

# COVID-19: 360° View of the Dutch Mortgage Loan Market

# Europe Retail Credit Risk Webinar Series

Episode 1  
Wednesday, 24 June

10:00 BST | 11:00 CEST

COVID-19:  
360° View of the Dutch  
Mortgage Loan Market

Episode 2  
Tuesday, 30 June

14:00 BST | 15:00 CEST

Impact of Economic Stress  
on Retail Credit Portfolios  
Across Europe

# Today's Speakers



**Luca Magni**  
Business Development



**Juan Licari, PhD**  
Managing Director



**Petr Zemcik PhD**  
Senior Director

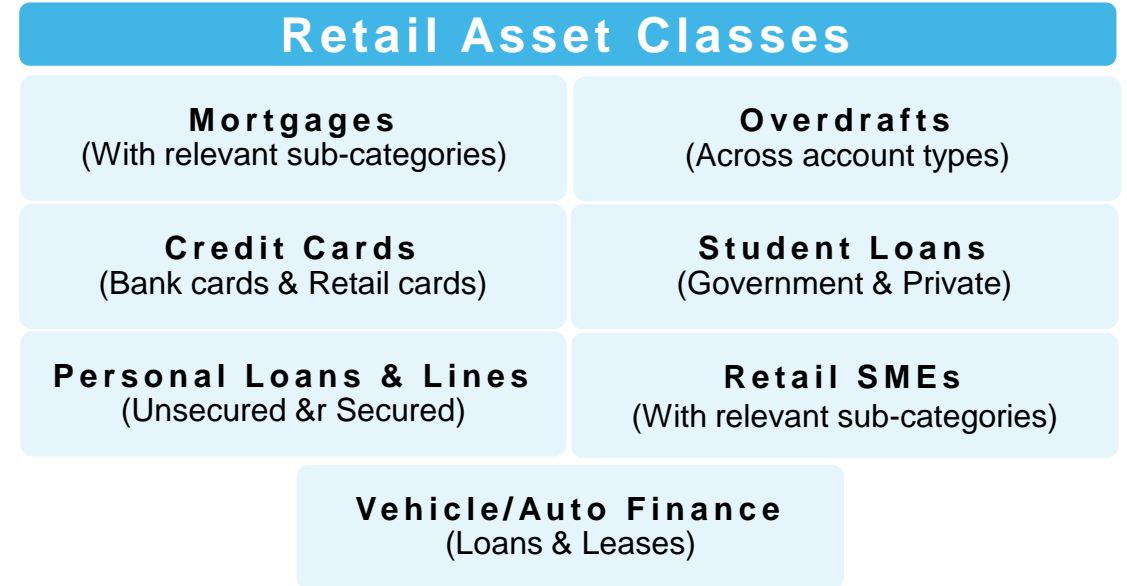
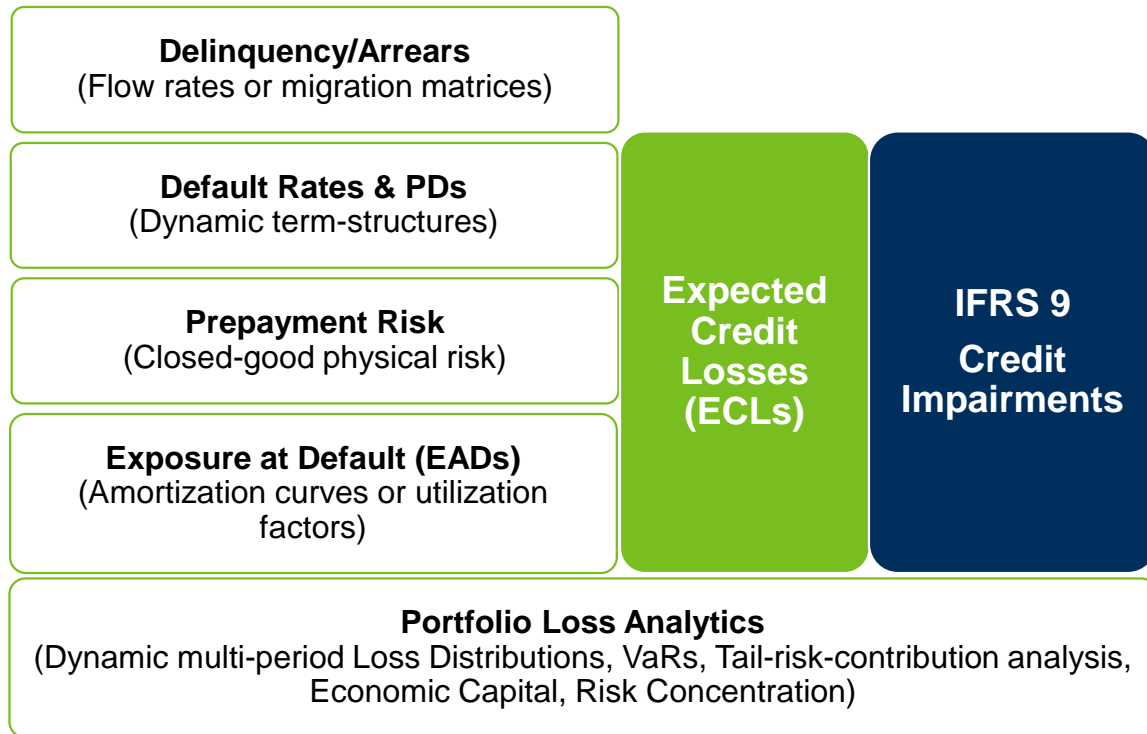


**Brenda Solis Gonzalez**  
Risk Modeler

Economics & Business Analytics

# Portfolio Analyzer (PA) Suite of Models

Retail loan-level econometric models for credit and impairment metrics



# Agenda

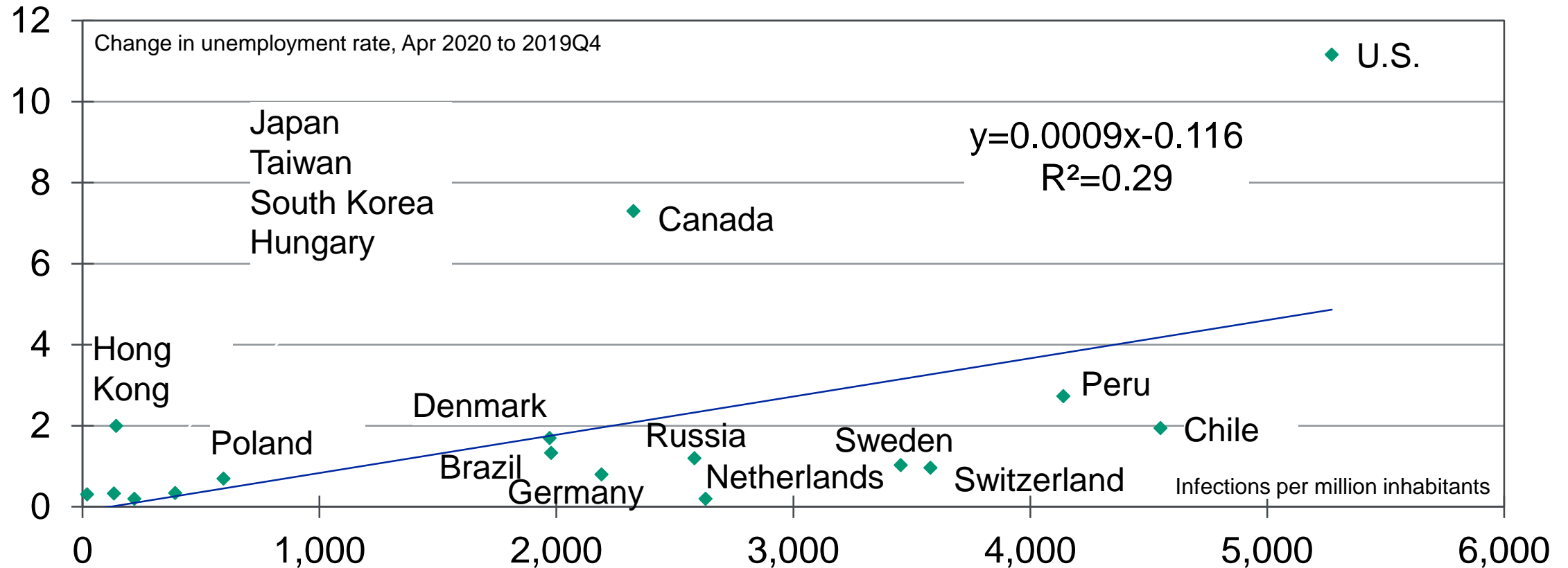
1. National and Regional Economic Outlook for the Netherlands
2. Rising PD & LGD Forecasts for the Dutch Mortgage Market
3. Impact of IFRS 9 on Expected Credit Losses and 2021 Impairments
4. Living through a Real-Life Stress Test: Expected & Unexpected Losses

1

National and Regional  
Economic Outlook for the  
Netherlands

# More Infections, Worse Downturn

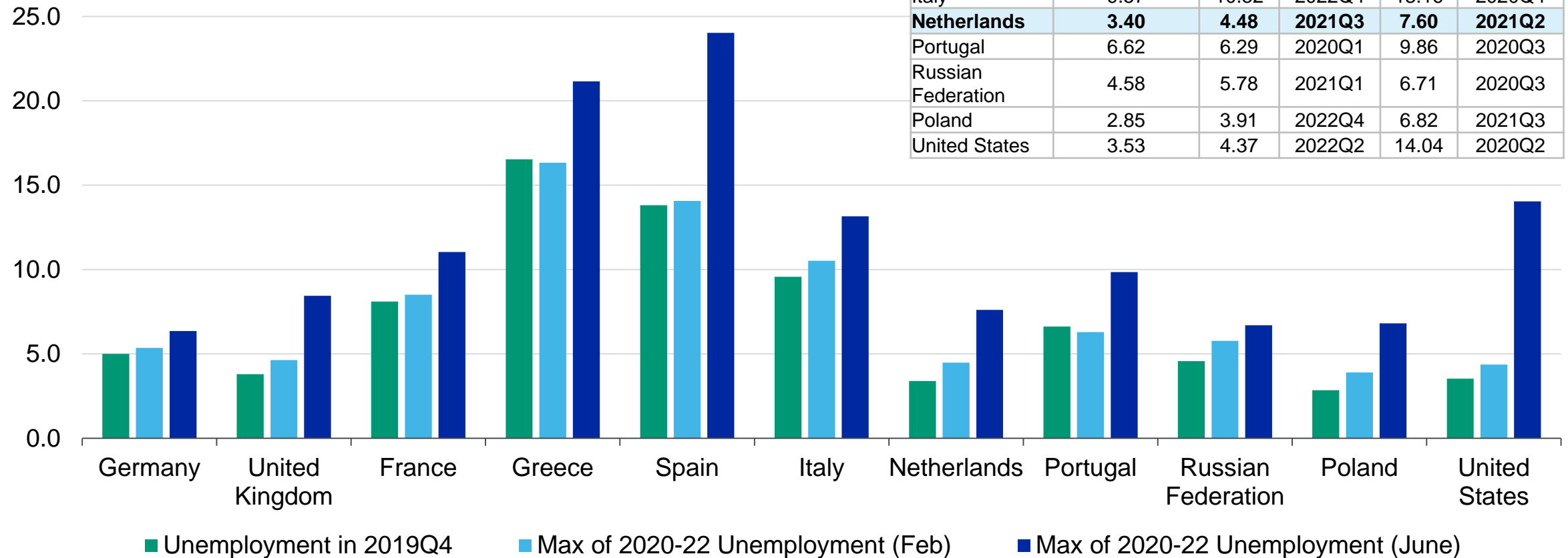
Confirmed infections per mil inhabitants



Sources: WHO, Government sources, Moody's Analytics

# Unemployment Increases

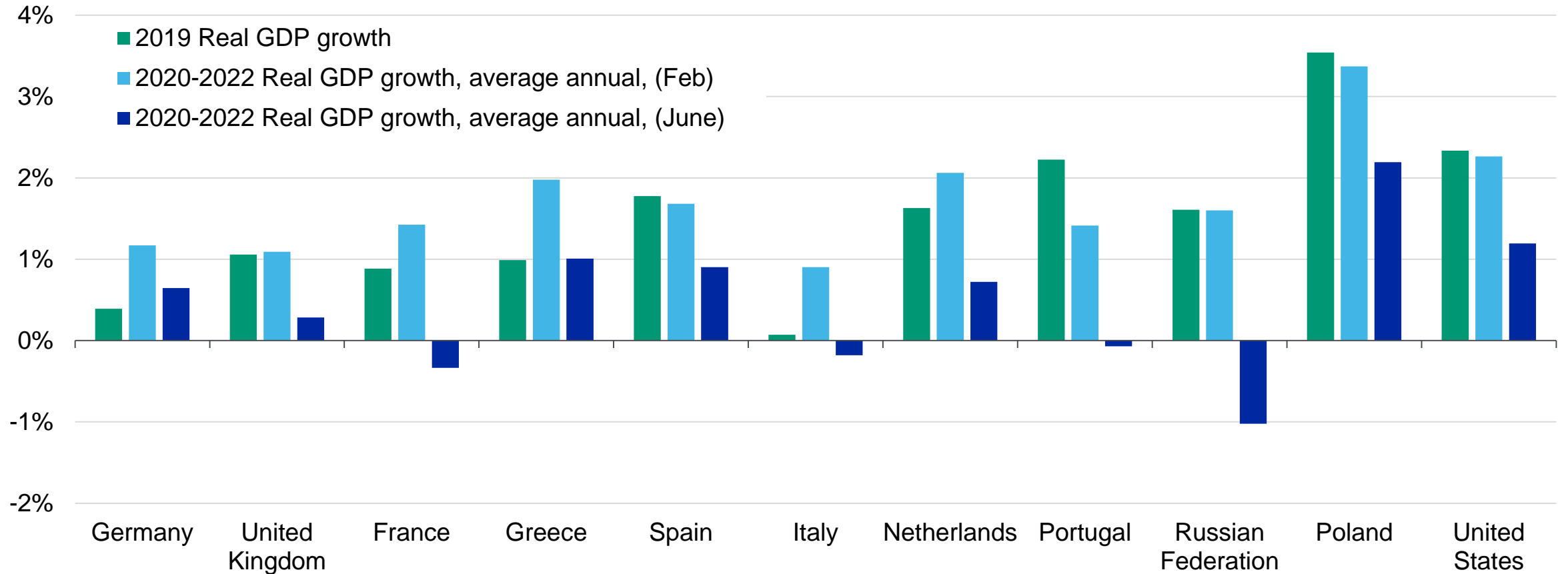
## Shift of baseline scenarios





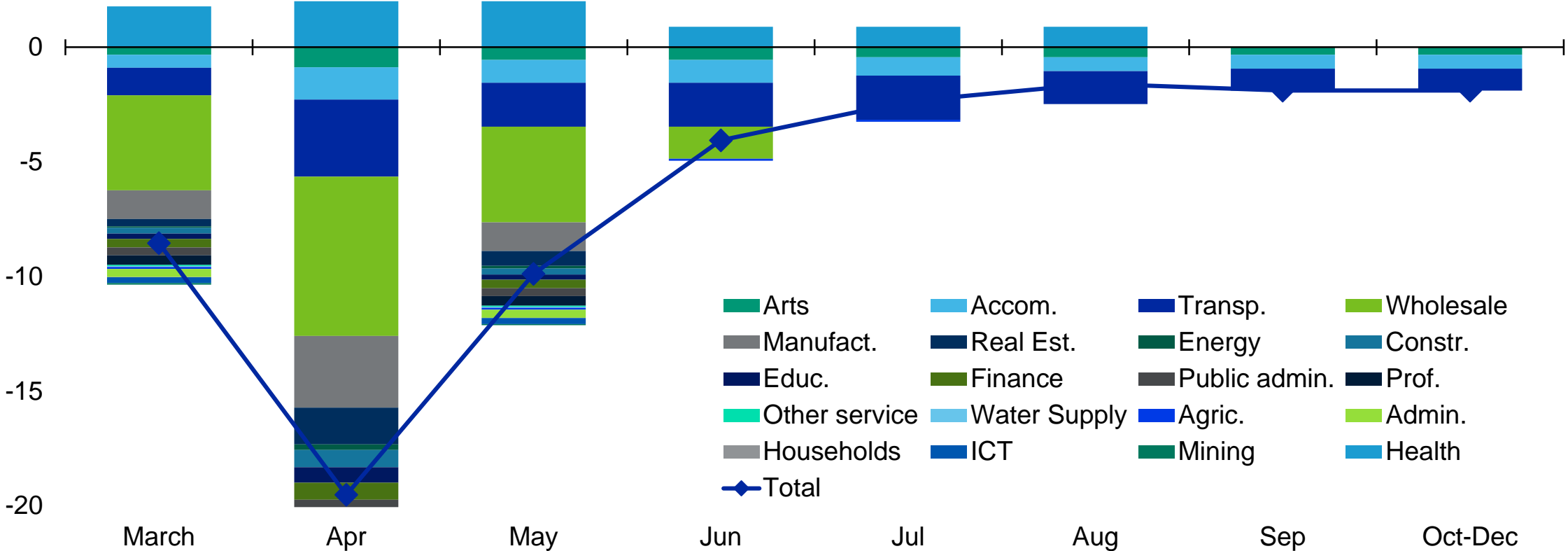
# GDP Drops in 2020

## Shift of baseline scenarios



# The Netherlands GDP Plunges in Q2

Deviation from normal level of activity, ppts, by industry

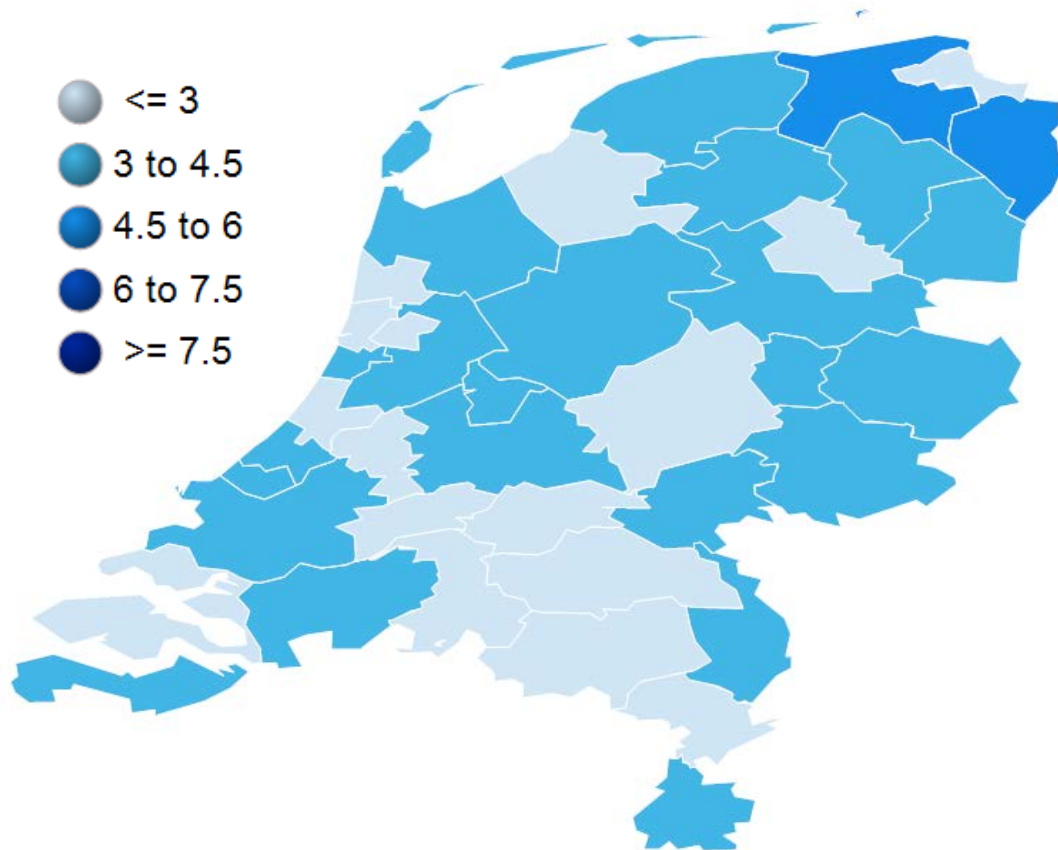


Source: Moody's Analytics

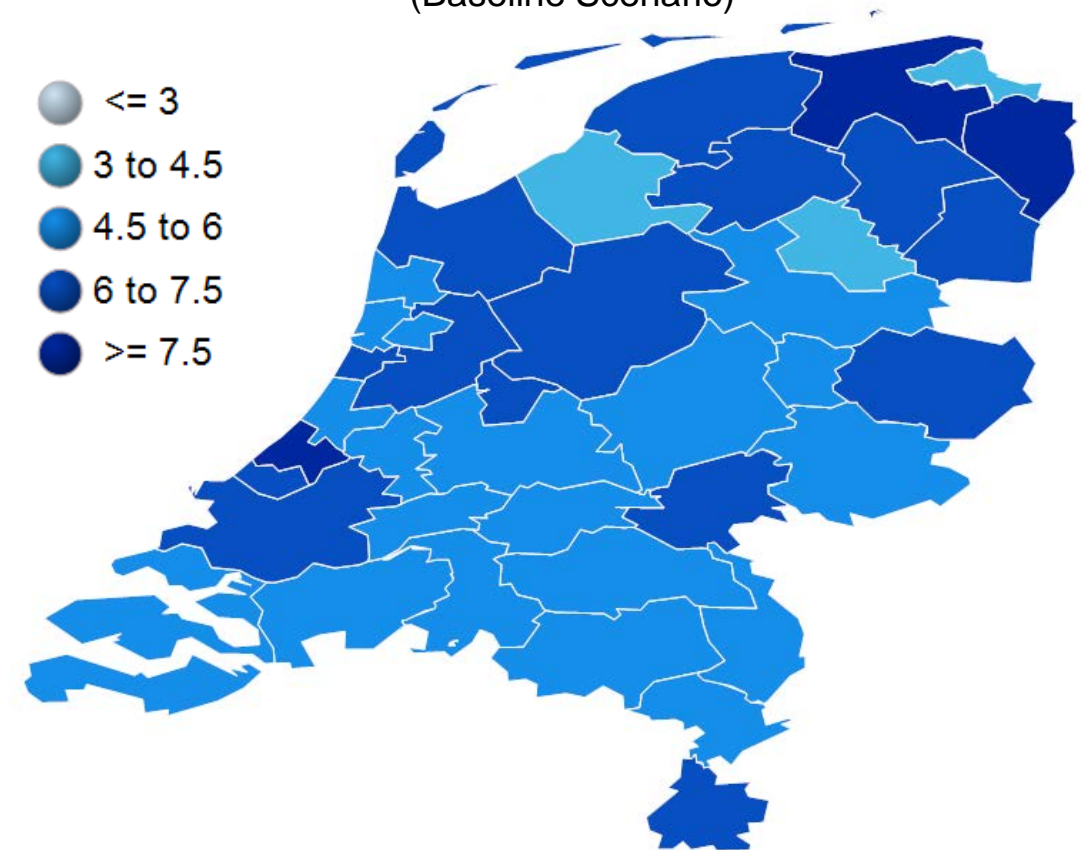
# Regional Shocks to Unemployment rate (NUTS3)

Netherlands regions: 2019Q4 vs. 2020Q4 (baseline forecast)

2019Q4 Historical value



2020Q4 Forecasted value  
(Baseline Scenario)

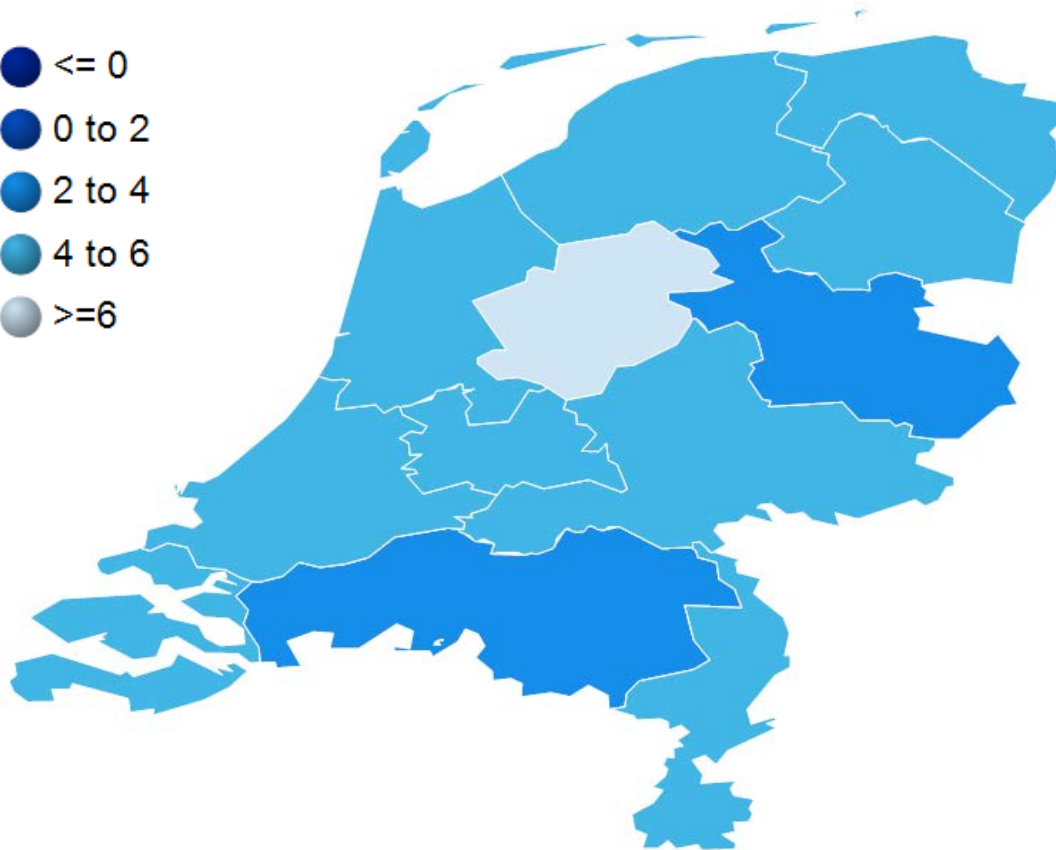


# Regional Shocks to Real House Price Index

Netherlands regions: annual growth 2019 vs. 2020 (baseline forecast)

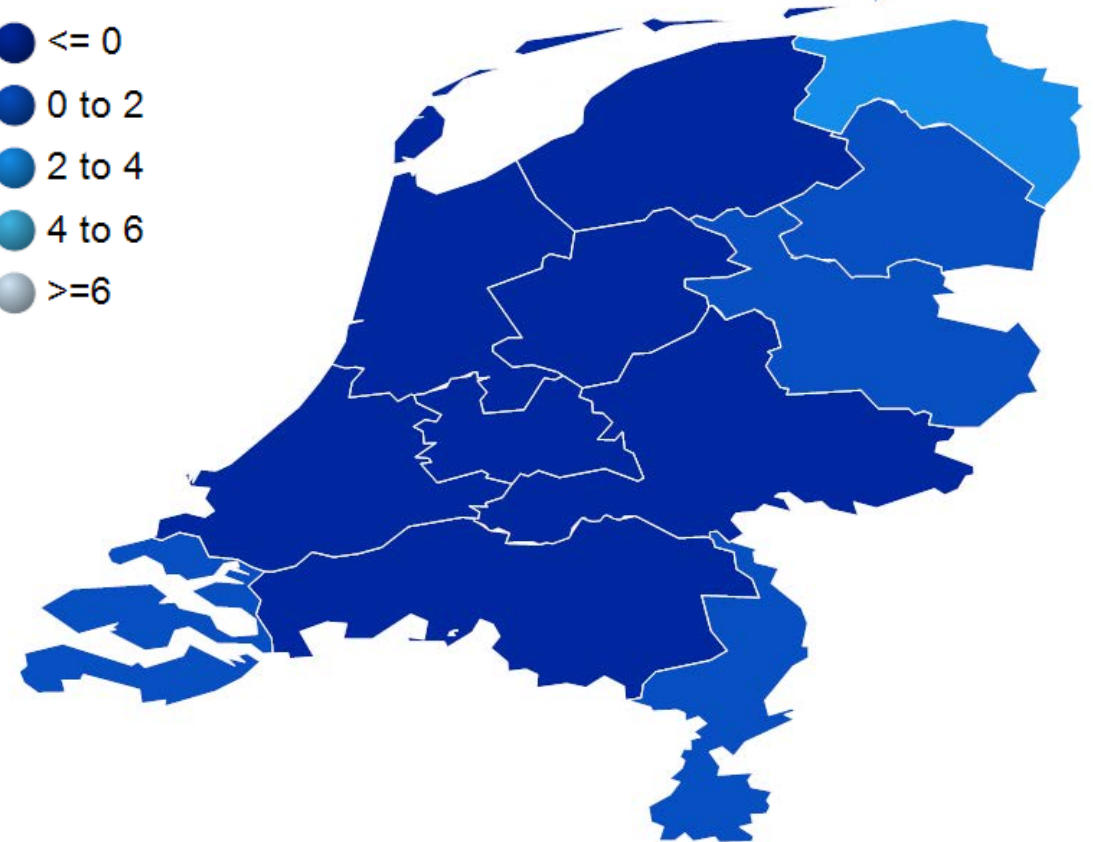
2019Q4 Historical value

- $\leq 0$
- 0 to 2
- 2 to 4
- 4 to 6
- $\geq 6$



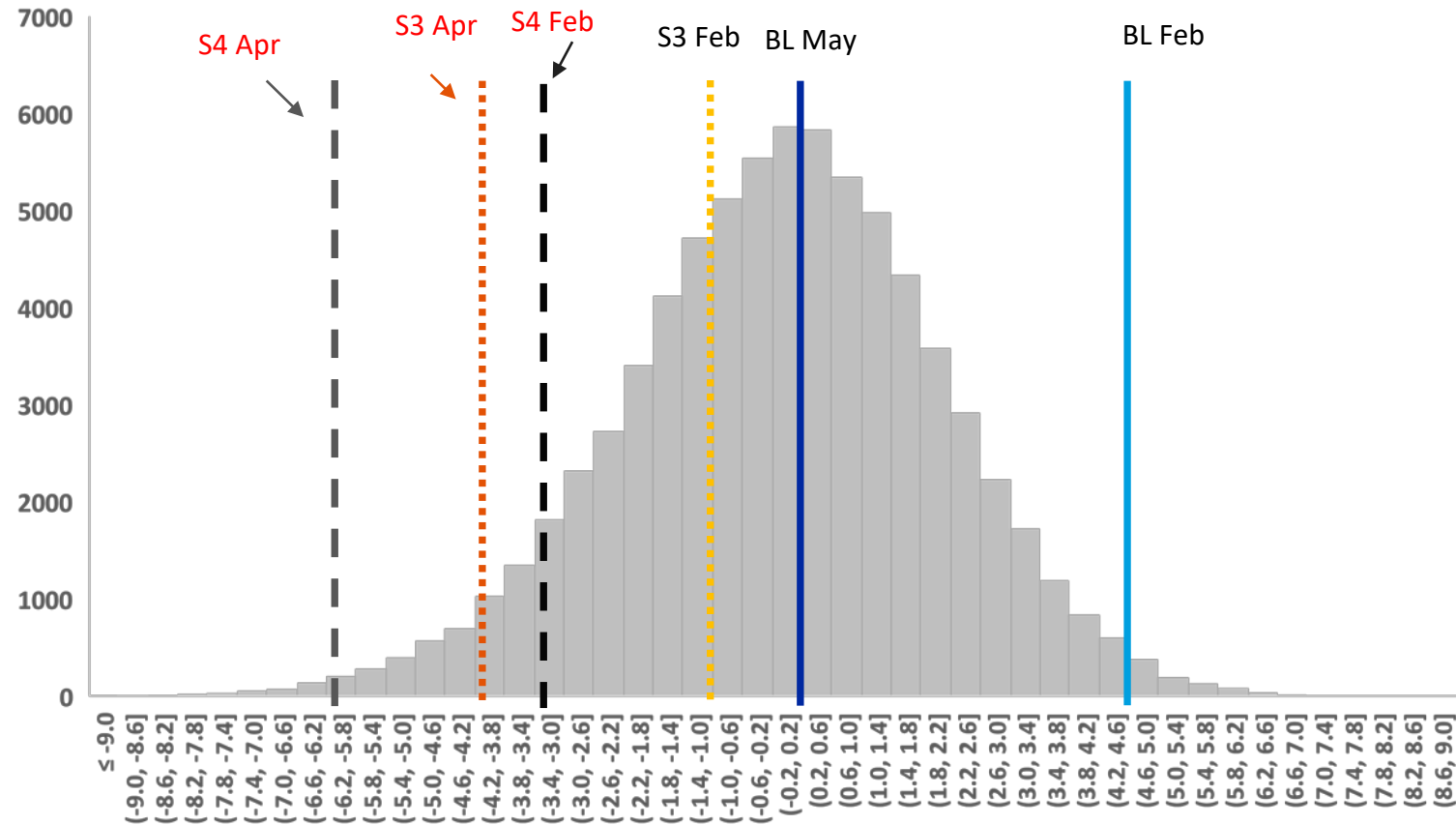
2020Q4 Forecasted value  
(Baseline Scenario)

- $\leq 0$
- 0 to 2
- 2 to 4
- 4 to 6
- $\geq 6$



# Severity, Avg. Deviations From Baseline, %

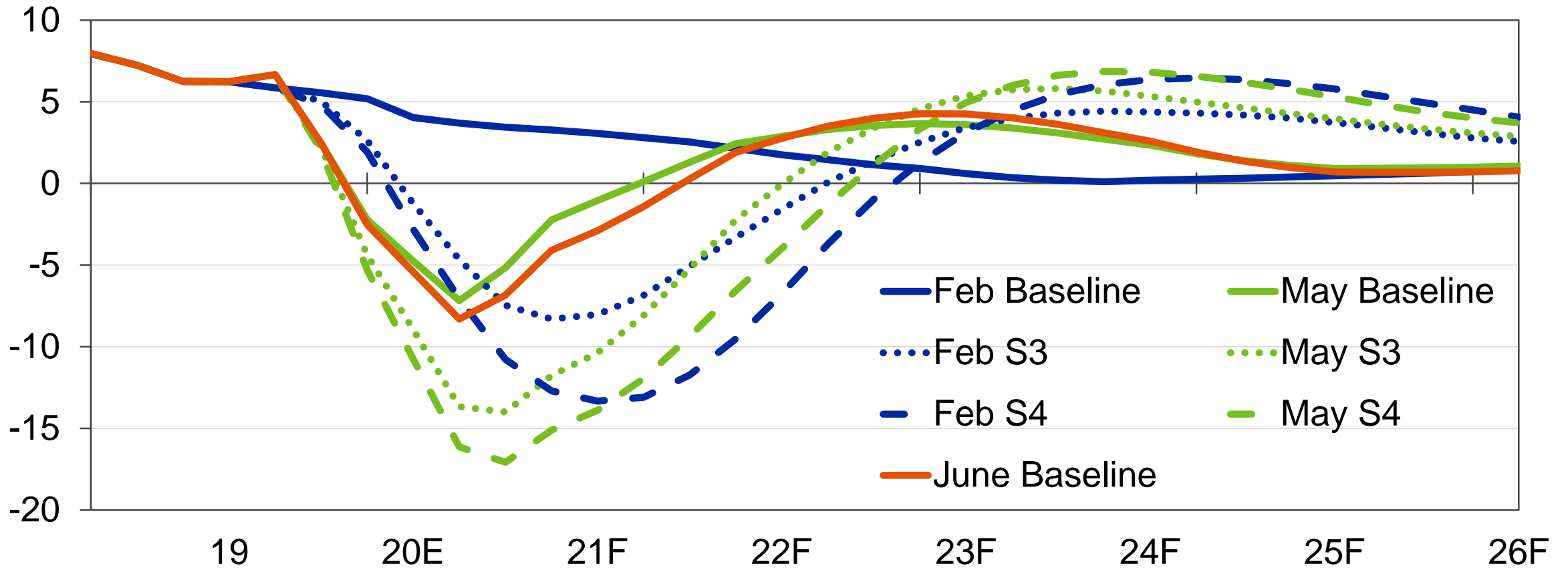
Standard deviation=2.1



Source: Moody's Analytics

# Housing Prices Decline

House Price growth, % change yr ago

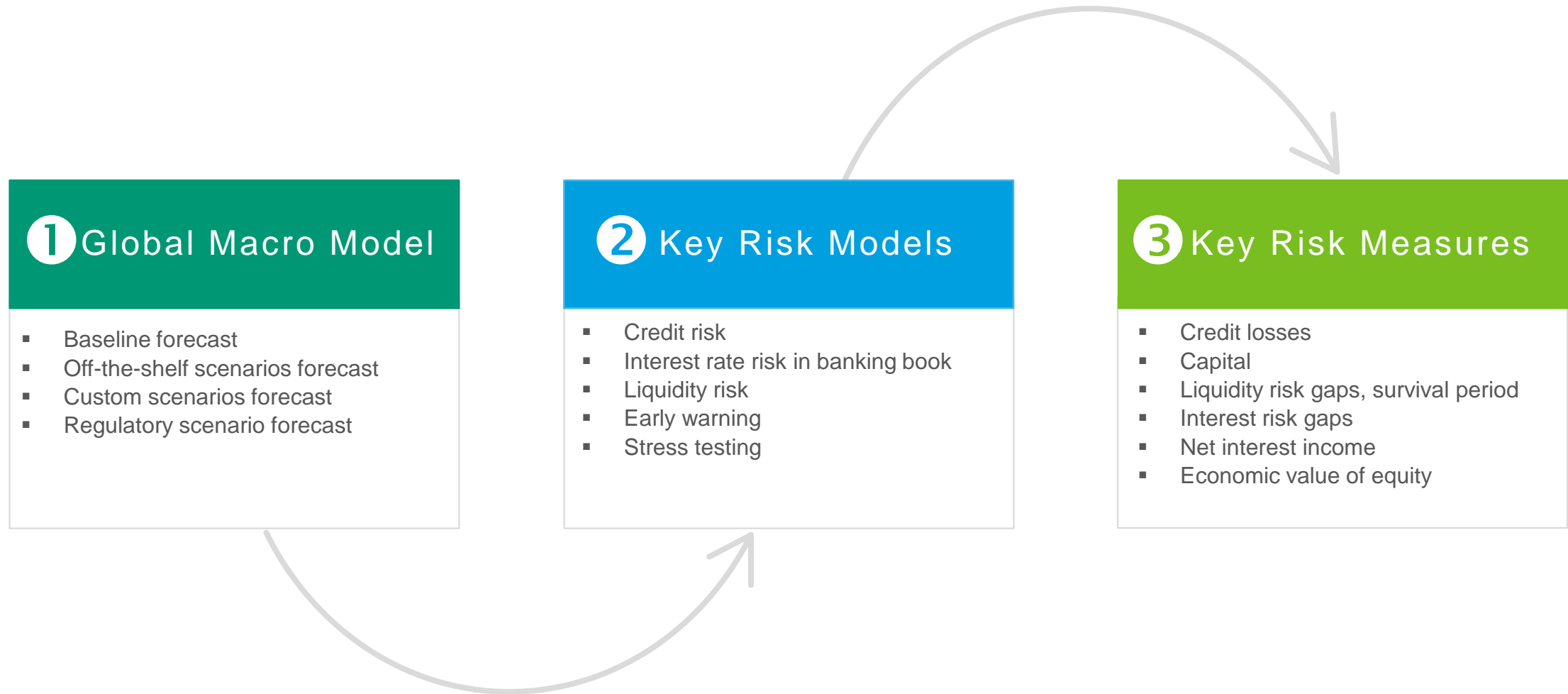


Sources: Statistics Netherlands, Moody's Analytics

# 2

Rising PD & LGD  
Forecasts for the  
Dutch Mortgage Market

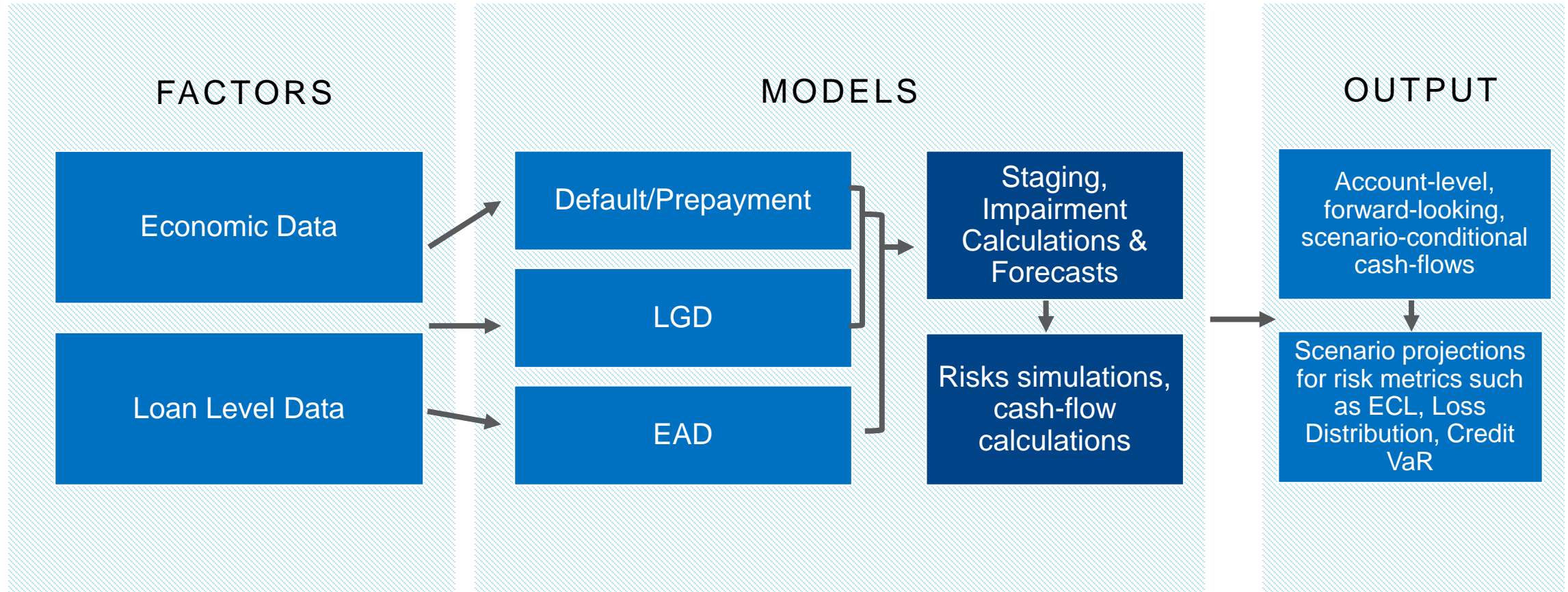
# Linking Macroeconomic Scenarios to Risk Models





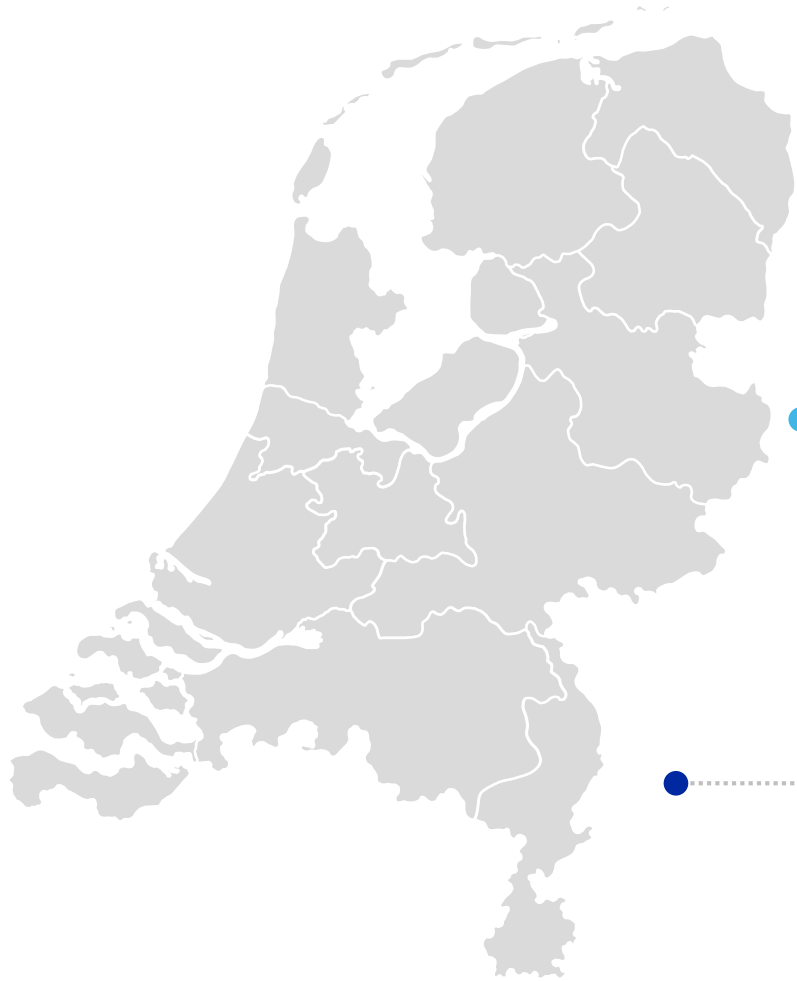
# Modular Structure for Consumer Loans Analysis

The case of Dutch Mortgages using Moody's MPA



# Rich Loan-level & Regional Macroeconomic Data

For more than 2M master loans & 3.8M loan parts



## **Borrower characteristics**

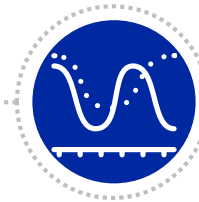
Employment status, primary/secondary income, borrower age and income



## **Loan characteristics & performance**

Mortgage type, payment type, loan-to-value, interest rate, loan term, origination balance, purchase price, occupancy/property/purpose type, geographic region, NHG guarantee

Monthly remaining balance, arrears status, prepayment, current interest rate and default date.



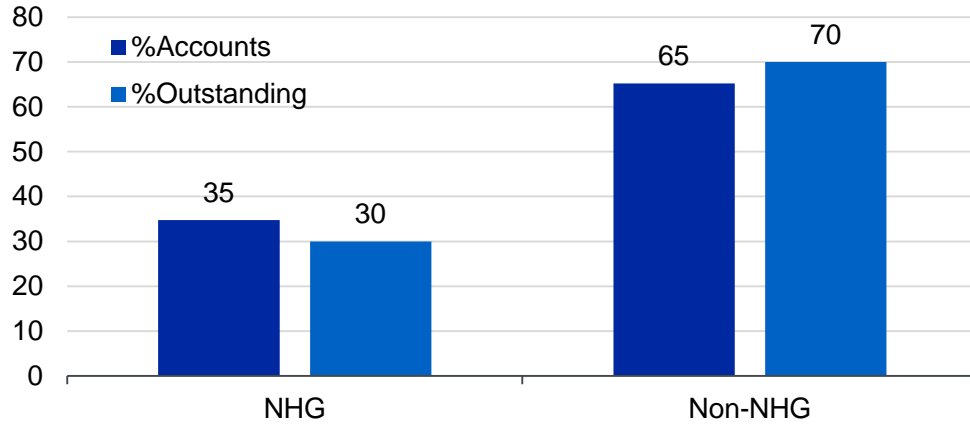
## **Macroeconomic data**

Home prices, unemployment, interest rates

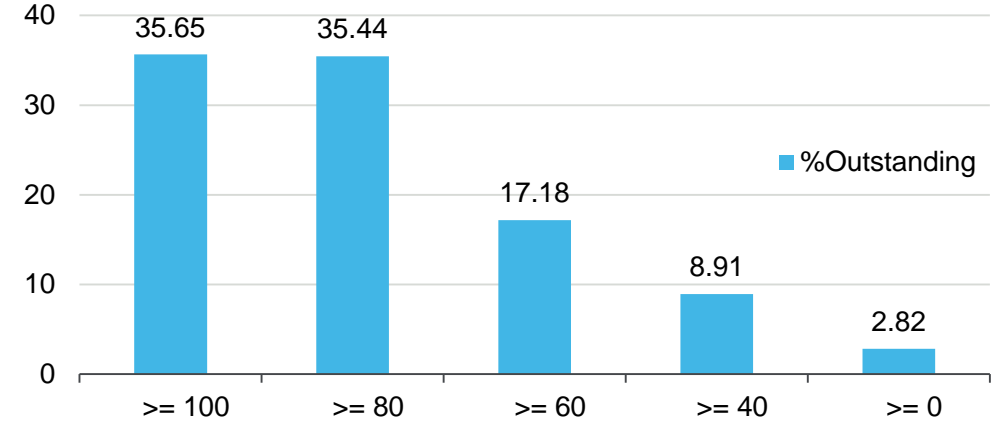
# Characterizing the Loans

83,068 mortgages  
EUR 7,395,141,163 Total outstanding balance

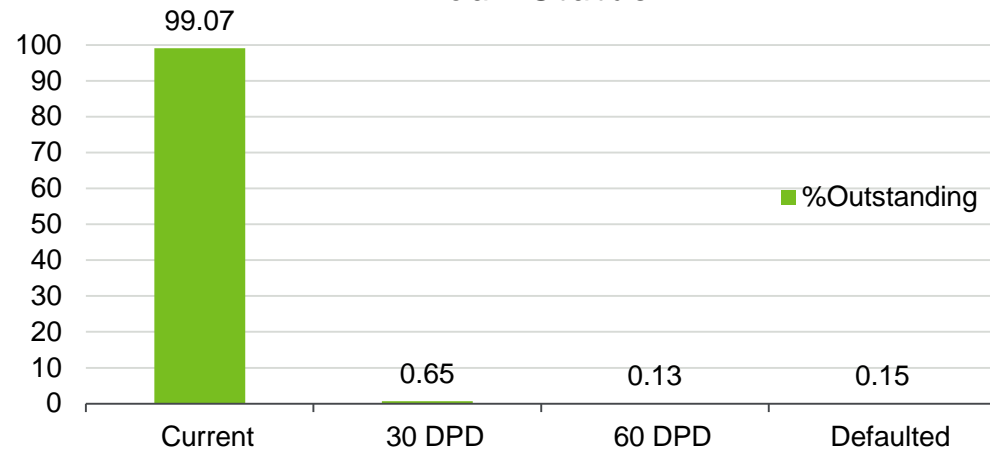
### NHG Guarantee



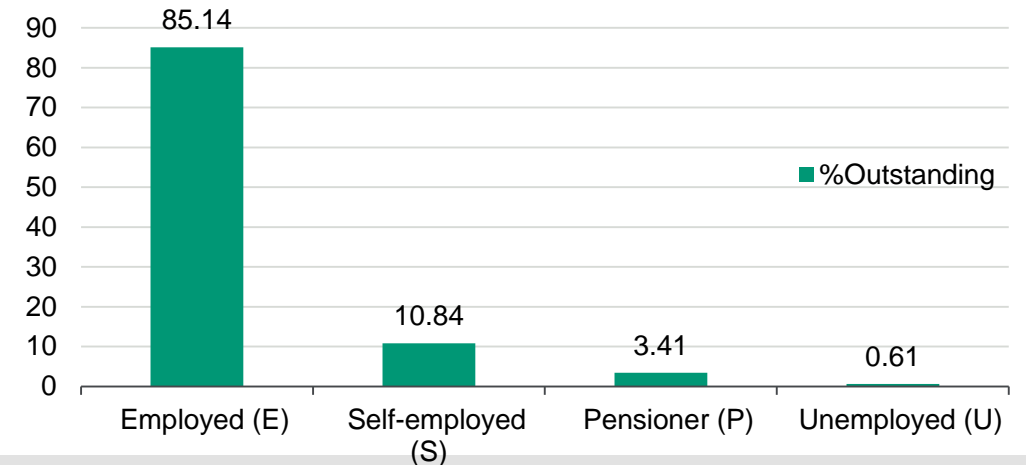
### LTV at origination



### Loan Status

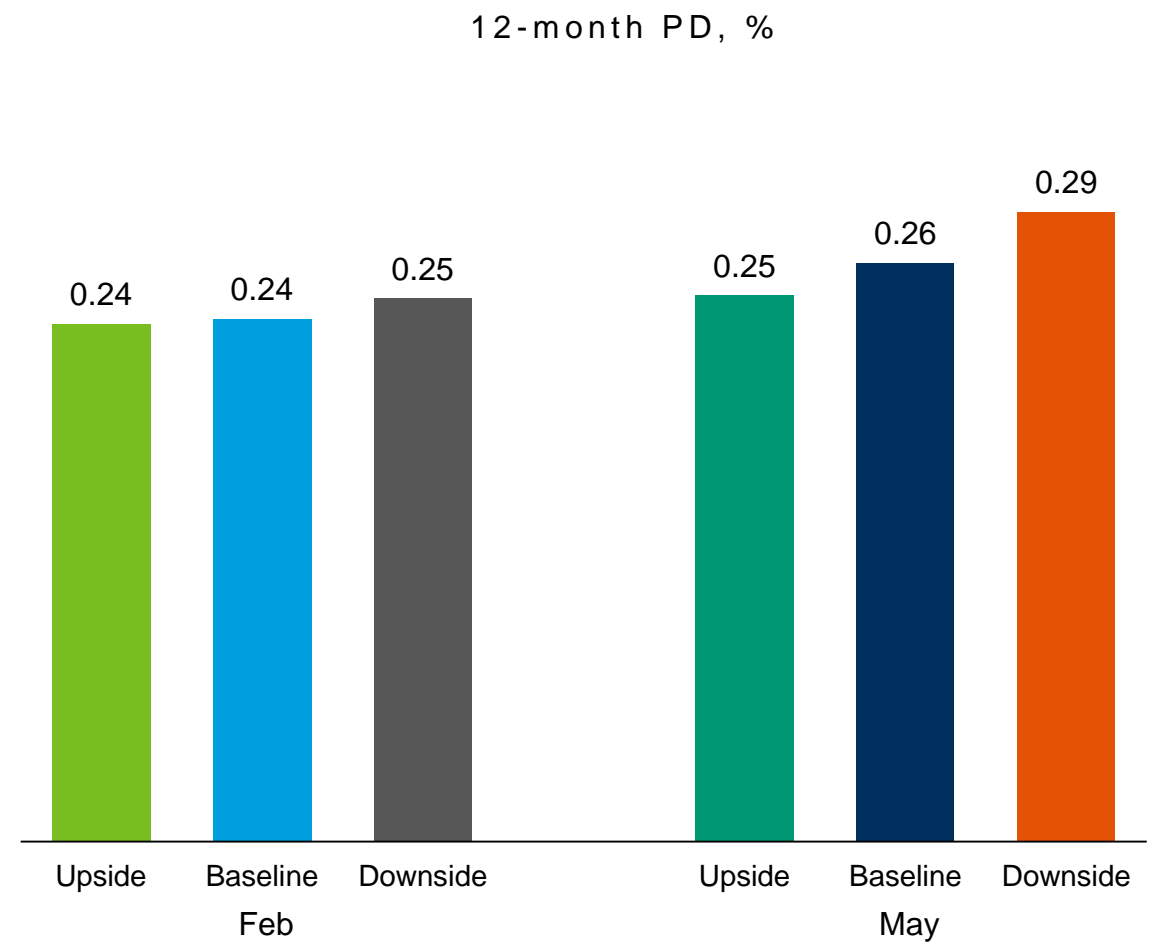
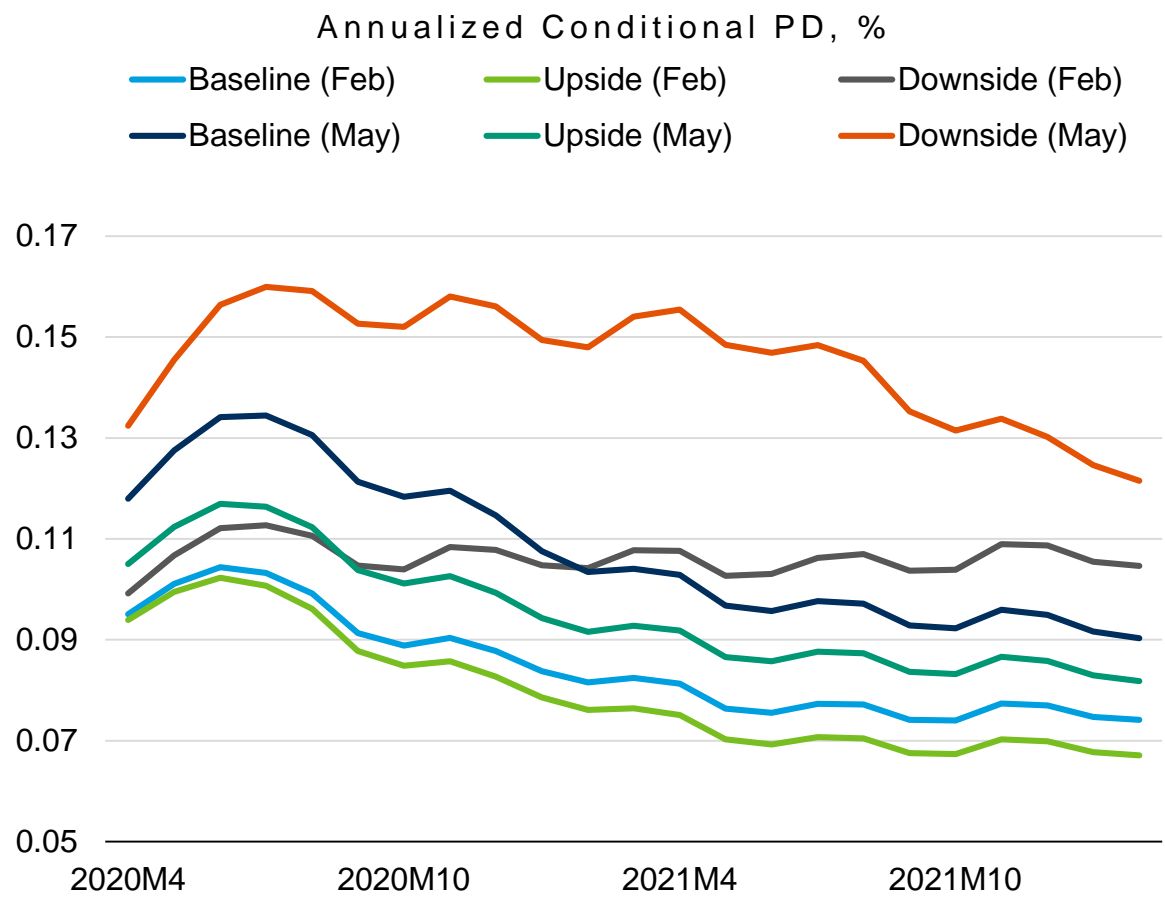


### Employment Status Distribution



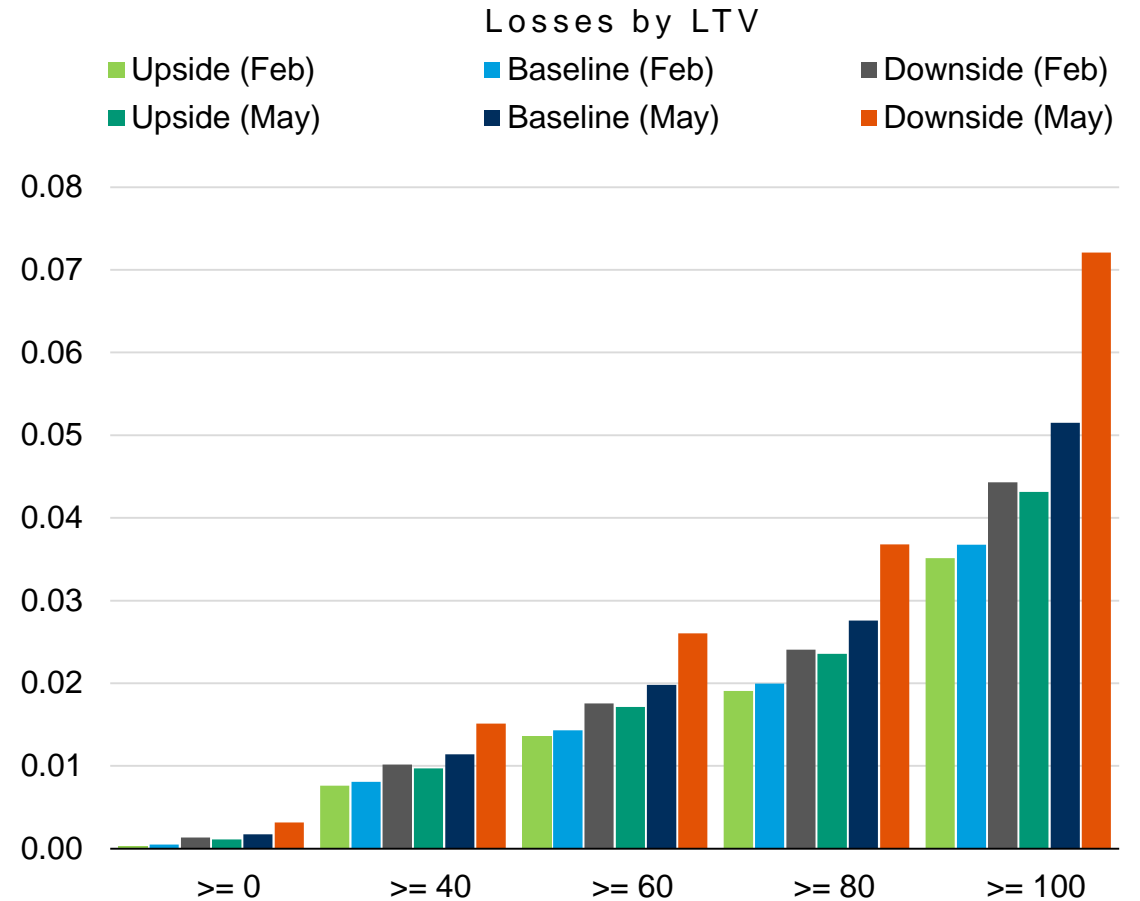
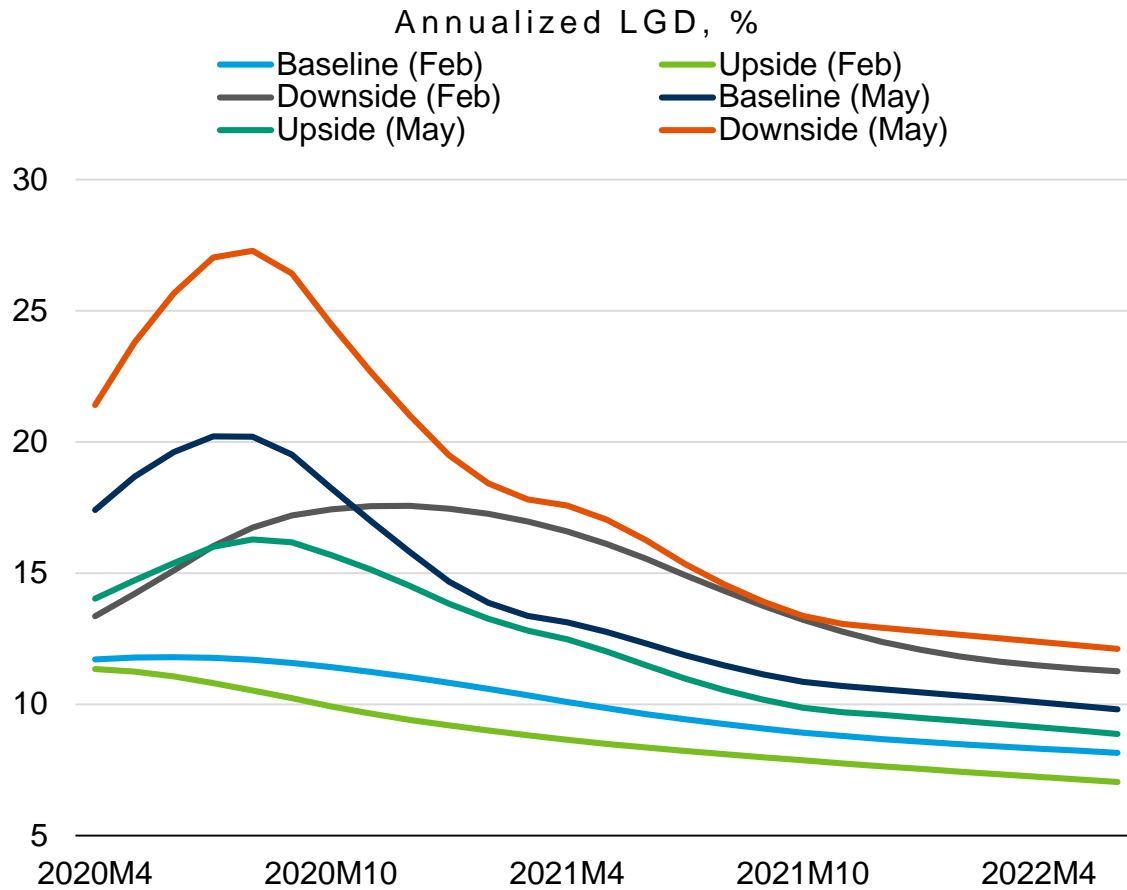
# PD Forecast

For a representative portfolio



# LGD Forecast

For a representative portfolio

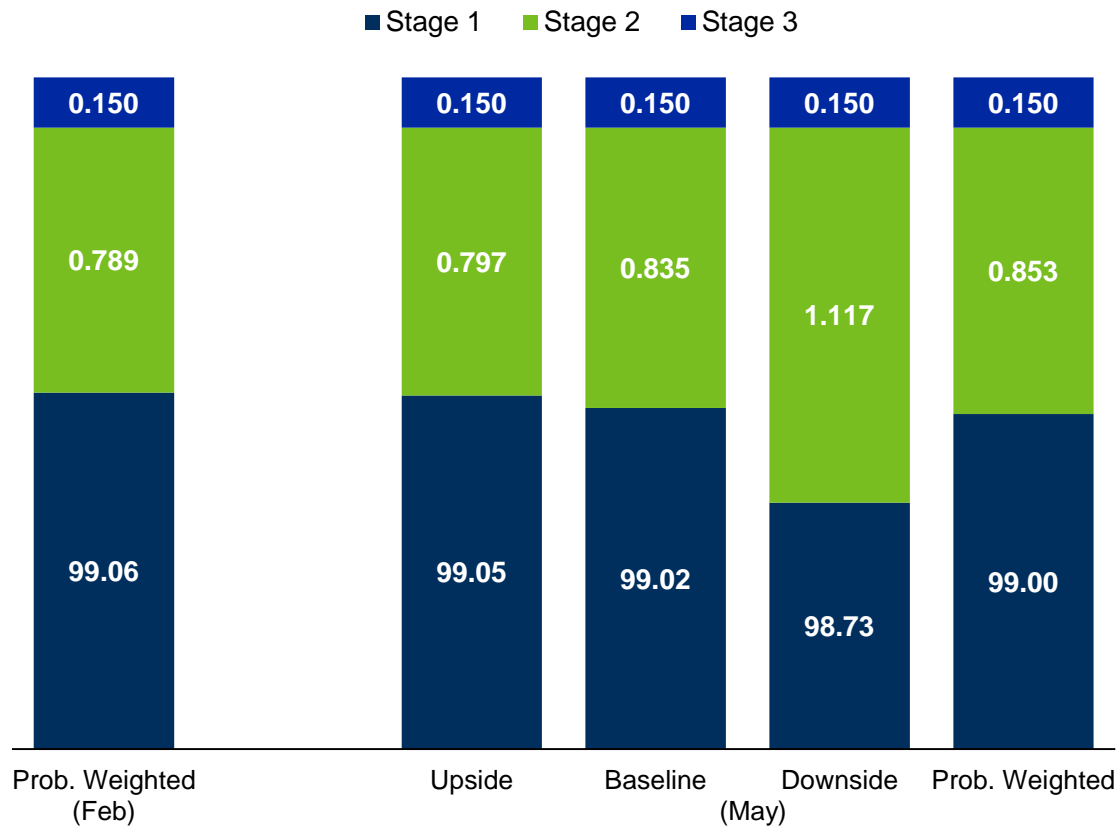


# 3

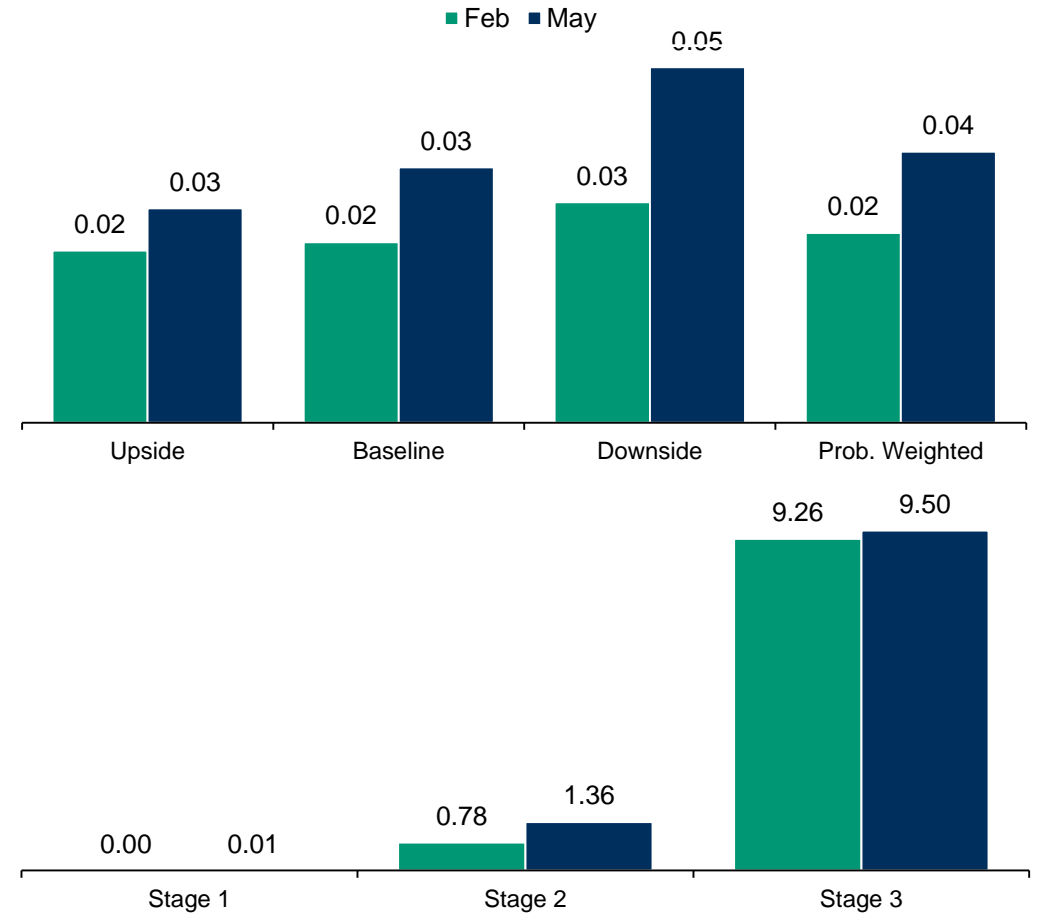
## Impact of IFRS 9 on Expected Credit Losses and 2021 Impairments

# Impact of Covid-19 on ECL

Distribution of Exposure across Stages per Scenarios, %

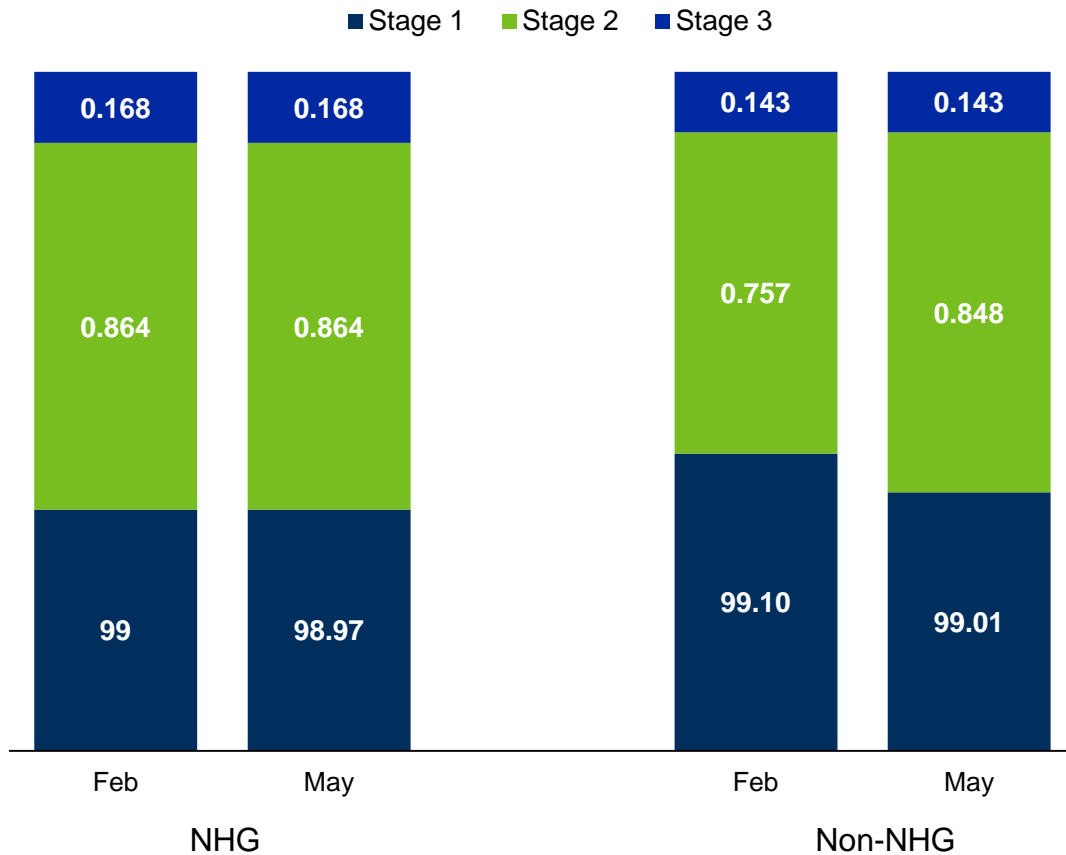


Expected Credit Losses over Exposures, %

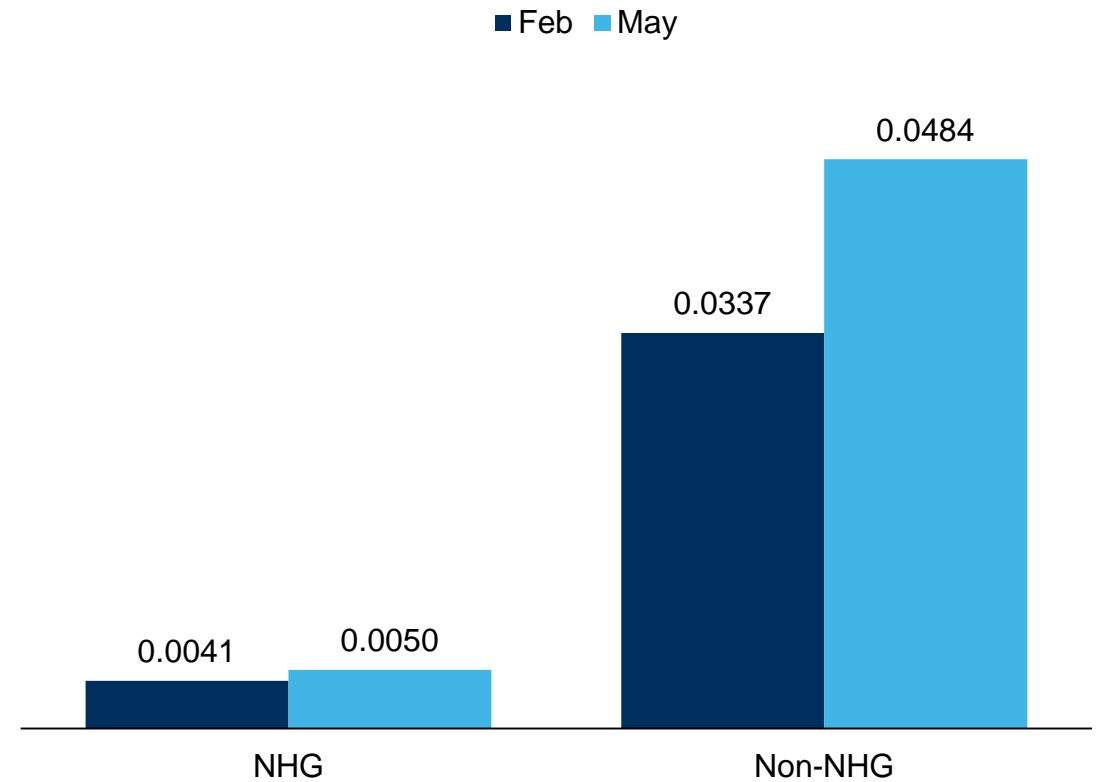


# NHG Coverage Impact

Distribution of Exposures - Prob. Weighted Results, %



Expected Credit Losses over Exposures, %





# Stressing Impairments

ECL & Staging for 31/03/2021 vs 31/03/2020

IFRS9 Stage 31/03/2020	#	%	Exposure	ECL %	ECL €
1	82,332	99.02	€ 7,322,327,200	0.01	€ 648,822
2	618	0.83	€ 61,713,978	1.25	€ 768,584
3	118	0.15	€ 11,099,985	9.50	€ 1,054,439
<b>Total</b>			<b>€ 7,395,141,163</b>	<b>0.03</b>	<b>€ 2,471,845</b>

IFRS9 Stage 31/03/2021	#	%	Exposure	ECL %	ECL €
1	82,747	99.39	€ 7,298,659,826	0.01	€ 372,567
2	154	0.35	€ 25,491,575	2.75	€ 700,215
3	167	0.26	€ 19,356,892	14.39	€ 2,785,880
<b>Total</b>			<b>€ 7,343,508,293</b>	<b>0.05</b>	<b>€ 3,858,662</b>

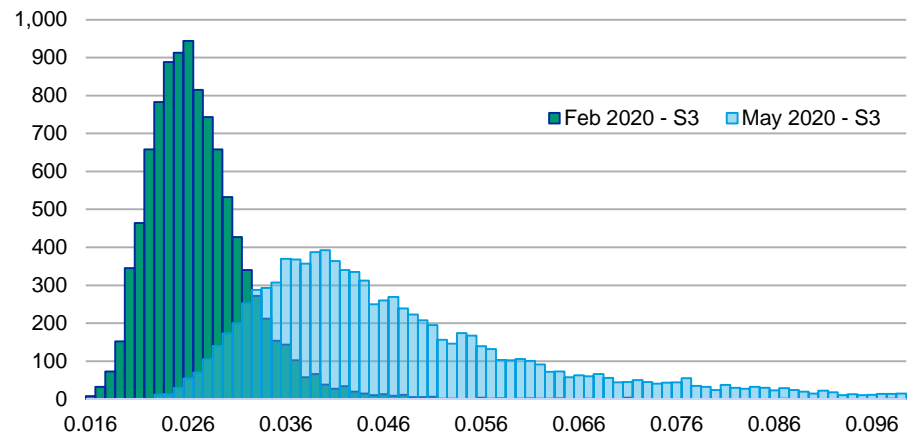
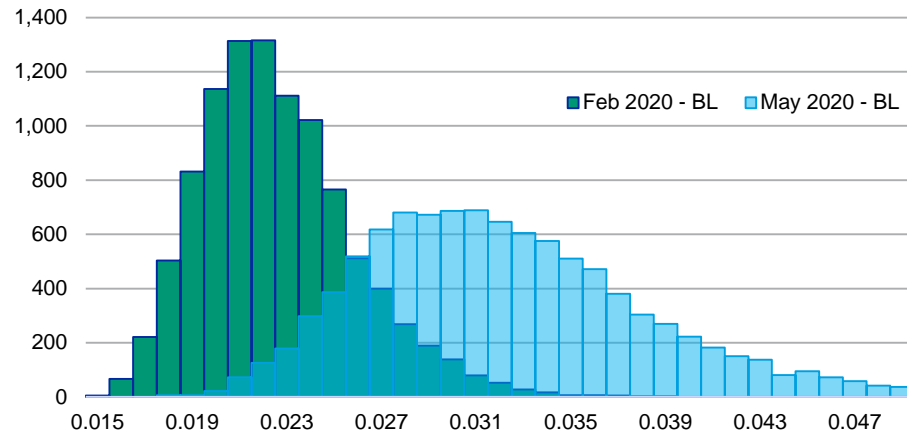
# 4

Living through a Real-Life  
Stress Test: Expected &  
Unexpected Losses

# Simulations – Distribution of Expected Losses

## 12m Expected Loss - VaR Approach

Distribution of ELs Across Vintages



### Dutch MPA - Feb 2020 Vintage

#### Loss Summary Baseline Feb 2020

Expected Loss 0.0231

#### Loss Summary S3 Feb 2020

Expected Loss 0.0275

#### Loss Summary S4 Feb 2020

Expected Loss 0.0306

#### Aggregate Statistics Feb 2020 – BL

Simulations 10,000  
 Mean 0.0231  
 SD 0.0032  
 IQR 0.0042  
 Skewness 0.7191  
 Kurtosis 0.7368  
 95th/50th Pct 1.2845

#### Value-at-Risk

50% 0.0227  
 75% 0.0250  
 90% 0.0274  
 95% 0.0292

### Dutch MPA - May 2020 Vintage

#### Loss Summary Baseline May 2020

Expected Loss 0.0330

#### Loss Summary S3 May 2020

Expected Loss 0.0527

#### Loss Summary S4 May 2020

Expected Loss 0.1011

#### Aggregate Statistics May 2020 – BL

Simulations 10,000  
 Mean 0.0330  
 SD 0.0068  
 IQR 0.0080  
 Skewness 1.6842  
 Kurtosis 8.2953  
 95th/50th Pct 1.4040

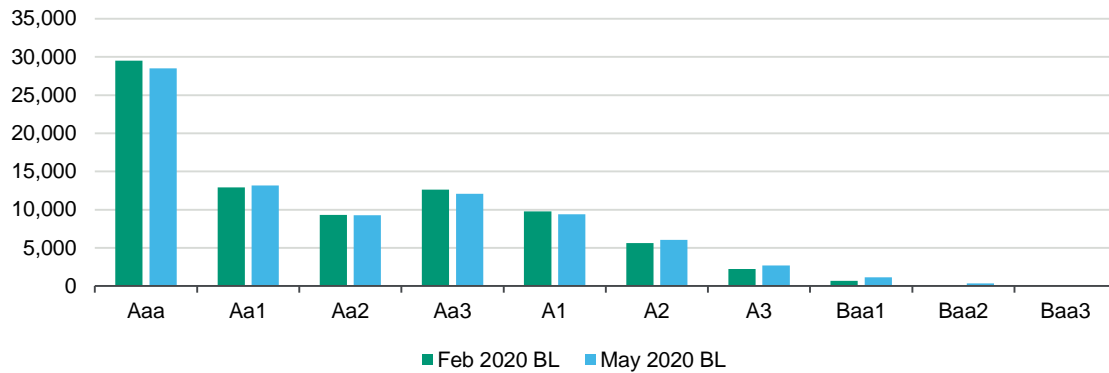
#### Value-at-Risk

50% 0.0320  
 75% 0.0364  
 90% 0.0412  
 95% 0.0450

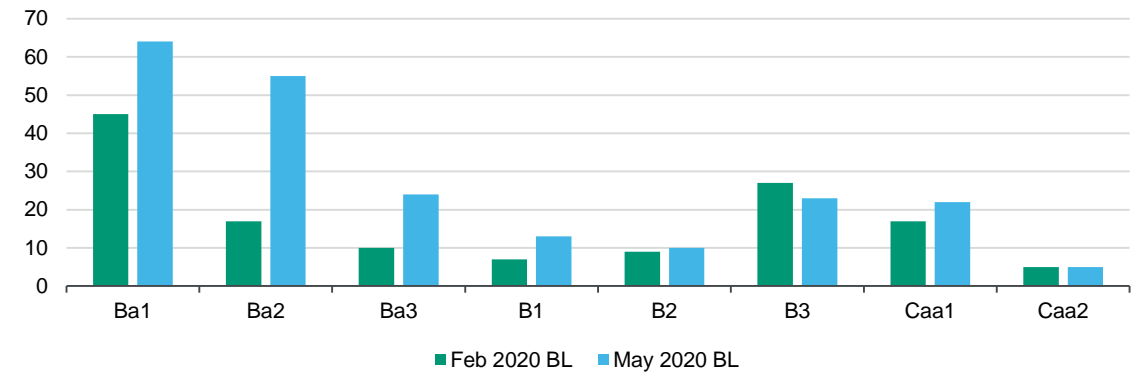
# Loan Ratings Distribution

Scenario and vintage comparison based on 5y ELs

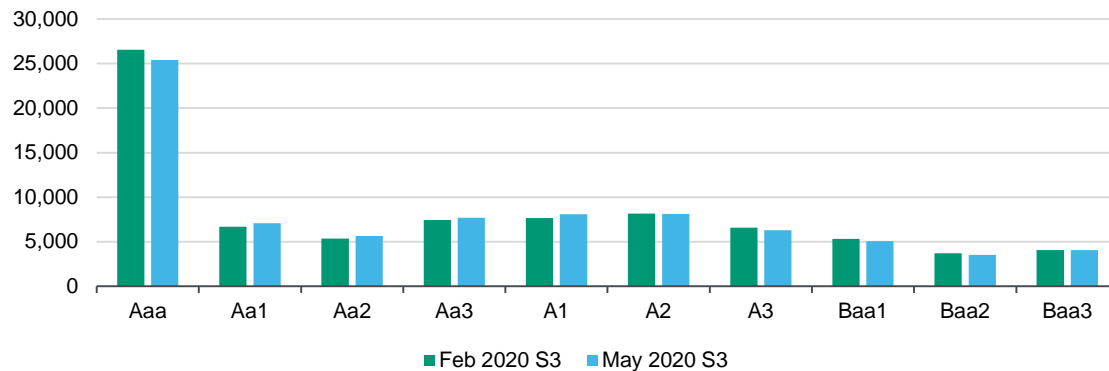
Loan ratings IG - Baseline Scenario



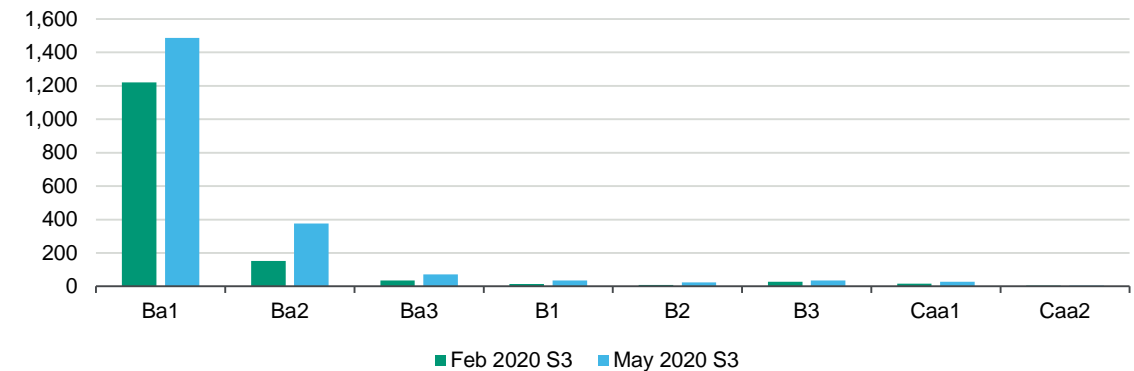
Loan ratings below IG - Baseline Scenario



Loan ratings IG - S3 Scenario



Loan ratings below IG - S3 Scenario



# Key Takeaways

1. Dramatic recession in 2020 is likely to be followed by a faster growth in 2021.
2. PD and LGD projections increase moderately in 2020.
3. Impairments rise but the impact is limited due to NHG.
4. 2020 12m PD rises dramatically but rating based on 5yr EL shifts only modestly, again due to NHG.

## Q&A

Email us at [help@economy.com](mailto:help@economy.com) or [luca.magni@moodys.com](mailto:luca.magni@moodys.com)

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