

Continued Stress of the U.K. Mortgage Market

Today's Speakers

Economics & Business Analytics



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Associate Director



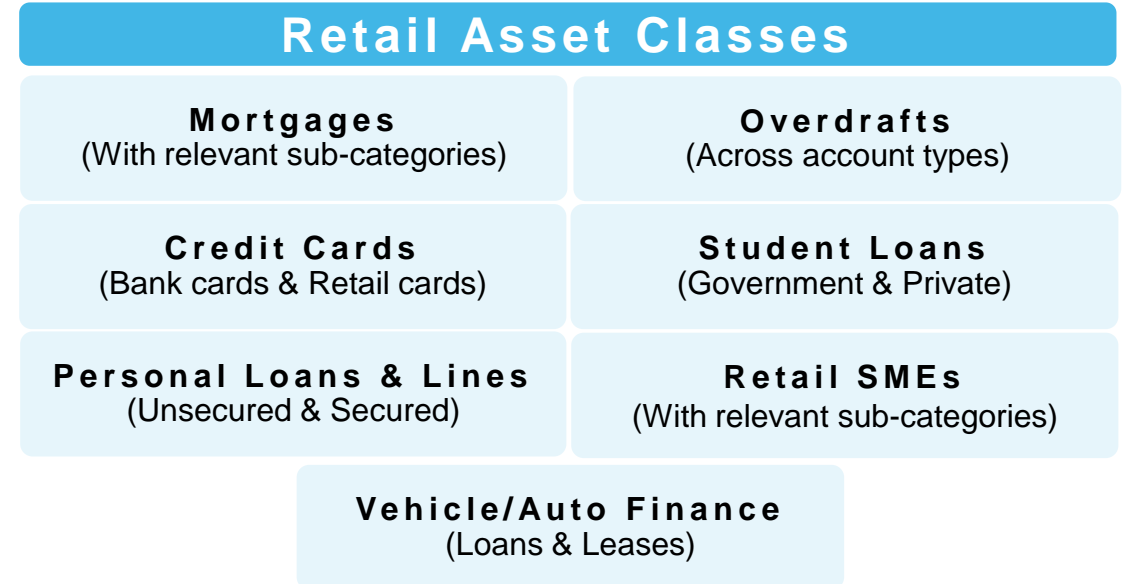
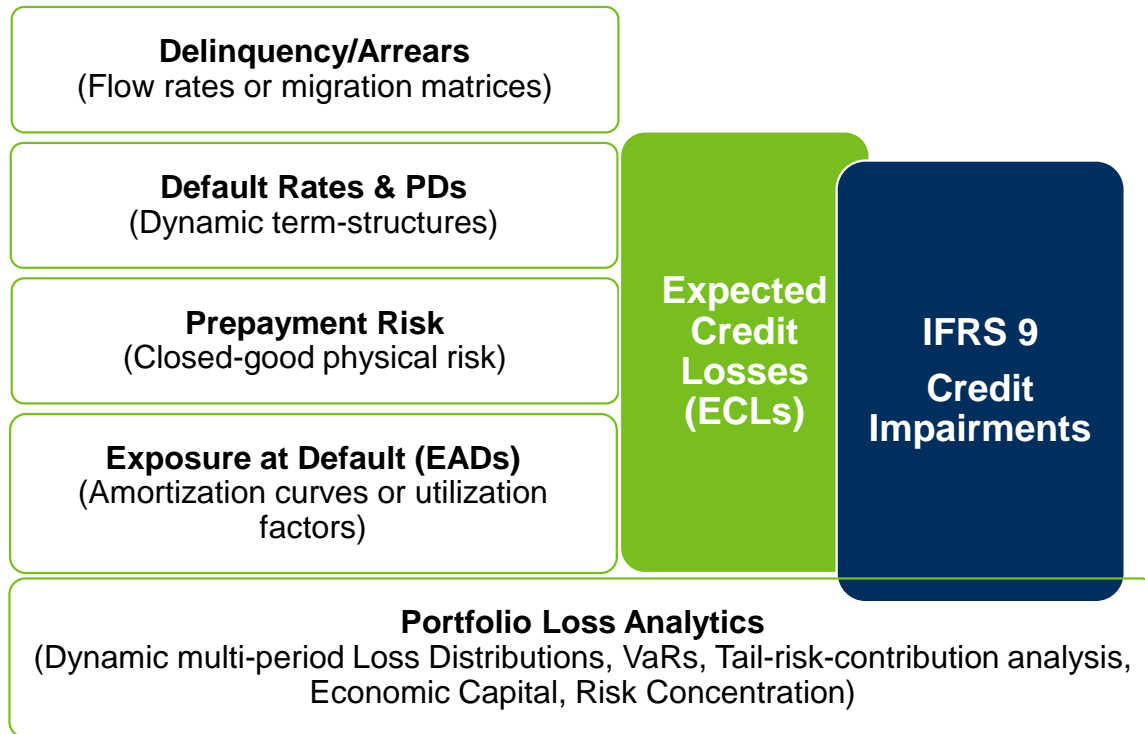
Petr Zemcik, PhD
Senior Director



Brenda Solis Gonzalez
Assistant Director, Risk Modeler

Portfolio Analyser (PA) Suite of Models

Retail loan-level econometric models for credit and impairment metrics



Agenda

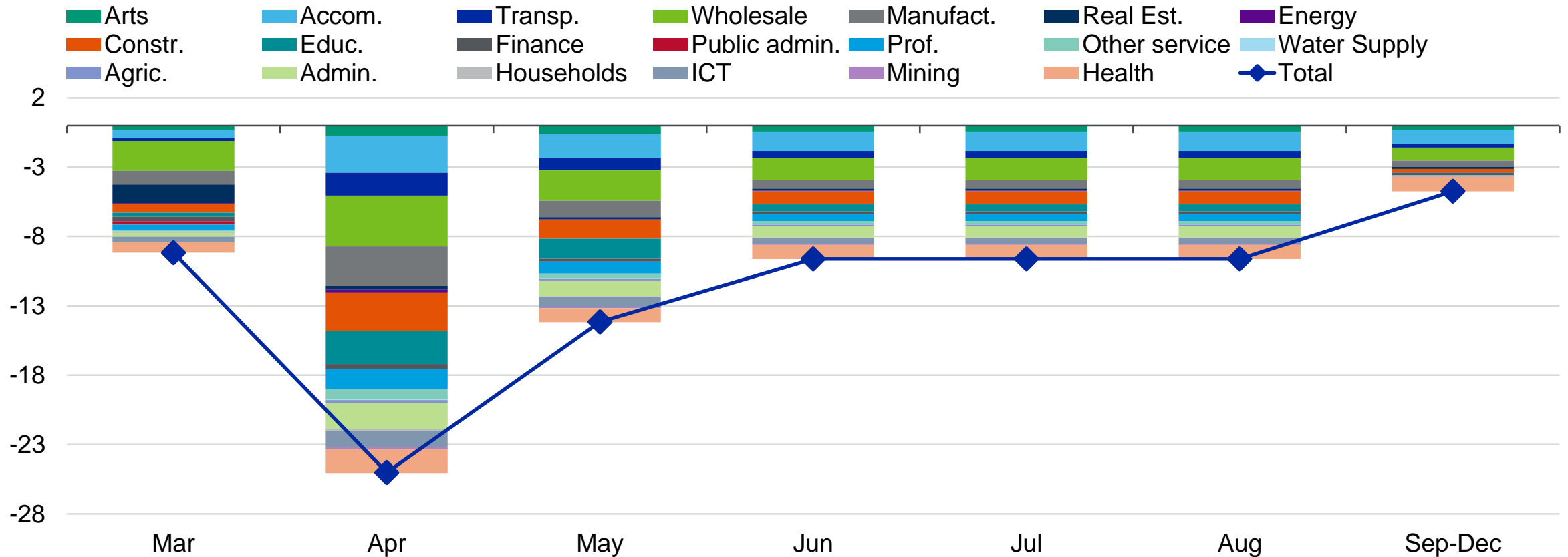
1. Economic Outlook for the U.K.
2. Rising PD & LGD Forecasts for the U.K. Mortgage Market
3. Impact on IFRS 9 Impairments
4. Impact on Loss Distribution

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Economic Outlook
for the U.K.

Output Declines Dramatically in Q2

Deviation from normal level of activity, ppts, by industry, July forecast



Sources: Moody's Analytics calculated

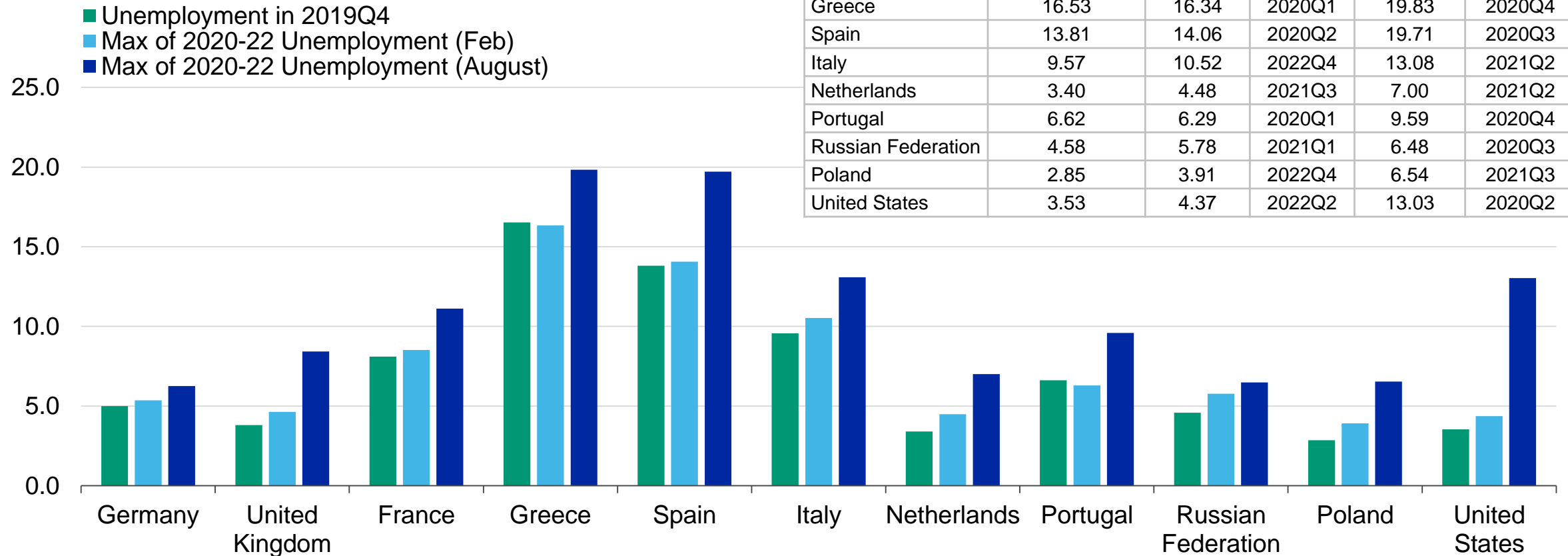
Global Economic Body Blow

Real GDP growth, % change, baseline scenario

		2020Q1	2020Q2	2020Q3	2020Q4	2019	2020
United States	February	0.3	0.5	0.5	0.4	2.3	1.7
	May	-1.2	-9.4	3.8	0.2	2.3	-5.7
	August	-1.3	-9.5	5.4	0.7	2.2	-4.9
Euro Zone	February	0.4	0.4	0.4	0.4	1.2	1.3
	May	-3.8	-12.4	12.7	0.5	1.2	-7.0
	August	-3.6	-12.1	10.9	0.4	1.3	-7.4
Germany	February	0.4	0.4	0.5	0.4	0.6	1.1
	May	-2.7	-10.5	10.8	0.3	0.6	-5.6
	August	-2.2	-10.4	8.8	-1.1	0.6	-6.2
U.K.	February	0.3	0.3	0.3	0.3	1.3	1
	May	-2.3	-14.2	10.9	2.2	1.4	-7.4
	August	-2.2	-19.7	16.1	1.8	1.5	-9.7
Italy	February	0.2	0.2	0.2	0.2	0.2	0.4
	May	-4.8	-16.4	18.0	1.7	0.3	-9.0
	August	-5.4	-12.4	11.7	1.7	0.3	-9.0
Spain	February	0.4	0.4	0.5	0.5	2.0	1.8
	May	-3.4	-15.7	18.4	0.4	2.0	-6.7
	August	-5.2	-18.5	13.3	2.4	2.0	-12.2
France	February	0.4	0.4	0.4	0.3	1.2	1.2
	May	-5.8	-11.2	11.0	0.3	1.3	-9.0
	August	-5.9	-13.8	13.0	0.3	1.5	-10.3
Sweden	February	0.4	0.4	0.3	0.5	1.2	1.4
	May	-0.0	-8.3	6.1	0.2	1.3	-3.1
	August	0.1	-8.7	6.4	0.3	1.2	-3.3
Russia	February	0.5	0.3	0.4	0.4	1.2	1.9
	May	0.1	-11.6	-1.9	6.8	1.4	-7.3
	August	0.3	-12.0	-0.3	6.7	1.4	-6.7
Global Output	February	0.4	0.9	0.8	0.7	2.5	2.4
	May	-3.1	-6.7	5.2	1.6	2.4	-4.5
	August	-3.0	-7.1	5.8	1.6	2.4	-4.5

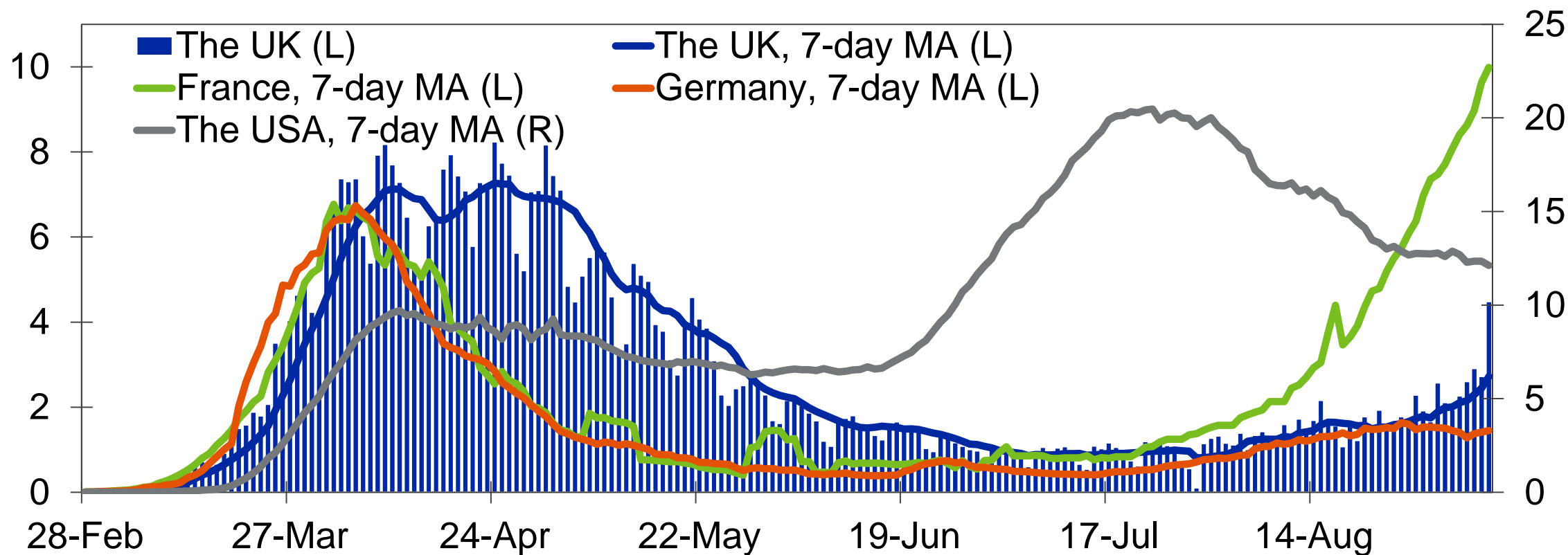
Unemployment Increases

Shift of baseline scenarios



Rising Number of Infections

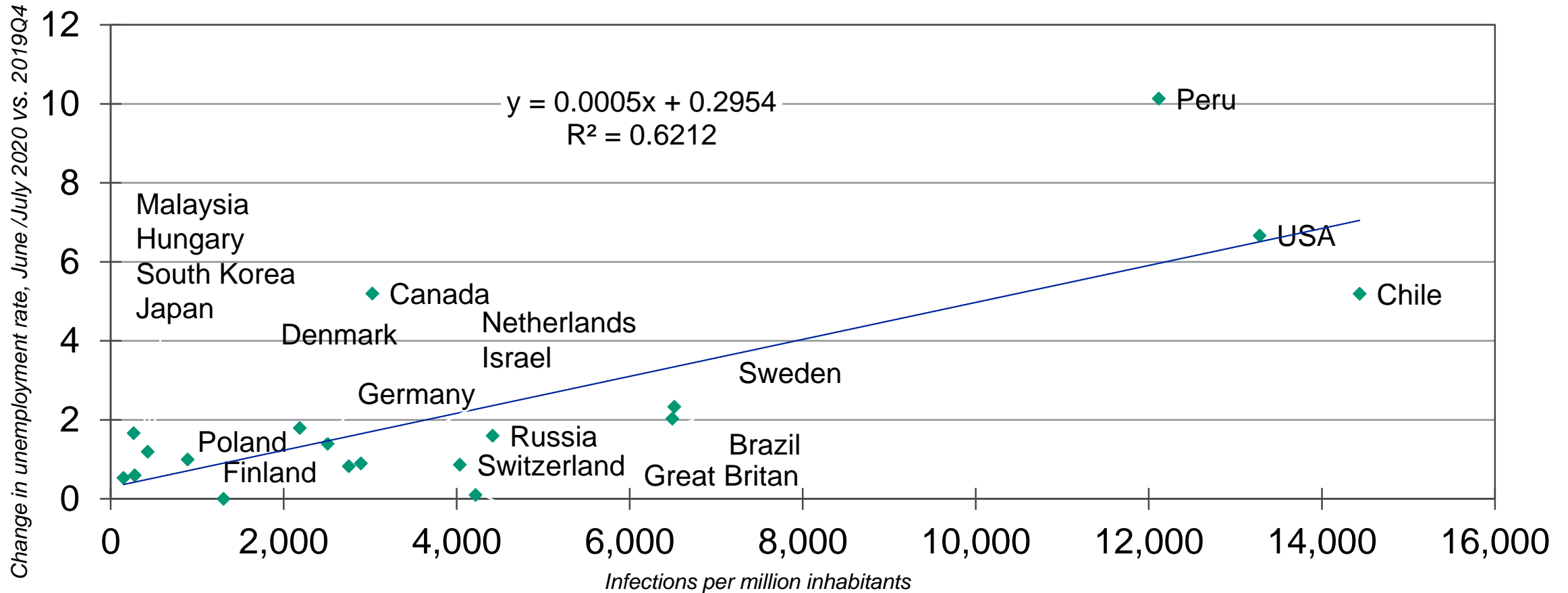
Coronavirus reported cases per 100,000 population



Sources: WHO, Moody's Analytics

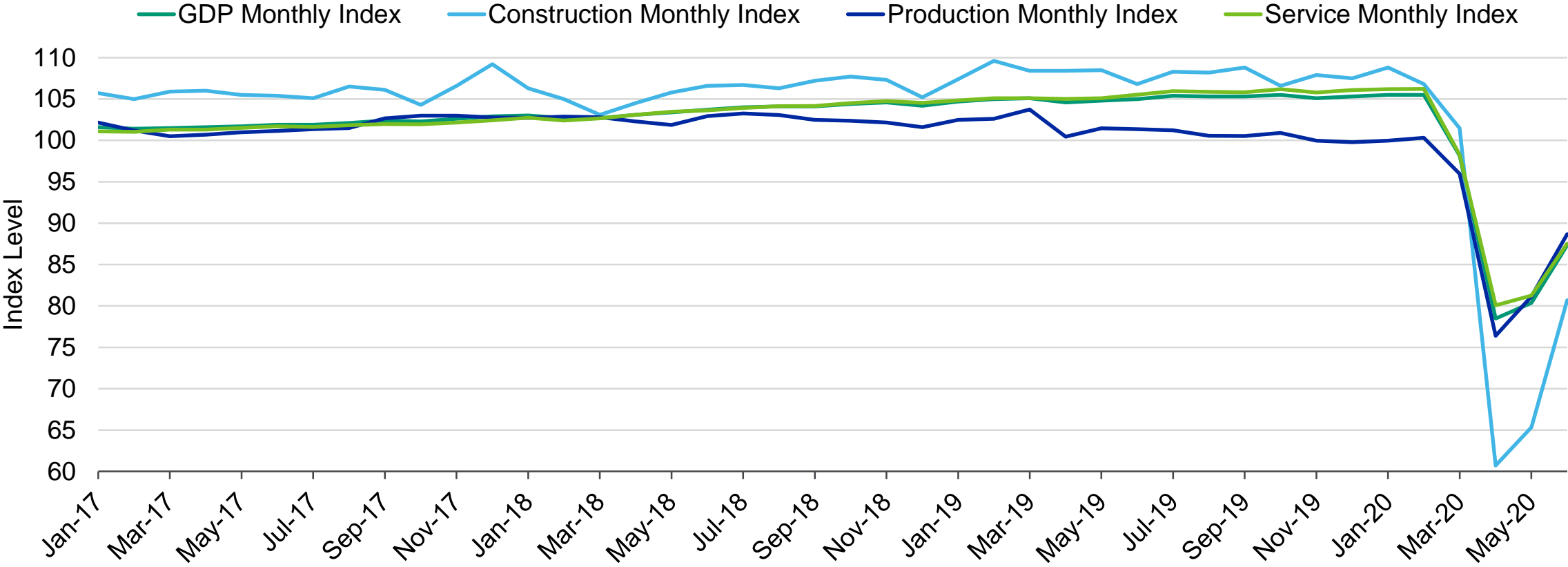
More Infections...Weaker Economy

Confirmed infections vs. change in unemployment



Sources: WHO, Government sources, Moody's Analytics

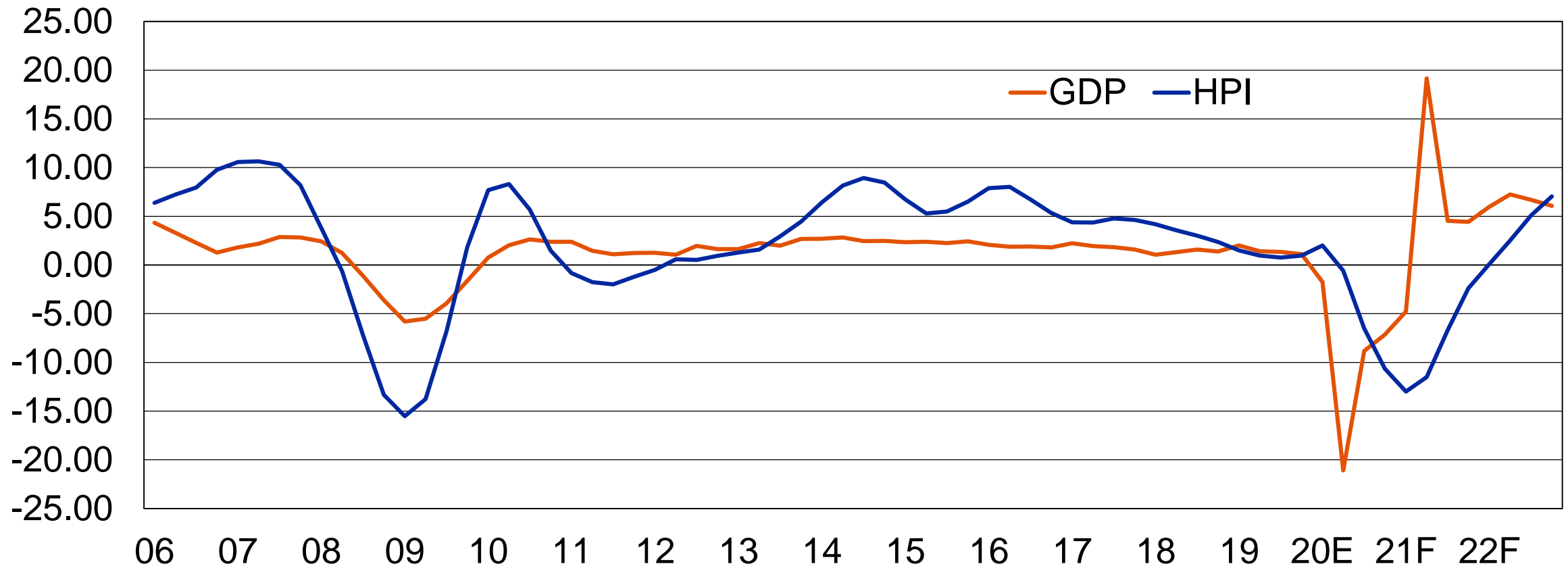
Widespread Contractions Across the Economy Contributed to the Fall in GDP



Source: ONS

House Prices Hit Comparable to GFC

GDP and House Price Index, % change yr ago

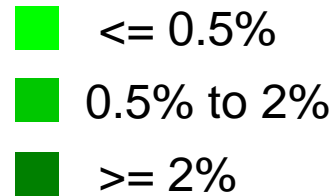
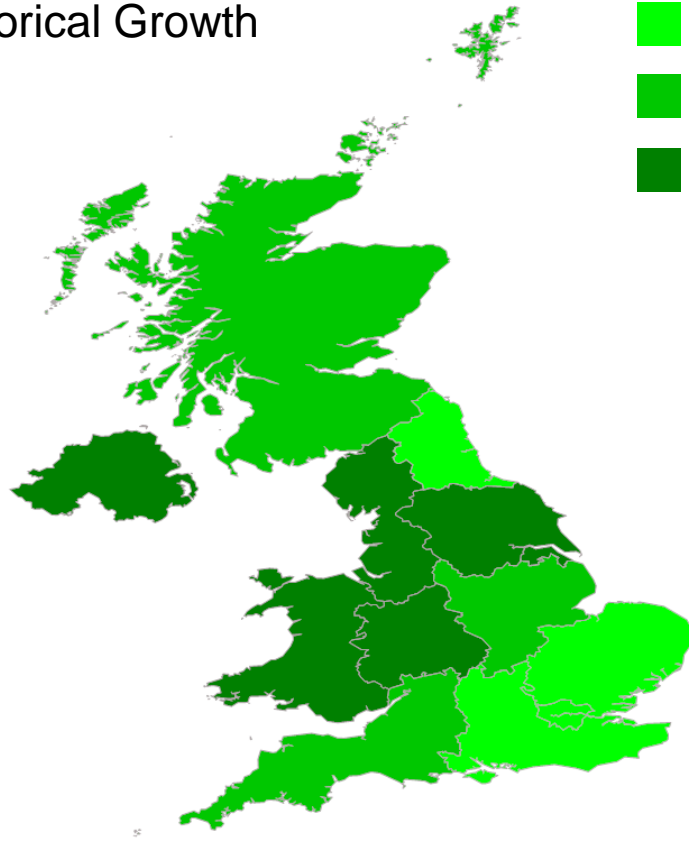


Sources: ONS, Moody's Analytics

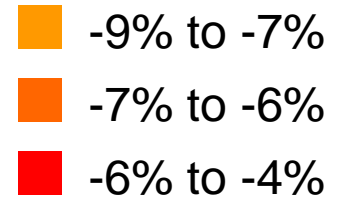
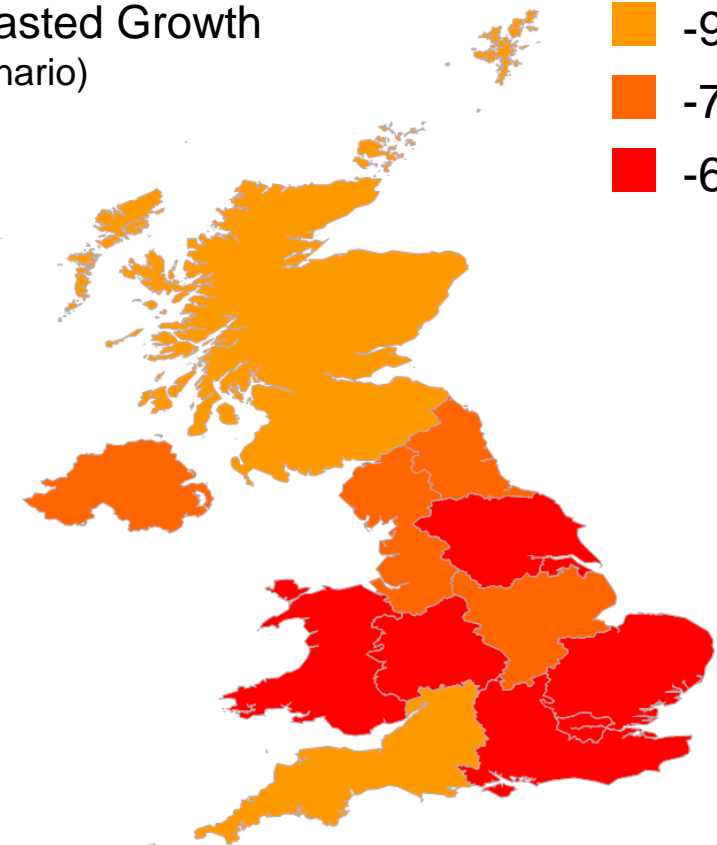
Regional Shocks to House Price Index (NUTS1)

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

2019 Historical Growth

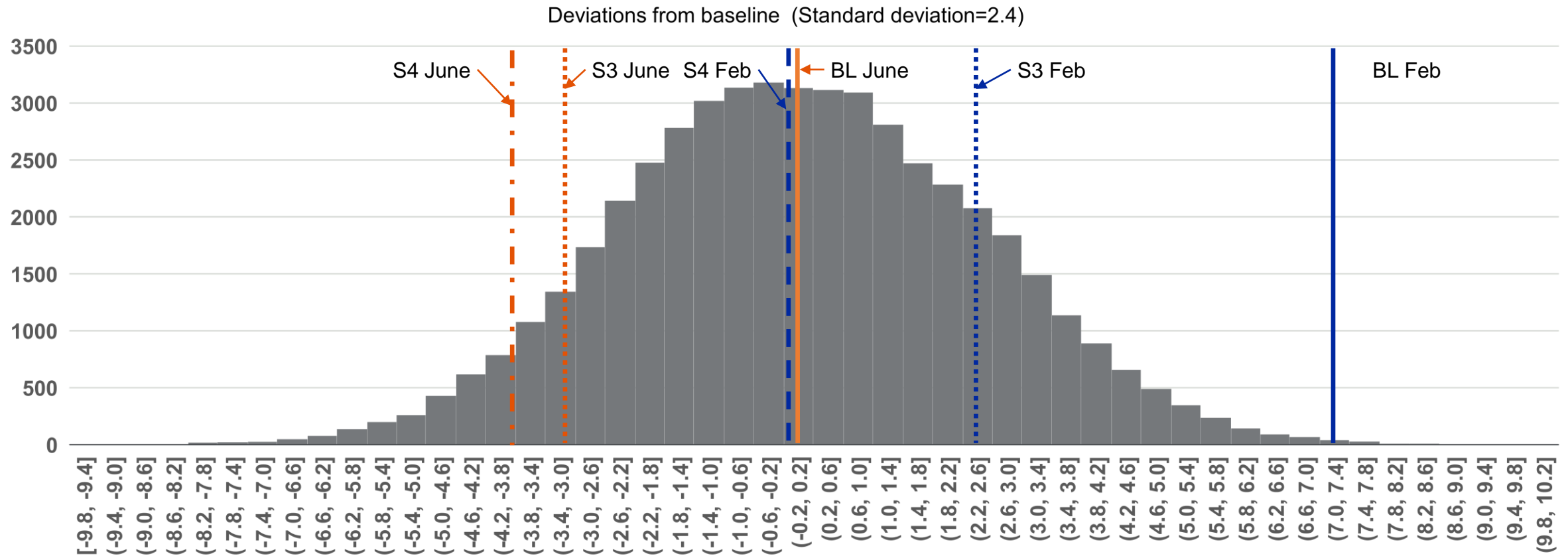


2020 Forecasted Growth
(Baseline Scenario)



Source: Moody's Analytics

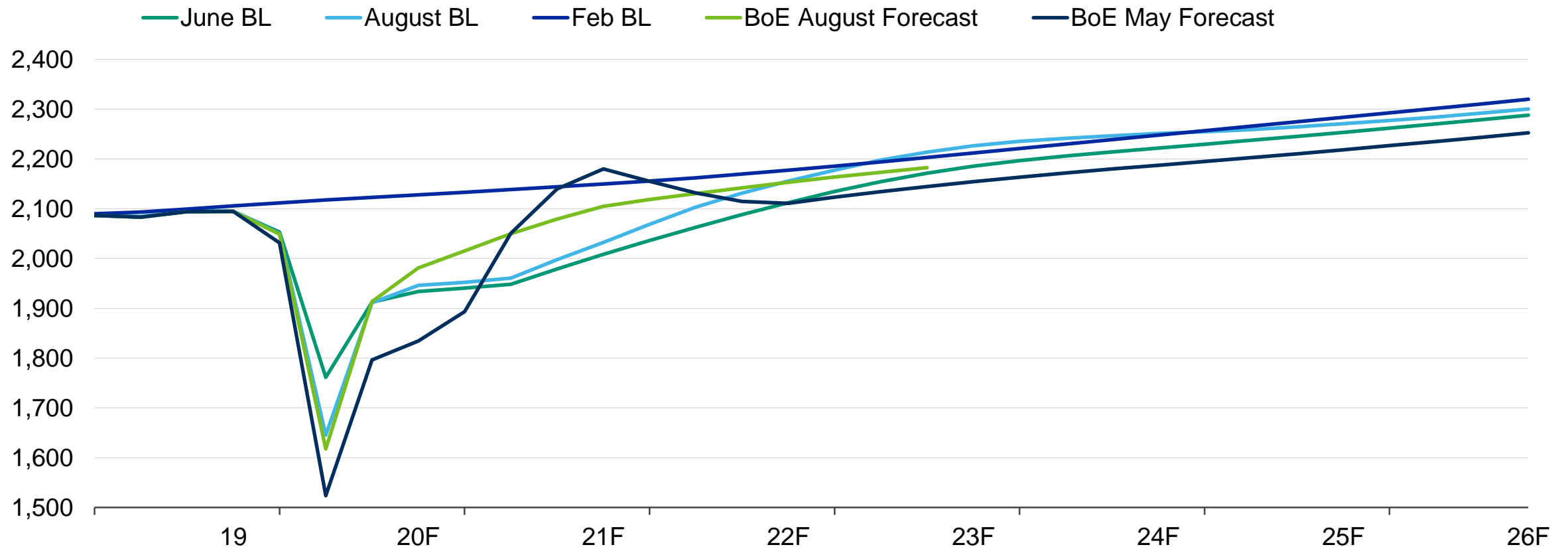
Severity, Avg. Deviations From Baseline, %



Sources: Moody's Analytics

GDP Declines

U.K. Real GDP level



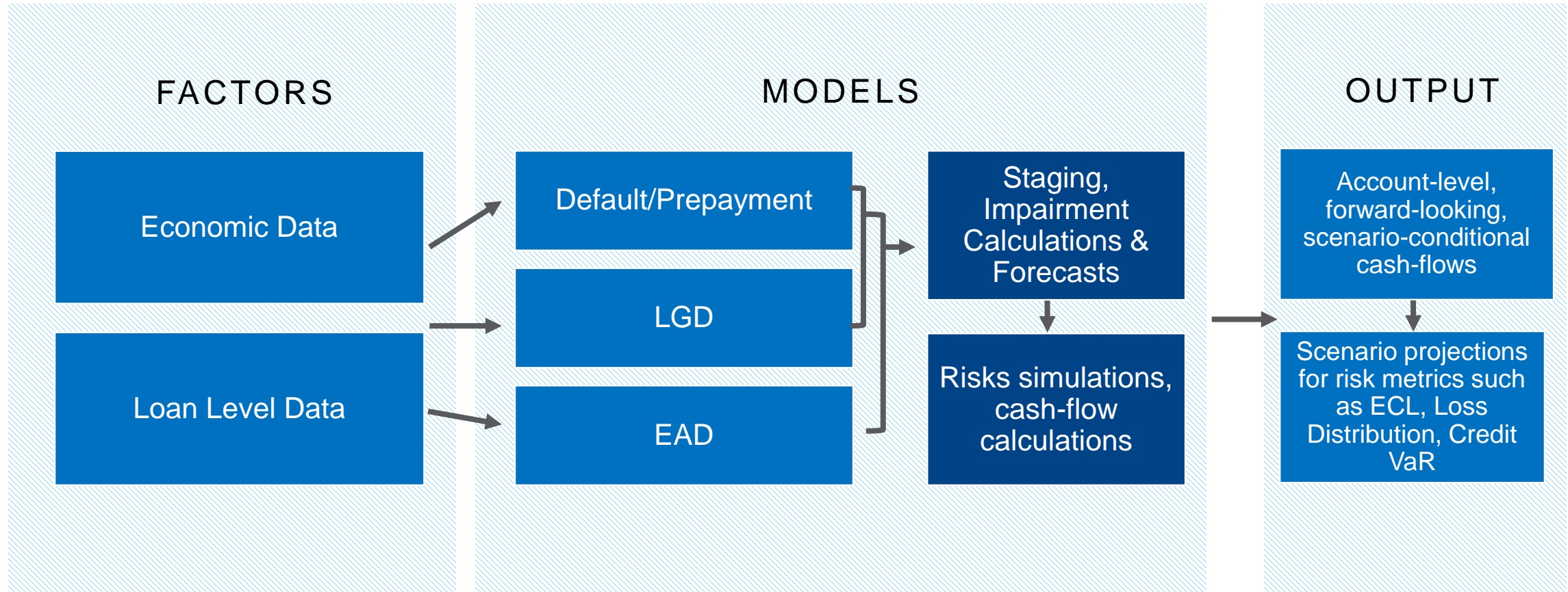
Sources: ONS, Moody's Analytics

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Rising PD & LGD
Forecasts for the UK
Mortgage Market

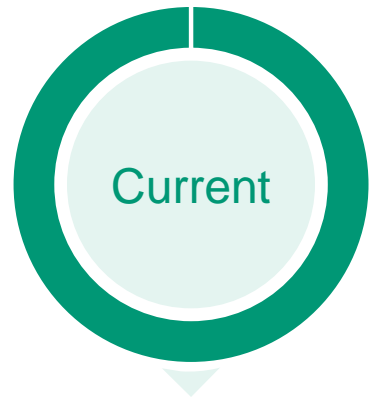
Modular Structure for Consumer Loans Analysis

The case of U.K. Mortgages using Moody's Mortgage Portfolio Analyser



Definition of Synthetic Arrears Status

Payment holiday was offered to borrowers who faced financial difficulties due to Covid-19 outbreak



Current accounts

All current accounts with regular observed loan repayments.



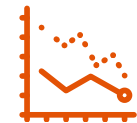
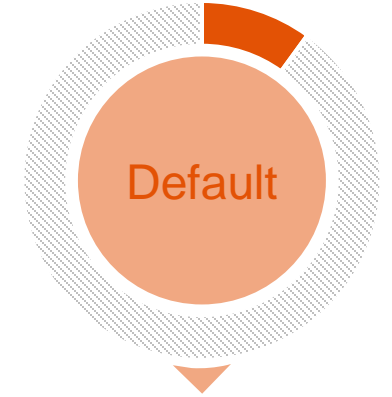
30 DPD accounts

- » DPD30 arrears bucket.
- » Account status is “Current” and no observed repayments over the last month.



60 DPD accounts

- » DPD60 arrears bucket.
- » Account status is “Current” or “DPD30” and no observed repayments over the last 2 months.



Defaulted accounts

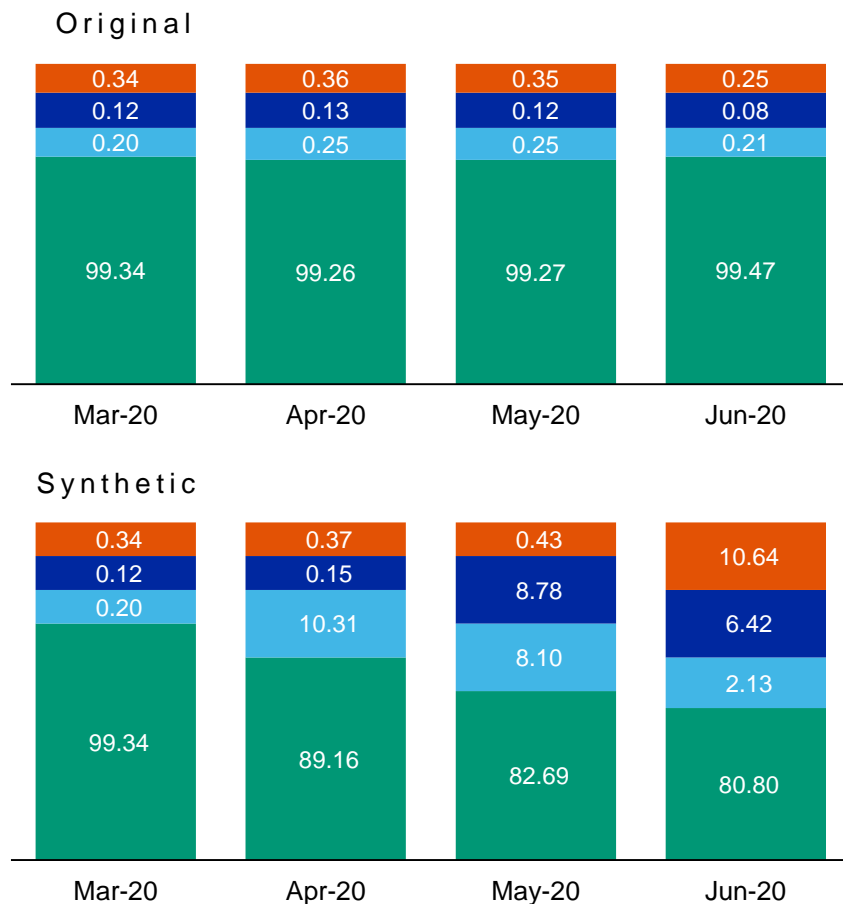
- » Defaulted account.
- » No observed repayments over the last 3 months.

EDW Mortgage Data in 2020

Loan's performance during the pandemic

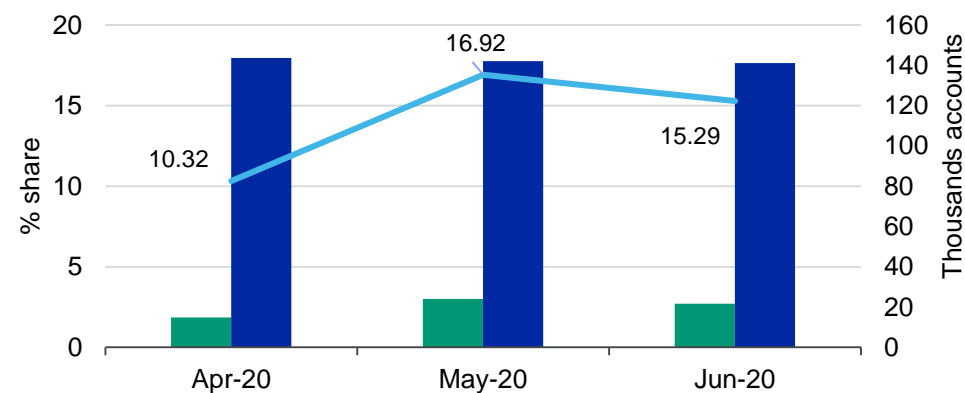
Arrears status distribution, %

■ Current ■ 30DPD ■ 60DPD ■ Defaulted

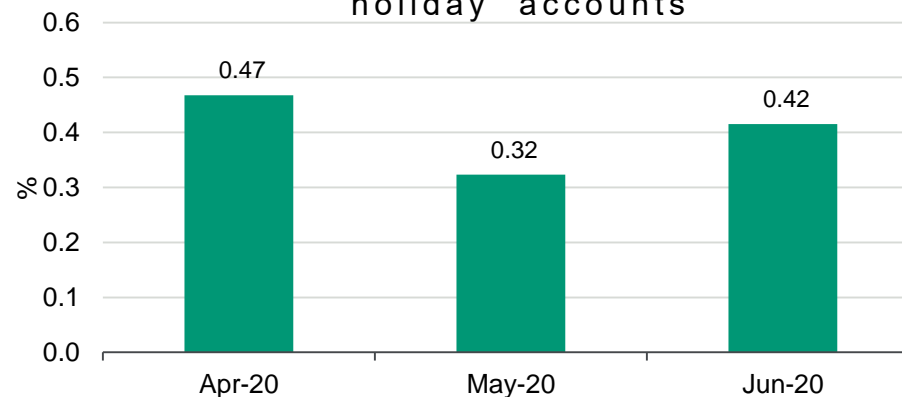


Potential "payment holiday" accounts

■ Payment holiday accounts ■ Total number of accounts
— Payment holiday, % share

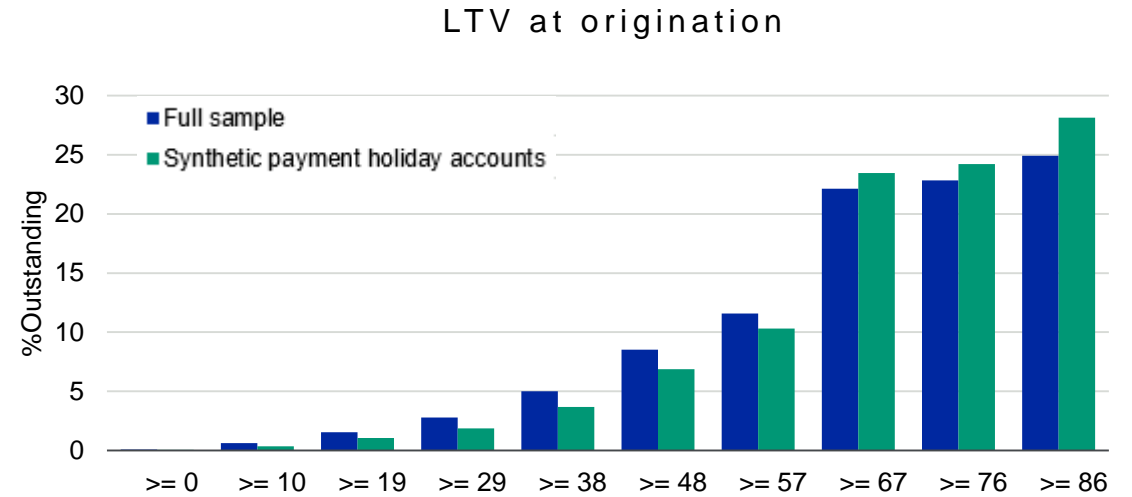
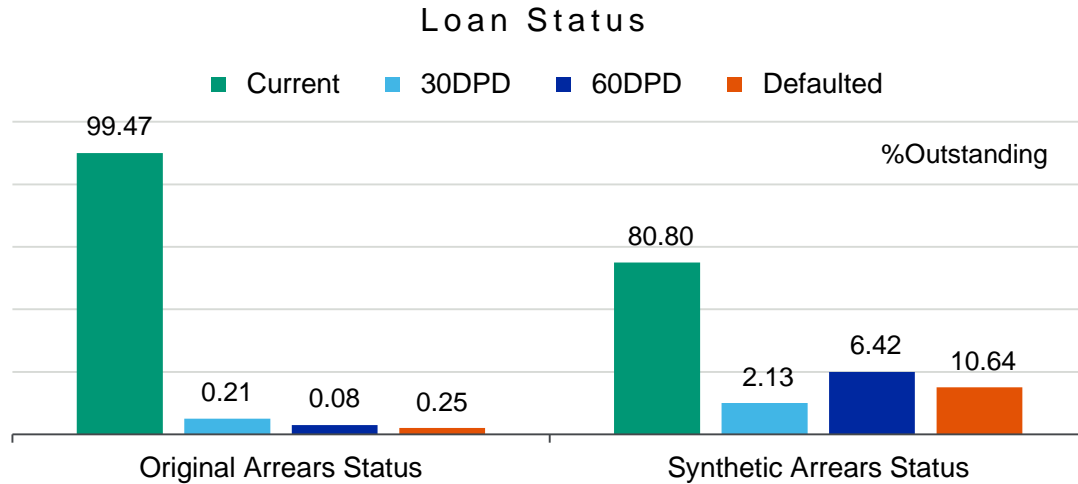


Average balance increase in potential "payment holiday" accounts

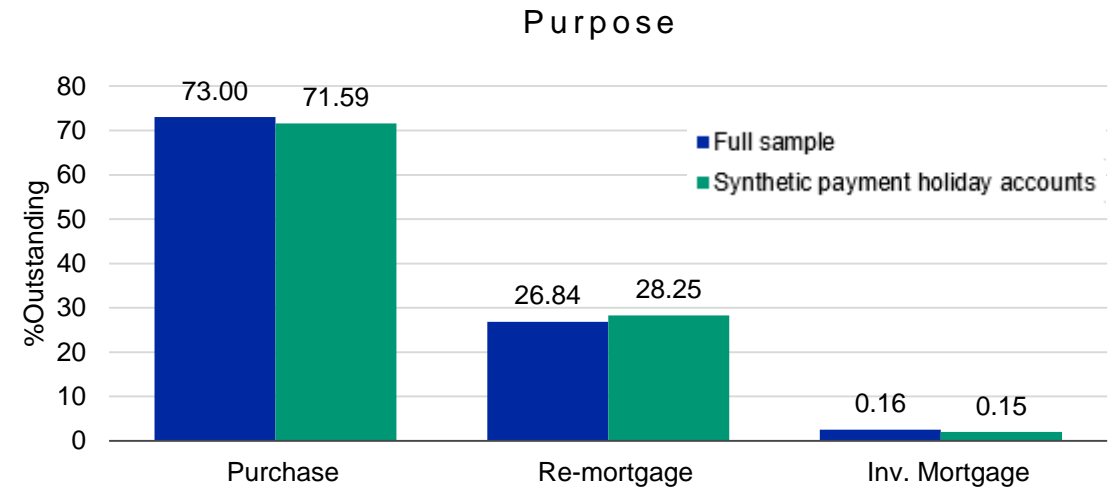
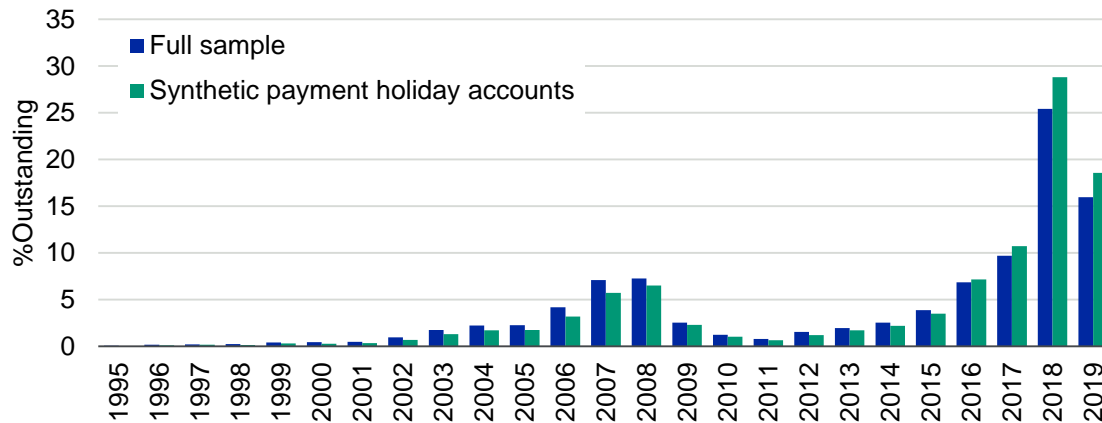


Characterizing the Loans

141,288 mortgages in June 2020 snapshot
GBP 13,752,320,725 total outstanding balance

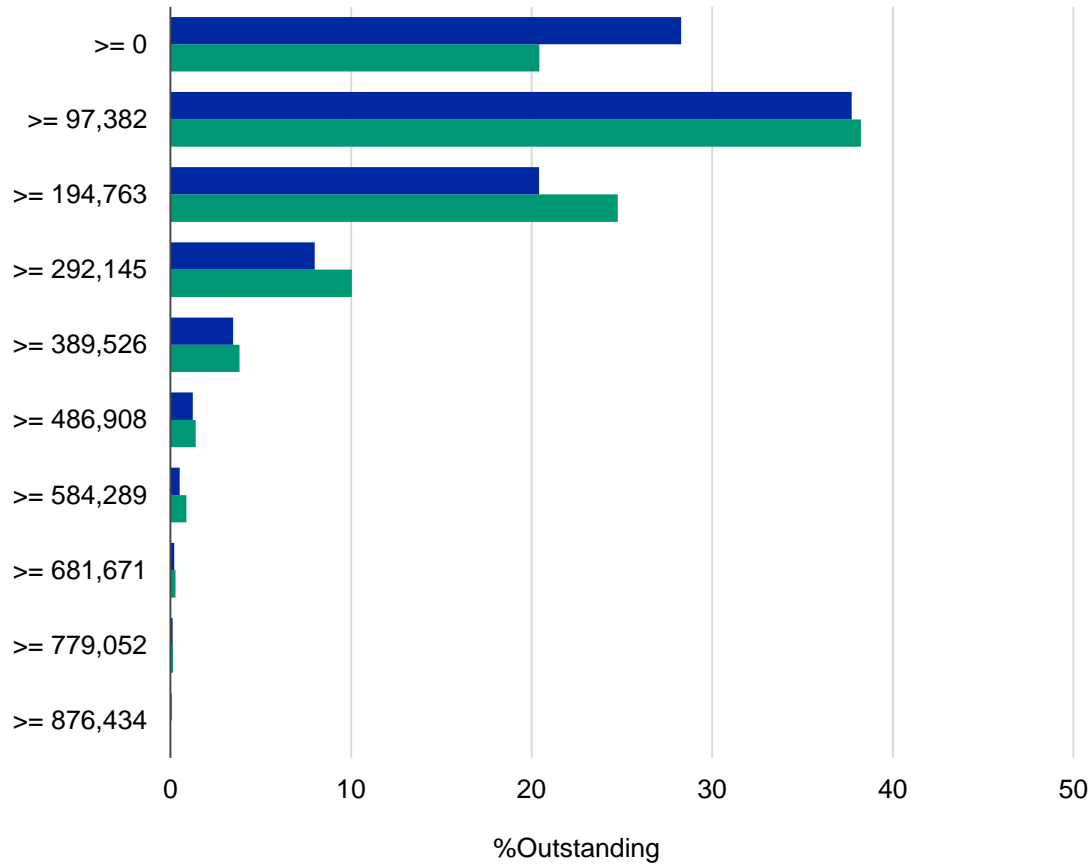


Outstanding balance across origination vintages

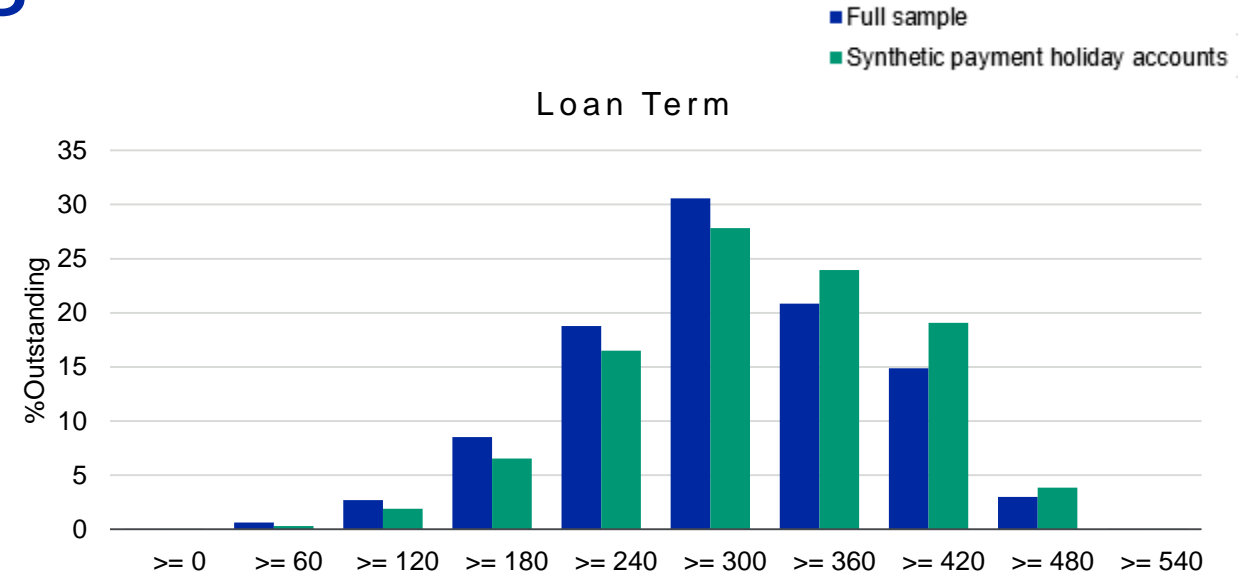


Characterizing the Loans

Loan Size



Loan Term



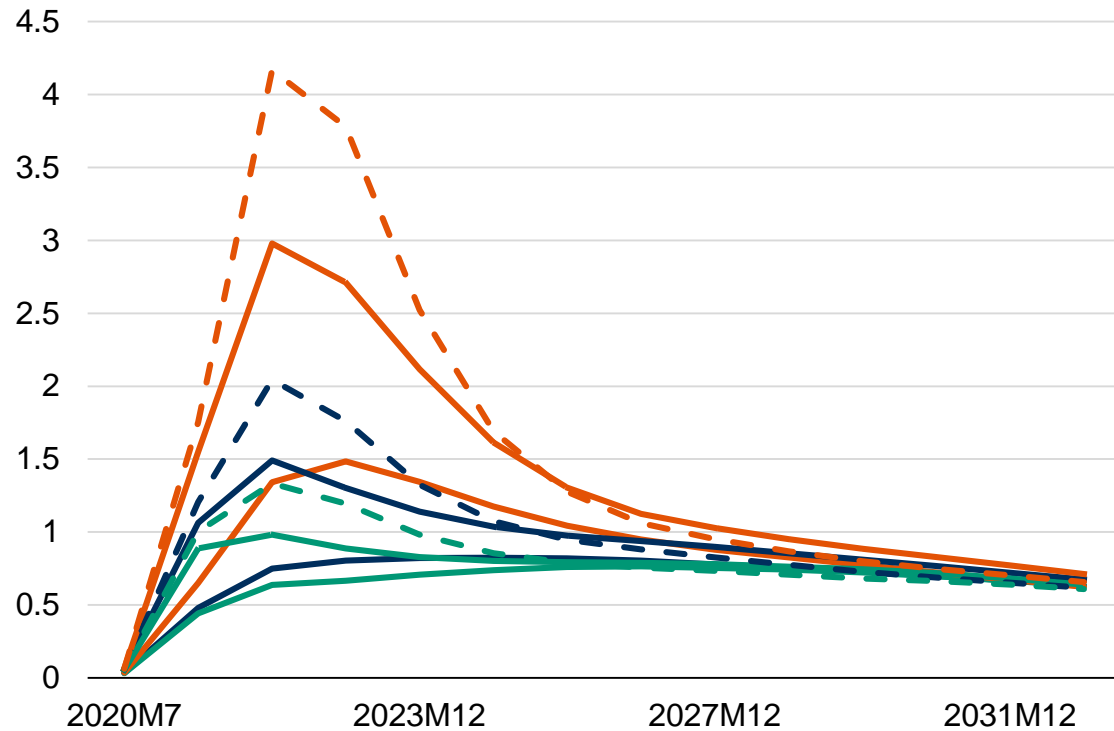
Employment Status



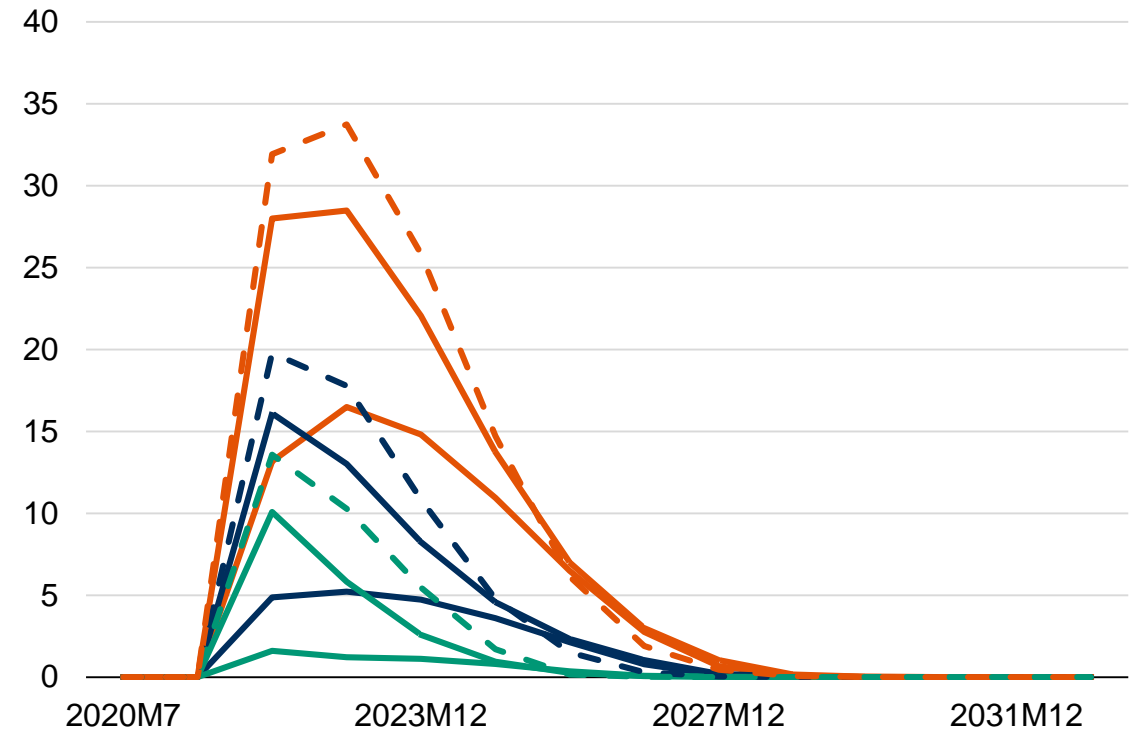
Impact of Scenario Vintages on Risk Metrics

June snapshot

Annualized conditional PD, %



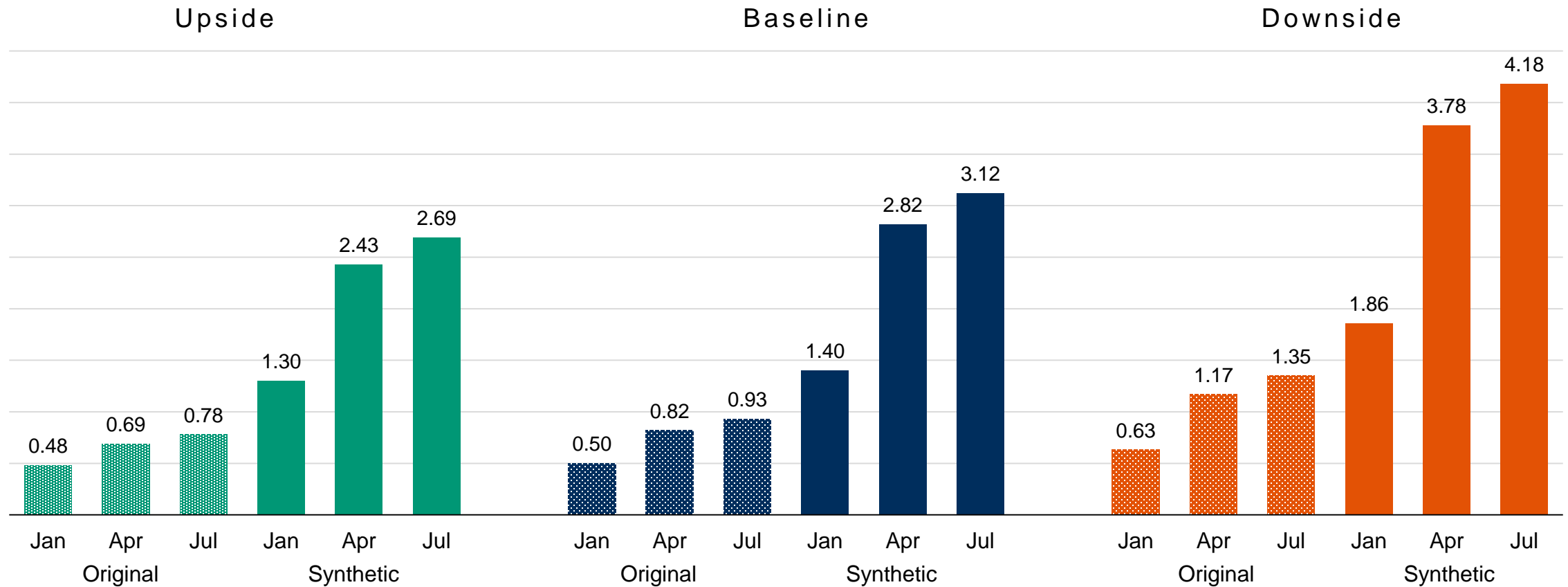
Annualized conditional LGD, %



- Baseline (Jan) — Upside (Jan) — Downside (Jan)
- Baseline (Apr) Upside (Apr) Downside (Apr)
- - - Baseline (Jul) - - - Upside (Jul) - - - Downside (Jul)

Impact on the Risk Metrics

June snapshot – weighted average 12-month PD, %



3

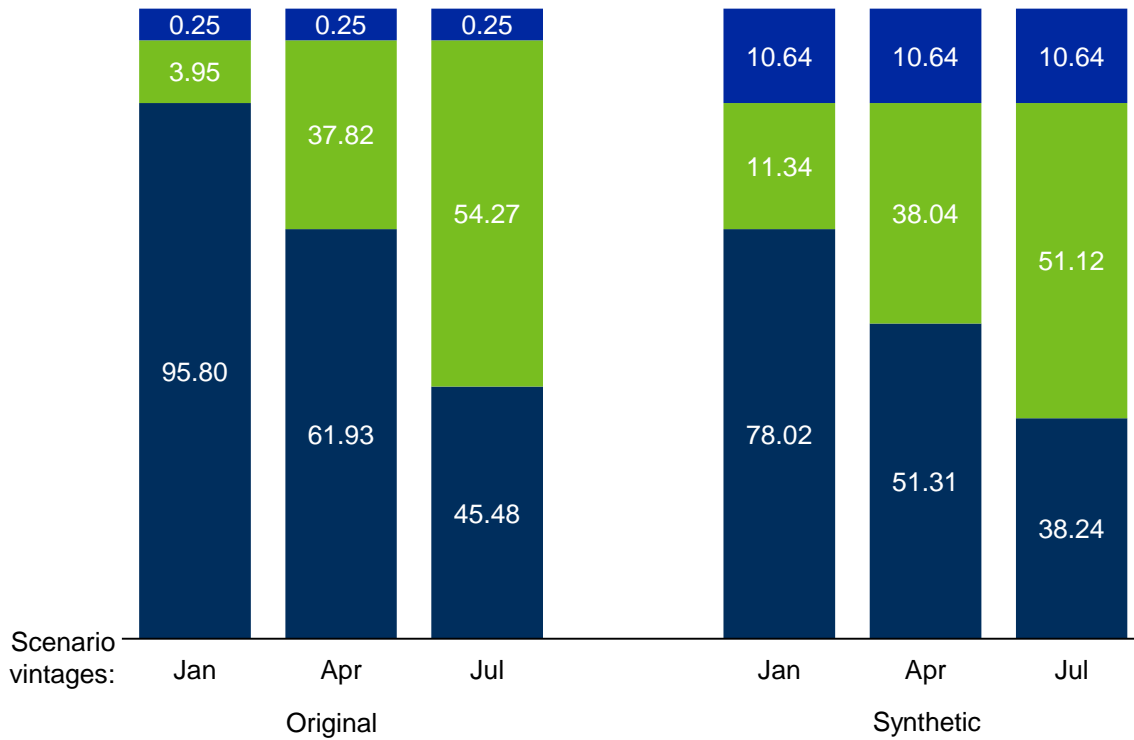
Impact on IFRS 9 Impairments

Impact of Covid-19 on June Snapshot ECL

Combined effect: scenario vintages and synthetic arrears status

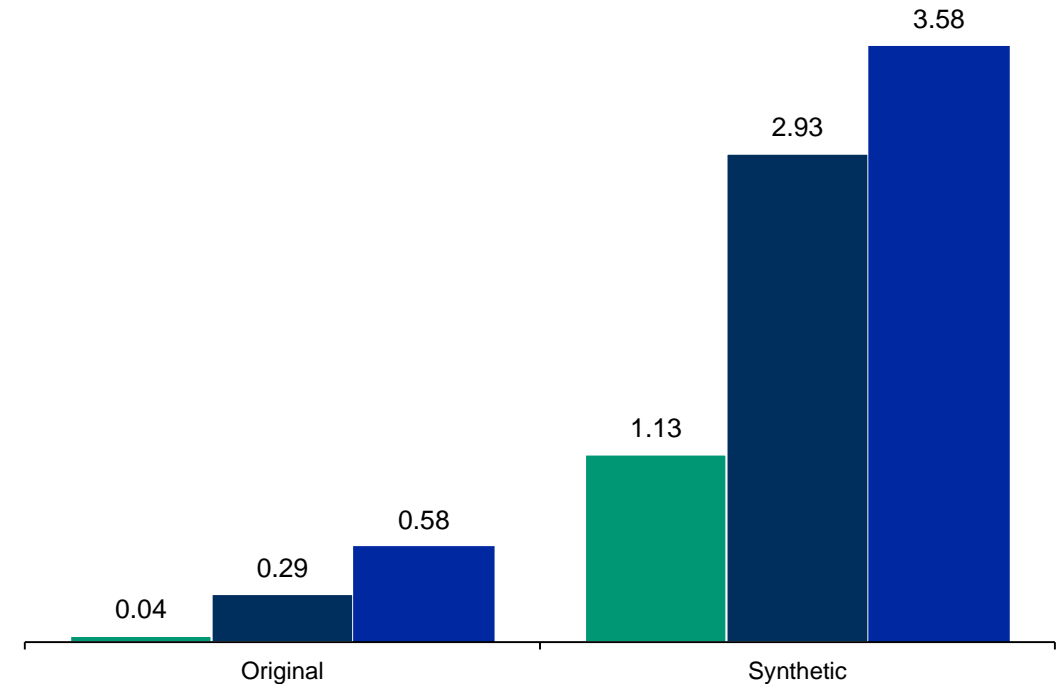
Stage distribution by exposure, %

■ Stage 1 ■ Stage 2 ■ Stage 3



Coverage ratio, %

Scenario vintages:
■ Jan ■ Apr ■ Jul

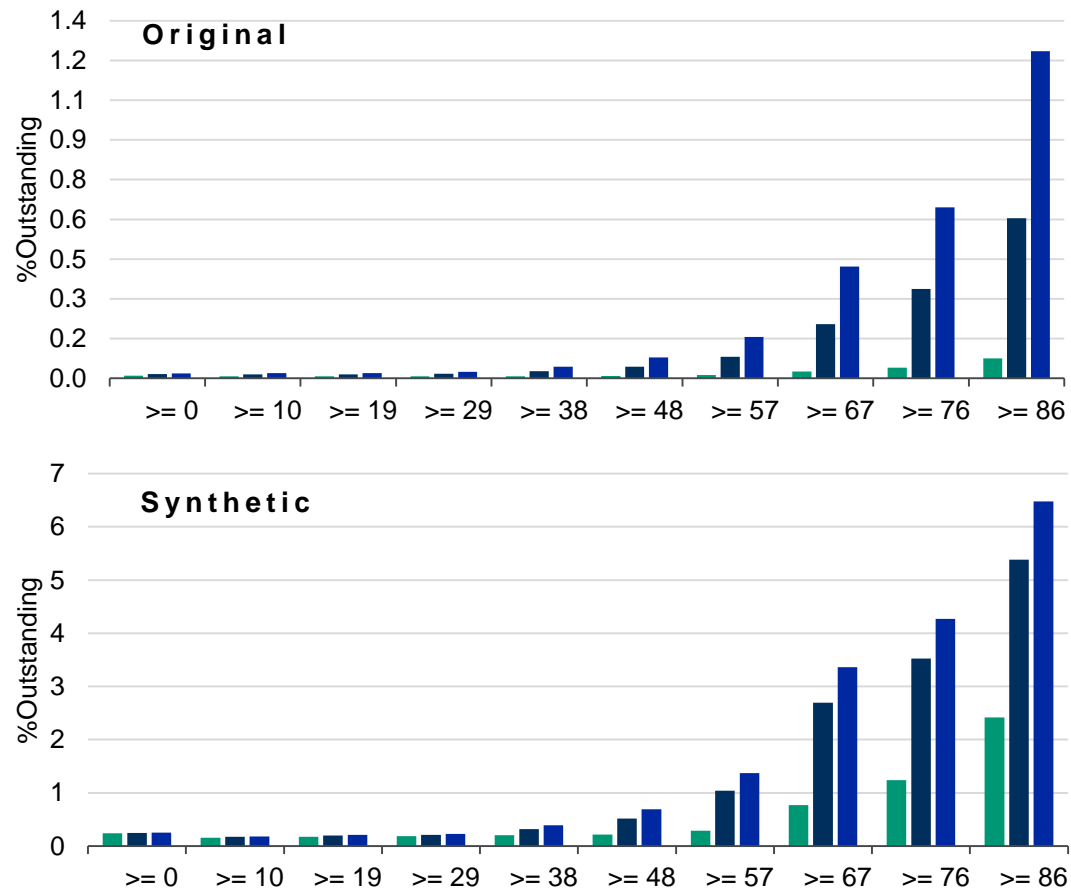


Expected Credit Losses for June Snapshot

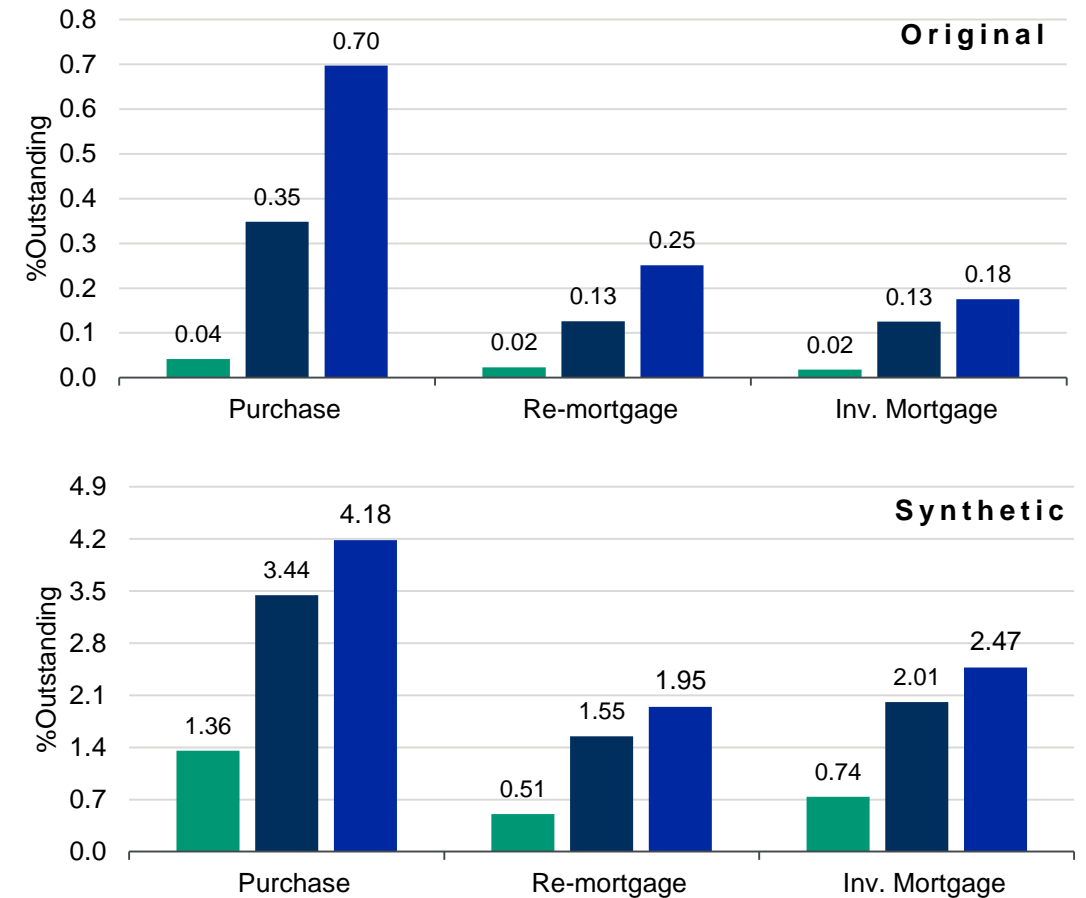
... across loan characteristics and scenario vintages

Scenario vintages:
■ January ■ April ■ July

By LTV



By purpose

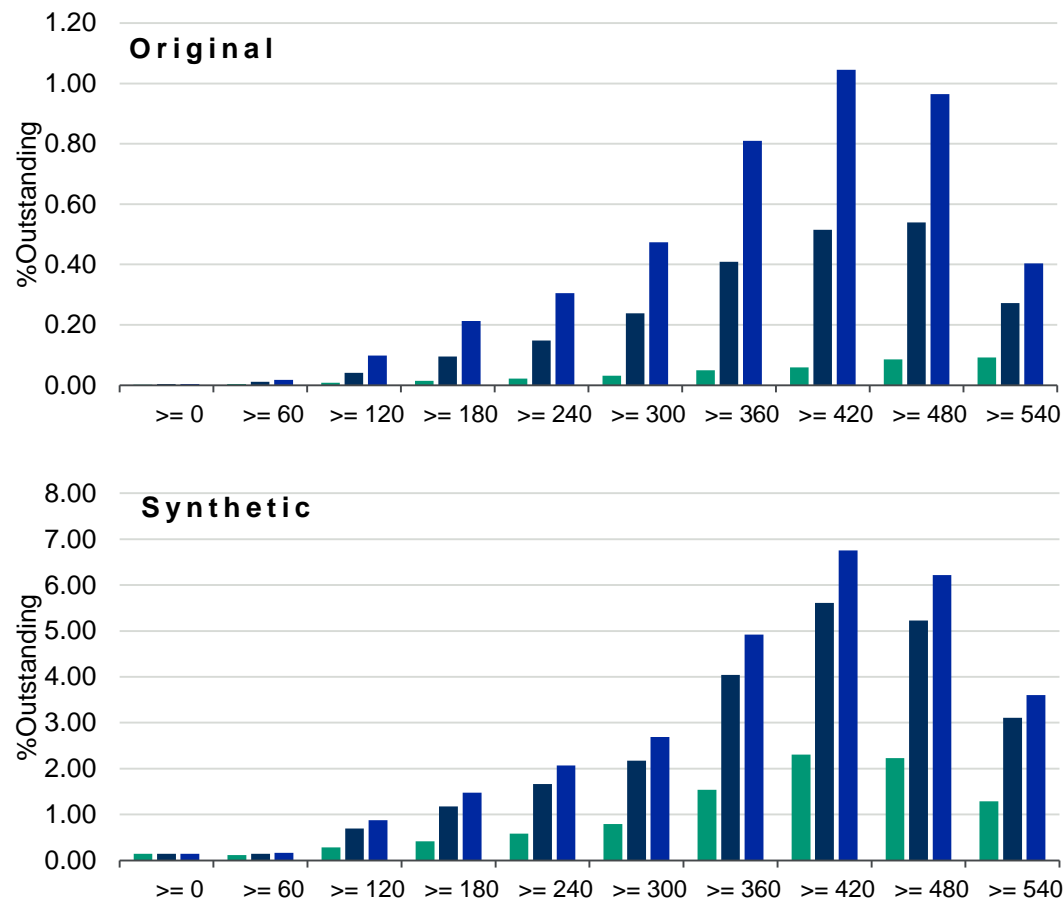


Expected Credit Losses for June Snapshot

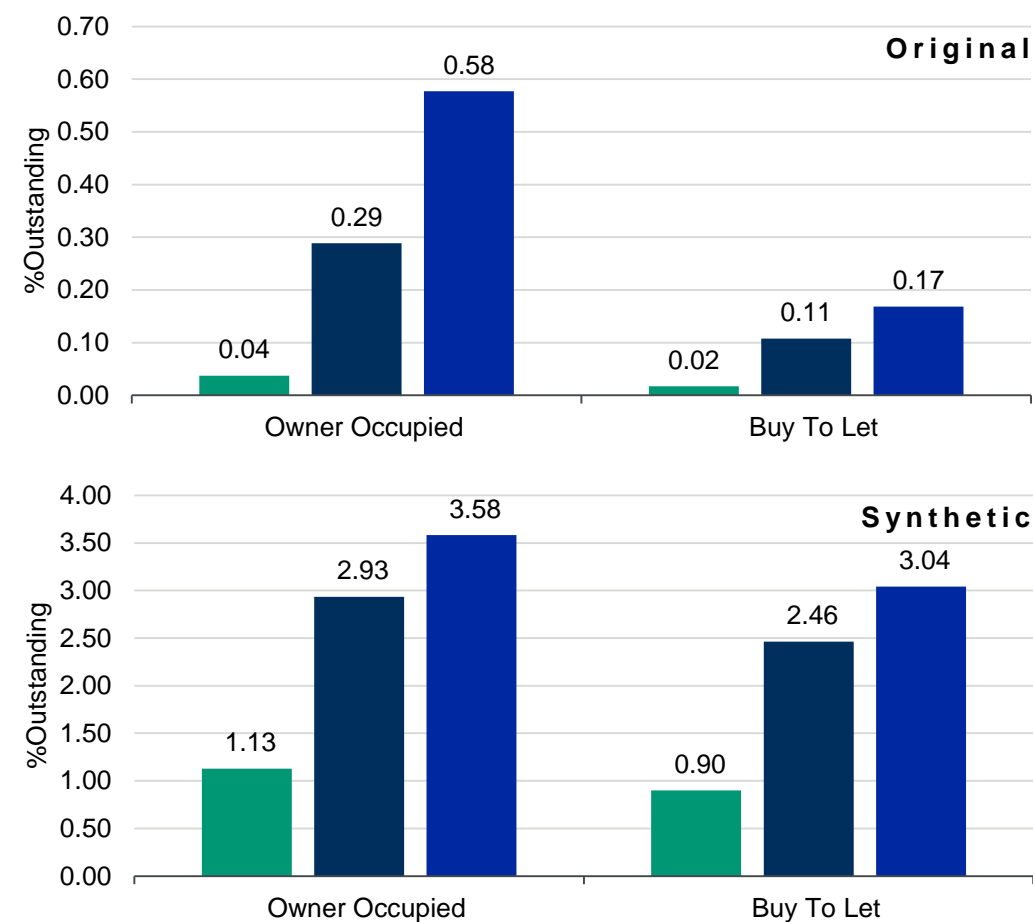
... across loan characteristics and scenario vintages

Scenario vintages:
■ January ■ April ■ July

By loan term



By occupancy

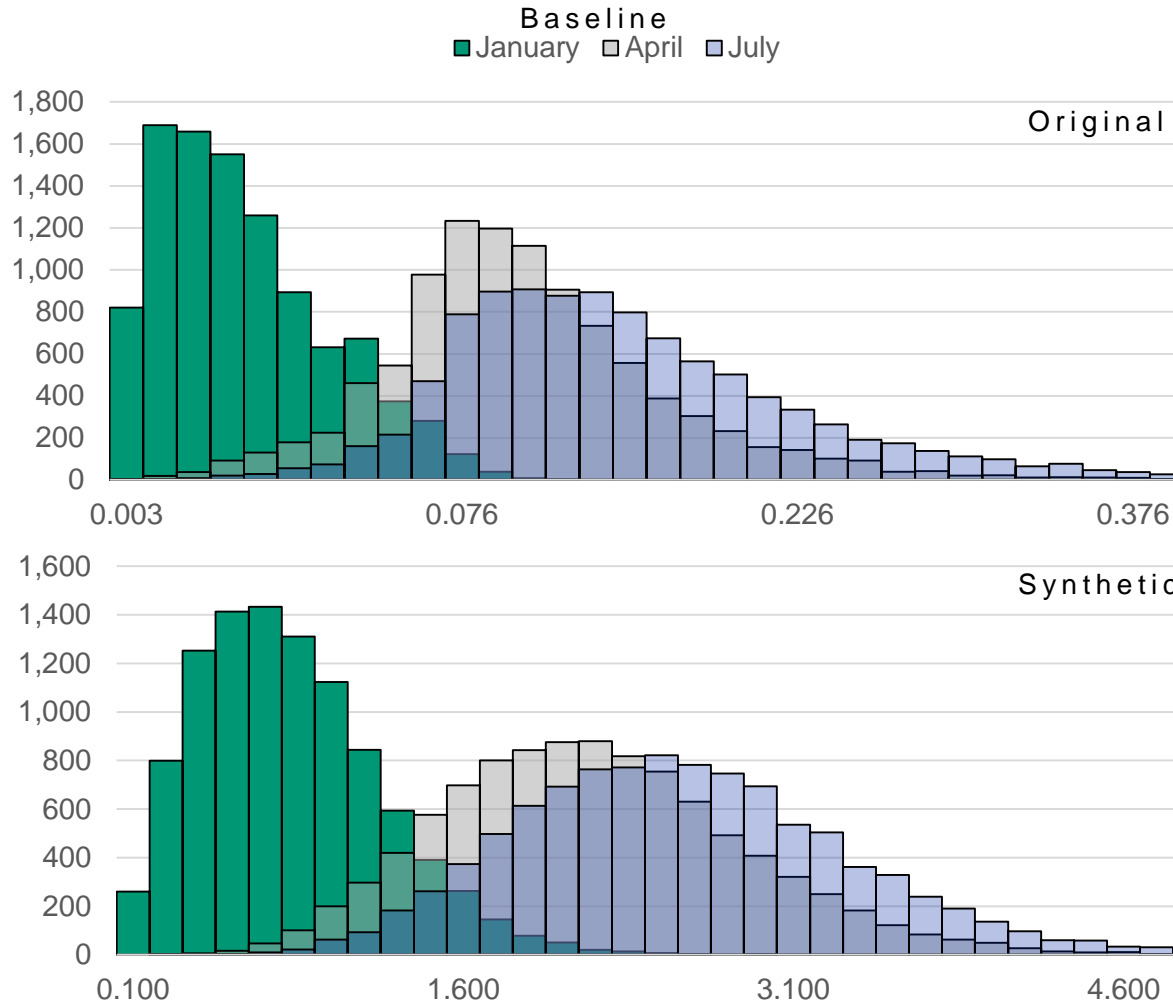


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Impact on Loss Distribution

Loss Distribution

VaR Approach - 12-month expected loss, %

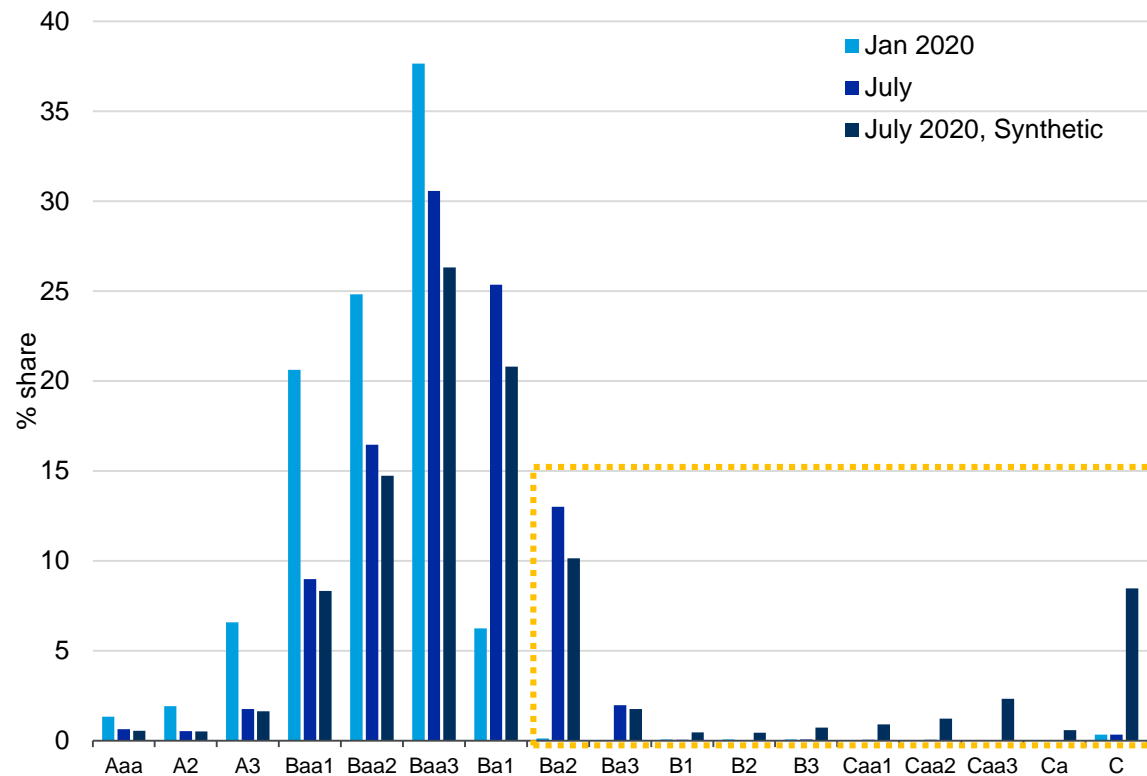


	Original			Synthetic		
	Jan-20	Apr-20	Jul-20	Jan-20	Apr-20	Jul-20
Expected Loss						
Baseline	0.02	0.10	0.14	0.73	2.11	2.51
Downside	0.07	0.26	0.40	1.47	3.53	3.98
Aggregate Statistics (baseline)						
Simulations	10,000	10,000	10,000	10,000	10,000	10,000
Mean	0.02	0.10	0.14	0.73	2.11	2.51
SD	0.01	0.06	0.08	0.41	0.68	0.74
IQR	0.02	0.07	0.10	0.56	0.91	0.99
Skewness	1.40	1.33	1.43	0.69	0.41	0.41
Kurtosis	2.68	2.86	3.72	0.38	0.20	0.25
95th/50th Pct	3.05	2.36	2.29	2.18	1.60	1.54
Value-at-Risk (baseline)						
50%	0.02	0.09	0.13	0.68	2.07	2.47
75%	0.03	0.13	0.18	0.99	2.54	2.98
90%	0.04	0.18	0.25	1.29	3.01	3.49
95%	0.05	0.21	0.30	1.49	3.31	3.81

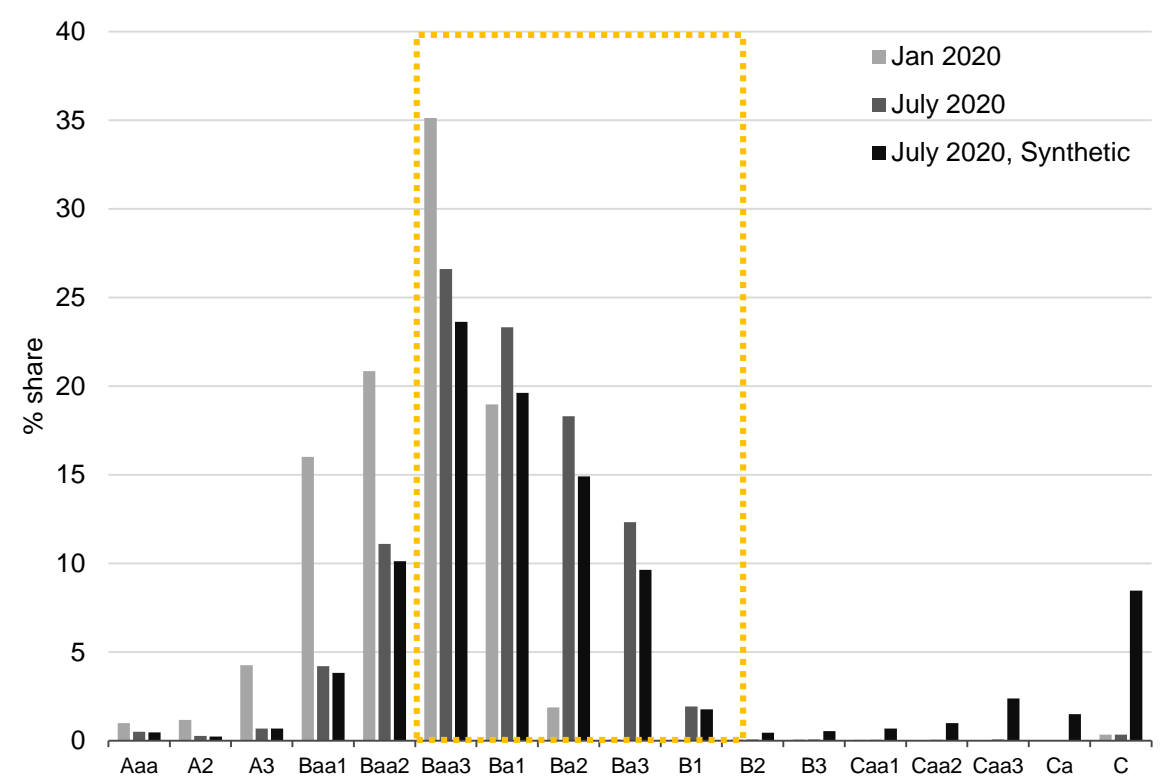
Loan Ratings Distribution Based on 12-month PD

Baseline and downside forecast across scenario vintages

Baseline



Downside



Key Takeaways

1. Despite the current recovery phase, the U.K. economy is forecast to contract 9.7% in 2020.
2. Payment holiday scheme helped to contain the surge in impairments. A niche of customers has benefited more than others and might become reduced payments accounts.
3. With the end of the scheme in October, banks should expect a tsunami effect on their provisions.

Q&A

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