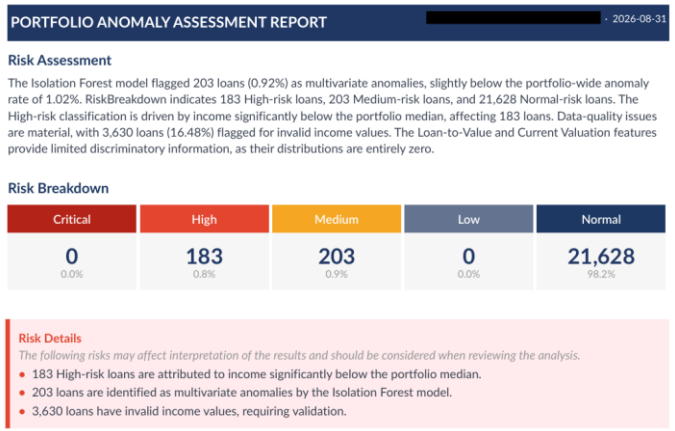
The German Consumer securitisation (SecID: [redacted] comprising [redacted] loans, is rated Low risk overall. The Isolation Forest model identified 203 multivariate anomalies, representing 0.92% of deal loans, compared to a portfolio-wide anomaly rate of 1.02%. The Low risk rating reflects 183 High-risk loans, primarily driven by income significantly below the portfolio median. Data-quality concerns include 3,630 loans (16.48%) with invalid income values, requiring validation.

Confidence: Medium. *Material data-quality issues, including invalid income values and extreme feature statistics, limit full interpretability of the risk assessment.*

Data Quality Alerts

The following issues reduce confidence in the results above and should be validated against source data.

- Primary Income has 3,630 data-quality exceptions, affecting 16.48% of deal loans.
- Loan-to-Value provides limited discriminatory information, with minimum, median, and maximum all equal to 0.
- Current Valuation provides limited discriminatory information, with minimum, median, and maximum all equal to 0.
- Current Principal Balance includes negative values, with a minimum of -17,347.64.
- Primary Income has an extreme maximum of 366,044,000, requiring validation.



PORTFOLIO ANOMALY ASSESSMENT REPORT [redacted] · 2026-08-31

Risk Assessment

The Isolation Forest model flagged 203 loans (0.92%) as multivariate anomalies, slightly below the portfolio-wide anomaly rate of 1.02%. RiskBreakdown indicates 183 High-risk loans, 203 Medium-risk loans, and 21,628 Normal-risk loans. The High-risk classification is driven by income significantly below the portfolio median, affecting 183 loans. Data-quality issues are material, with 3,630 loans (16.48%) flagged for invalid income values. The Loan-to-Value and Current Valuation features provide limited discriminatory information, as their distributions are entirely zero.

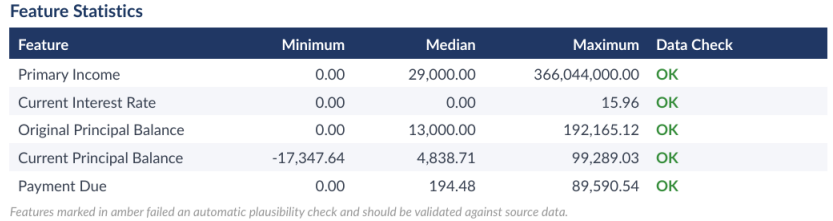
Risk Breakdown

Critical	High	Medium	Low	Normal
0 (0.0%)	183 (0.8%)	203 (0.9%)	0 (0.0%)	21,628 (98.2%)

Risk Details

The following risks may affect interpretation of the results and should be considered when reviewing the analysis.

- 183 High-risk loans are attributed to income significantly below the portfolio median.
- 203 loans are identified as multivariate anomalies by the Isolation Forest model.
- 3,630 loans have invalid income values, requiring validation.



Feature Statistics

Feature	Minimum	Median	Maximum	Data Check
Primary Income	0.00	29,000.00	366,044,000.00	OK
Current Interest Rate	0.00	0.00	15.96	OK
Original Principal Balance	0.00	13,000.00	192,165.12	OK
Current Principal Balance	-17,347.64	4,838.71	99,289.03	OK
Payment Due	0.00	194.48	89,590.54	OK

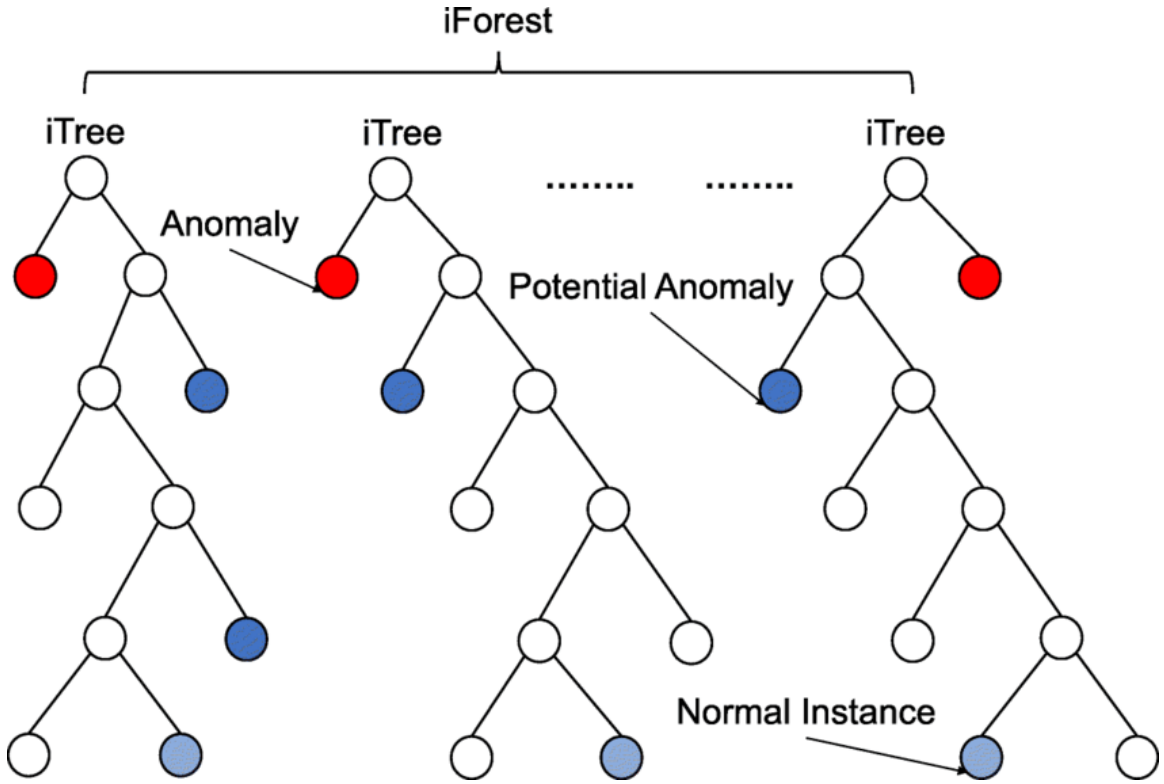
Features marked in amber failed an automatic plausibility check and should be validated against source data.

WHAT IS AN ISO FOREST?

isoForest Algorithm is an anomaly detection method based on the idea that anomalies are easier to isolate than normal points.

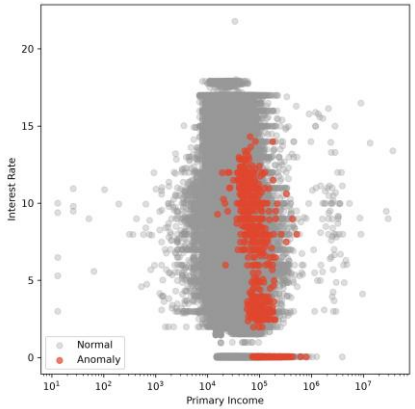
The central idea is that it **recursively partitions** the observation **using random splits** and quantifies anomalies based on their expected isolation depth, with shorter paths indicating higher likelihood of being anomalous.

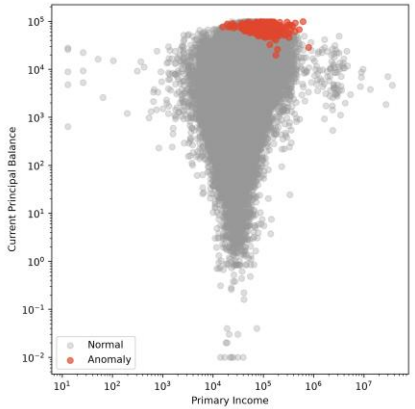
The code is sourced from a public library, and it functions with three arbitrary inputs.

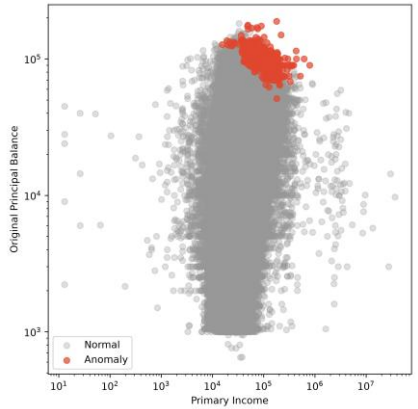


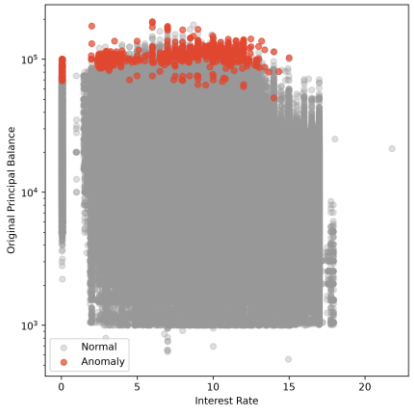
Anomaly Detection Using Isolation Forest Algorithm | by Saurabh Singh | Analytics Vidhya | Medium

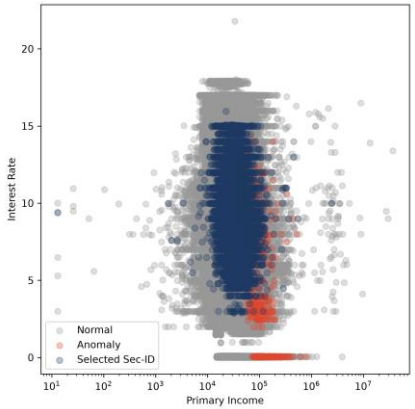
ISOLATION FOREST GRAPHS GERMAN CONSUMER MARKET

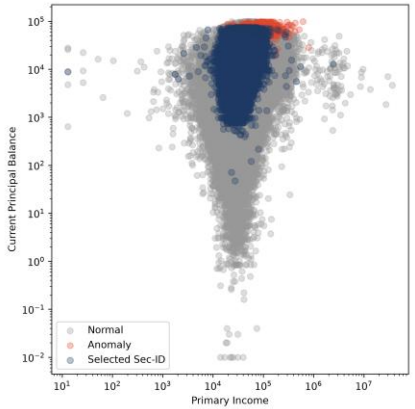


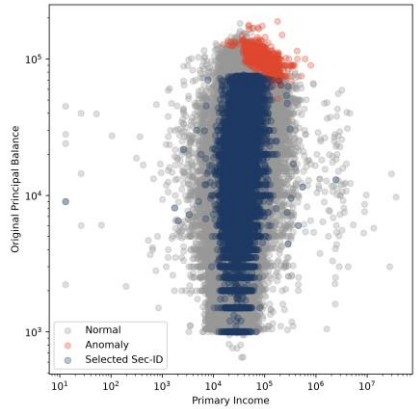


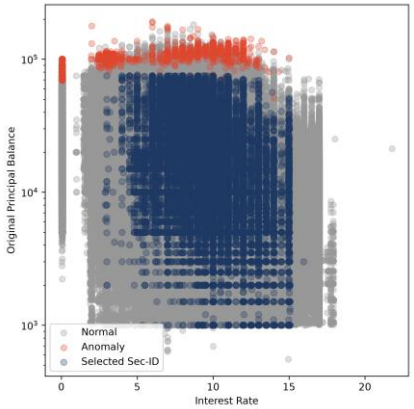












SECURITISATION MARKET OUTLOOK: TRENDS & PERSPECTIVES

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CLOSING REMARKS

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