

Adverse scenario for the European Insurance and Occupational Pensions Authority's EU-wide insurance stress test in 2018

Introduction

In accordance with its mandate, the European Insurance and Occupational Pensions Authority (EIOPA), in cooperation with the European Systemic Risk Board (ESRB), initiates and coordinates EU-wide stress tests to assess the resilience of financial institutions within its remit to adverse market developments. It plans to conduct a stress test this year for insurance companies. EIOPA requested that the ESRB provide two adverse macro-financial scenarios for this stress test. The ECB, in collaboration with the ESRB, has developed the narrative and methodology and calibrated the adverse scenarios for the 2018 exercise. These are presented in this document which has been approved by the ESRB General Board and transmitted to EIOPA.

The 2018 EIOPA insurance sector stress test will include three different stress scenarios. Two of these scenarios aim to analyse the impact of a combination of market and insurance stresses, while the third focuses on specific natural catastrophe events. The insurance-specific components of the stress scenarios (such as lapses, longevity or catastrophe events) will be developed by EIOPA, while the ESRB was asked to provide the two capital market stress scenarios:

- scenario 1: "yield curve up" scenario combined with a stress on lapses and claims inflation (targeting non-life claim provisions);
- scenario 2: "yield curve down" scenario combined with lapse and longevity stresses.

The capital market stress scenarios were calibrated independently of the additional insurance elements of the scenarios being developed by EIOPA.

This document presents the main features of the two adverse scenarios deemed relevant for the insurance sector according to EIOPA. The scenarios presented in the note are calibrated on the basis of detailed guidance from EIOPA and discussions with the ESRB members. This document summarises the main sources of risk and vulnerabilities addressed by the scenarios together with the calibration of each scenario. The shocks reported in the note and in the tables should be interpreted as one-off and instantaneous shifts in asset prices relative to their end-2017 levels.¹ The methodology underlying the calibration of the shocks is based

¹ For this reason, the severity of the scenario designed for EIOPA cannot be directly compared with that of the EBA, as the overall impact of the latter depends on the accumulation of shocks occurring over three years. In addition, the narrative of the EIOPA



on the same models used in previous ESRB contributions to the EIOPA stress test exercises. 2

Systemic risks and vulnerabilities addressed by the scenarios

The scenarios reflect the ESRB's assessment of prevailing sources of systemic risk for the EU financial system:

- 1. spillovers from a disruptive repricing of term and other risk premia in global financial markets;
- 2. impaired intermediation capacity of banks amid weak performance and structural challenges;
- 3. public and private debt sustainability concerns amid historically high debt levels;
- 4. liquidity risks in the non-bank financial sector, with contagion to the broader system.

At the same time, the scenarios address the two key vulnerabilities of the European insurance sector identified by EIOPA:

- on the assets side, as insurers are large investors in government and corporate bonds, equity and real estate, they are particularly vulnerable to the risk of an abrupt fall in global asset prices;
- on the liabilities side, low risk-free interest rates often approximated with swap rates

 increase the value of insurers' long-term liabilities while compressing the margins
 between guaranteed returns on life policies and matching long-term low-risk
 investments.

The aforementioned risks are addressed by the macro-financial scenarios presented here.

In contrast to the 2016 EU-wide insurance stress test, in which a "double hit" scenario was calibrated covering these vulnerabilities at the same time, in 2018 two different scenarios have been designed, which cover the two vulnerabilities separately: "yield curve up" and "yield curve down".

scenarios differs from that of the EBA's adverse scenario, as it is more focused on vulnerabilities linked to the insurance sector, albeit it is based on the same overall financial stability risk assessment.

² For details on the methodology please refer to the Scenarios for the European Insurance and Occupational Pensions Authority's EUwide pension fund stress test in 2015.



Narrative and calibration of the scenarios

Yield curve up

The "yield curve up" scenario is assumed to be initiated by an abrupt reversal in global risk premia. The swap rate curve would shift upwards by 85 bps in the EU for the ten-year maturity and by more than 100 bps in other major advanced economies (see Chart 1). The overall repricing of risk premia would raise concerns about the debt sustainability of some EU sovereigns, widening the spreads of EU government bond yields against those on equivalent German bonds. On average, the spread of ten-year government bond yields against the equivalent German bonds would widen by around 36 bps in the EU, reaching a maximum of 134 bps. Overall, ten-year government bond yields in the EU would increase by an average of 155 bps, with a range between 119 bps and 253 bps under the adverse scenario (see Chart 2).

Chart 1: Shock to ten-year swap rates (bps)



Chart 2: Distribution of the shocks to tenyear government bond yields in the EU (bps)



Yields on non-financial corporate and bank debt would also increase, following the general increase in risk premia (see Chart 3). In the banking sector, shocks to credit spreads would be aggravated by fundamental concerns about prospective mark-to-market losses on fixed-income assets, bringing about an increase of more than 350 bps for lower-rated financial corporations. AAA-rated non-financial corporate bond yields would also increase by about 138 bps in the EU, but the impact on credit spreads would be more pronounced for weaker issuers, reaching 310 bps for CCC-rated non-financial corporate bonds.





Chart 3: Shocks to corporate bond yields (bps)

The repricing of risk premia would also bring about a substantial drop in stock prices, amplified by a general sell-off of stocks in the non-banking sector. Overall, stock prices in the EU would decline by around 39% (see Chart 4). The value of investments in private equity and real estate investment trusts (REITs) would fall by between 33% and 41% (see Chart 5). Residential and commercial real estate prices would also decline significantly, by 20% and 31%, respectively, with respect to the baseline at EU level (see Chart 6 and 7).

prices in the EU (%)



Chart 4: Distribution of shocks to stock Chart 5: Shocks to private equities, hedge funds and REITs (%)





Chart 6: Distribution of shocks residential real estate prices (%)



Chart 7: Distribution of shocks to commercial real estate prices (%)



The overall scenario is the outcome of three different simulations with three different triggers: the sovereign yield spreads, the swap rate curves, and stock prices in the EU and other advanced economies. All simulations have been conducted based on a sample spanning from 1 January 2005 to 31 December 2017. This sample selection has been chosen in order to reflect in the calibration the main features of the scenario in the narrative defined by EIOPA.

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The calibration of the adverse scenarios takes into account the fact that shocks are applied as one-off shocks in the methodology of the EIOPA insurance sector stress test and should therefore be severe in order to compensate for this.

The increase in sovereign bond yields is also substantial and reflects the two triggering events: substantial repricing of the risk-free rate (by around 85 bps) and a further amplification effect due to the repricing of the spreads of government bond yields against risk-free rates. As illustrated in Chart 8, the spreads of ten-year government bond yields against ten-year swap rates in the scenario are milder than in the 2016 EIOPA double hit scenario: 70 bps for the aggregate EU level compared with 182 bps in 2016.



Chart 8: Spread of the ten-year government bond yields against the ten-year EUR swap rates in the 2014, 2016 and 2018 EIOPA scenarios (bps)



Yield curve down

The "yield curve down" scenario assumes a protracted period of extremely low interest rates, with very low rates prevailing for longer maturities. The decline in interest rates would reflect a slowdown in economic activity due to spillovers from outside the EU. Ten-year swap rates decline by around 80 bps in advanced economies and by around 40 bps in the emerging market economies (EMEs) (see Chart 9). In the euro area, ten-year swap rates also decline by 80 bps, while one-year swap rates fall by 11 bps. Ten-year government bond yields would decline by 36 bps at the EU aggregate level, with the declines at country level mainly reflecting the creditworthiness of the sovereign and spanning from -49 bps to 17 bps (see Chart 10). Most corporate bond yields would also fall and, similarly to the "yield curve up" scenario, the spread between AAA-rated corporate bonds and CCC-rated corporate bonds would increase (see Chart 11).

Due to lower economic growth, stock prices would also decline; however, the decline in stock prices would be much milder than in the "yield curve up" scenario. Stock prices would decrease by around 16% in the EU (see Chart 12). The value of investments in private equity and REITs³ would fall by between 6% and 18% (see Chart 13). Different factors would push real estate prices in opposite directions: the decline in the risk-free rate would lead to an increase in real estate prices, while the overall slowdown of the economy would exert downward pressure. For this reason, residential and commercial real estate prices are assumed to remain unchanged in this scenario.

The scenario is generated with a unique simulation in which the triggering event is a decline in swap rates in both advanced and emerging economies. The calibration was performed over

³ The REITs decline only marginally in the EU, consistent with the assumption that real estate prices would not fall.



a one-quarter horizon and the sample of calibration covers the period from 1 January 2005 to 31 December 2017.⁴

Chart 9: Shock to ten-year swap rates (bps)⁵



Chart 10: Distribution of the shocks to tenyear government bond yields in the EU (bps)



Chart 11: Shocks to corporate bond yields (bps)



⁴ In addition, the calibration includes a technical adjustment of an additional 20 bps to the sovereign bond yield shocks homogenously applied across maturities and countries. This was added to ensure that swap rates generally fall by more than government bond yields at comparable maturities.



stock prices in the EU (%)



Chart 12: Distribution of shocks to Chart 13: Shocks to private equities, hedge funds and REITs (%)





Annex 1: Tables for the "yield curve up" scenario

		Shocks to	o SWAP ra	tes (bj	os)			
Country	Currency	1Y	2Y	5γ	,	10Y	20	ŊY
EA	EUR	49	87	99)	85	7	0
BG	BGN	39	54	69)	69	6	9
HR	HRK	19	19	19)	23	2	3
CZ	CZK	5	25	41		51	5	0
DK	DKK	49	87	99)	85	7	0
HU	HUF	57	70	10	3	108	13	37
IS	ISK	39	54	69)	69	6	9
СН	CHF	25	36	43	}	44	4	5
NO	NOK	24	24	34	L I	34	3	6
PL	PLN	20	48	78	8	81	8	9
RO	RON	10	18	43	6	44	4	5
RU	RUB	127	131	13	5	138	13	38
SE	SEK	20	39	56	,	39	4	5
UK	GBP	106	107	10	8	111	1:	15
AU	AUD	29	29	53	}	61	6	0
BR	BRL	50	107	11	8	118	1:	18
CA	CAD	100	112	11	9	113	1(70
CL	CLP	16	23	31		32	3	3
CN	CNY	23	23	25	;	25	2	5
CO	COP	17	49	75	;	98	9	8
НК	HKD	18	19	38	}	33	3	3
IN	INR	13	25	28	}	29	2	9
JP	JPY	4	4	14	Ļ	14	1	.4
MY	MYR	11	19	55	;	47	2	8
MX	MXN	16	36	53	}	68	6	8
NZ	NZD	39	54	69		69	6	9
SG	SGD	31	41	61		55	5	2
ZA	ZAR	17	41	72	2	73	7	0
KR	KRW	14	19	24		24	2	4
TW	TWD	39	54	69		69	6	9
TH	THB	41	53	63		68	6	8
TR	TRY	105	141	16	1	163	10	53
US	USD	107	138	15	5	148	14	45
Country	Currency	25Y	30Y		35Y	40)Y	4
СН	CHF	46						
UK	GBP	118	120		123	12	25	1
US	USD	149	153		158	16	52	1

Table 1.1: Shocks to swap rates

Note: In the grey cells the average was used as there was insufficient data to perform the calibration at all maturities.

50Y

130 170



Shocks to government bond yields (bps)							
Country	Country	1Y	2Y	5Y	10Y	20Y	30Y
BE	Belgium	118	165	187	167	152	152
BG	Bulgaria	132	154	170	159	144	144
CZ	Czech Republic	164	185	182	162	147	147
DK	Denmark	83	121	133	119	104	104
DE	Germany	83	121	133	119	104	104
EE	Estonia	122	162	172	155	133	133
IE	Ireland	142	180	192	176	143	143
GR	Greece	228	266	278	253	204	204
ES	Spain	185	229	246	222	183	183
FR	France	127	161	164	149	126	126
HR	Croatia	171	209	221	188	173	173
IT	Italy	155	213	225	205	172	172
CY	Cyprus	140	178	190	176	161	161
LV	Latvia	152	190	195	162	146	146
LT	Lithuania	129	167	179	151	136	136
LU	Luxembourg	102	140	152	138	123	123
HU	Hungary	195	233	245	227	212	212
MT	Malta	112	150	162	151	136	136
NL	Netherlands	92	130	142	128	112	112
AT	Austria	98	140	156	144	132	132
PL	Poland	137	183	201	182	162	162
PT	Portugal	210	248	259	229	185	185
RO	Romania	212	250	261	237	221	221
SI	Slovenia	166	204	216	203	160	160
SK	Slovakia	186	187	188	159	144	144
FI	Finland	82	135	145	130	112	112
SE	Sweden	95	139	147	127	112	112
UK	United Kingdom	107	141	149	130	115	165
EA (weighted averages)	EA (weighted average)	124	166	177	159	136	136
EU (weighted averages)	EU (weighted average)	122	162	172	155	133	142
СН	Switzerland	78	80	63	63	63	63
NO	Norway	43	99	56	54	54	54
US	United States	173	169	187	175	169	171
JP	Japan	36	14	29	29	29	29
Other advanced economies	Other advanced economies	47	54	70	69	69	69
Emerging markets	Emerging markets	34	52	66	67	67	67

Table 1.2: Shocks to government bond yields

Note: In the grey cells the average was used as there was insufficient data to perform the calibration at all maturities.



Shocks to stock prices (%)						
Country	Country	Shock				
BE	Belgium	-36				
BG	Bulgaria	-28				
CZ	Czech Republic	-36				
DK	Denmark	-38				
DE	Germany	-40				
EE	Estonia	-25				
IE	Ireland	-36				
GR	Greece	-34				
ES	Spain	-40				
FR	France	-43				
HR	Croatia	-35				
IT	Italy	-40				
CY	Cyprus	-28				
LV	Latvia	-20				
LT	Lithuania	-27				
LU	Luxembourg	-34				
HU	Hungary	-34				
MT	Malta	-22				
NL	Netherlands	-42				
AT	Austria	-45				
PL	Poland	-33				
РТ	Portugal	-32				
RO	Romania	-38				
SI	Slovenia	-24				
SK	Slovakia	-41				
FI	Finland	-37				
SE	Sweden	-39				
UK	United Kingdom	-37				
EA (weighted average)	EA (weighted average)	-40				
EU (weighted average)	EU (weighted average)	-39				
СН	Switzerland	-33				
NO	Norway	-45				
US	United States	-38				
JP	Japan	-34				
Other advanced economies	Other advanced economies	-34				
Emerging markets	Emerging markets	-39				

Table 1.3: Shocks to stock prices



Table 1.4: Shocks to residential real estate prices

CountryCountryDeviation from the baselineBEBelgium-15BGBulgaria-34CZCzech Republic-34DKDenmark-18DEGermany-23EEEstonia-29IEIreland-31GRGreece-5ESSpain-23FRFrance-17HRCroatia-12ITItaly-12CYCyprus-14LVLatvia-23ITUthuania-25LULuxembourg-28HUHugary-43MTMata-22NLNetherlands-24ATAustria-20PLPoltugal-22RORomania-26SISlovahia-19FIFinland-13SESweden-29UKUnited Kingdom-21EAEA (weighted average)-20CHSwitzerland-10NONorway-12USUnited States-31Other advanced economies0.18Emerging marketsEmerging markets-18	Shocks to residential real estate prices (%)						
BE Belgium -15 BG Bulgaria -34 CZ Czech Republic -34 DK Denmark -18 DE Germany -23 EE Estonia -29 IE ireland -31 GR Greece -5 ES Spain -23 FR France -17 HR Croatia -12 IT Italy -12 CY Cyprus -14 LV Latvia -23 LT Lithuania -25 LU Luxembourg -28 HU Hugary -43 MT Malta -22 NL Netherlands -24 AT Austria -20 PL Poland -16 PT Portugal -22 RO Romania -26 SI Slovenia -13 <th>Country</th> <th>Country</th> <th>Deviation from the baseline</th>	Country	Country	Deviation from the baseline				
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FIFinland-13SESweden-29UKUnited Kingdom-21EAEA (weighted average)-18EUEU (weighted average)-20CHSwitzerland-10NONorway-12USUnited States-31Other advanced economiesOther advanced economies-18Emerging marketsEmerging markets-18	SK	Slovakia	-19				
SESweden-29UKUnited Kingdom-21EAEA (weighted average)-18EUEU (weighted average)-20CHSwitzerland-10NONorway-12USUnited States-31Other advanced economiesOther advanced economies-18Emerging marketsEmerging markets-18	FI	Finland	-13				
UKUnited Kingdom-21EAEA (weighted average)-18EUEU (weighted average)-20CHSwitzerland-10NONorway-12USUnited States-31Other advanced economiesOther advanced economies-18Emerging marketsEmerging markets-18	SE	Sweden	-29				
EAEA (weighted average)-18EUEU (weighted average)-20CHSwitzerland-10NONorway-12USUnited States-31Other advanced economiesOther advanced economies-18Emerging marketsEmerging markets-18	UK	United Kingdom	-21				
EUEU (weighted average)-20CHSwitzerland-10NONorway-12USUnited States-31Other advanced economiesOther advanced economies-18Emerging marketsEmerging markets-18	EA	EA (weighted average)	-18				
CHSwitzerland-10NONorway-12USUnited States-31Other advanced economiesOther advanced economies-18Emerging marketsEmerging markets-18	EU	EU (weighted average)	-20				
NONorway-12USUnited States-31Other advanced economiesOther advanced economies-18Emerging marketsEmerging markets-18	СН	Switzerland	-10				
USUnited States-31Other advanced economiesOther advanced economies-18Emerging marketsEmerging markets-18	NO	Norway	-12				
Other advanced economiesOther advanced economies-18Emerging marketsEmerging markets-18	US	United States	-31				
Emerging markets -18	Other advanced economies	Other advanced economies	-18				
	Emerging markets	Emerging markets	-18				



Table 1.5: Shocks to commercial real estate prices

CountryDeviation from the baselineBEBelgium-28BGBulgaria-43CZCzech Republic-43DKDenmark-30DEGermany-33EEEstonia-37IEIreland-38GRGreece-22	Shocks to commercial real estate prices (%)					
BEBelgium-28BGBulgaria-43CZCzech Republic-43DKDenmark-30DEGermany-33EEEstonia-37IEIreland-38GRGreece-22	Country					
BEBelgium-28BGBulgaria-43CZCzech Republic-43DKDenmark-30DEGermany-33EEEstonia-37IEIreland-38GRGreece-22	Country					
BGBulgaria-43CZCzech Republic-43DKDenmark-30DEGermany-33EEEstonia-37IEIreland-38GRGreece-22	BE					
CZCzech Republic-43DKDenmark-30DEGermany-33EEEstonia-37IEIreland-38GRGreece-22	BG					
DKDenmark-30DEGermany-33EEEstonia-37IEIreland-38GRGreece-22	CZ					
DEGermany-33EEEstonia-37IEIreland-38GRGreece-22	DK					
EEEstonia-37IEIreland-38GRGreece-22	DE					
IEIreland-38GRGreece-22	EE					
GR Greece -22	IE					
	GR					
ES Spain -34	ES					
FR France -31	FR					
HR Croatia -27	HR					
IT Italy -24	IT					
CY Cyprus -29	CY					
LV Latvia -34	LV					
LT Lithuania -34	LT					
LU Luxembourg -37	LU					
HU Hungary -49	HU					
MT Malta -33	MT					
NL Netherlands -35	NL					
AT Austria -31	AT					
PL Poland -30	PL					
PT Portugal -33	РТ					
RO Romania -37	RO					
SI Slovenia -35	SI					
SK Slovakia -31	SK					
FI Finland -27	FI					
SE Sweden -36	SE					
UK United Kingdom -31	UK					
EA EA (weighted average) -30	EA					
EU EU (weighted average) -31	EU					
CH Switzerland -24	СН					
NO Norway -25	NO					
US United States -28	US					
Other advanced economies Other advanced economies -27	Other advanced economies					
Emerging markets -27	Emerging markets					



Table 1.6: Shocks to corporate bond yields

Shocks to corporate bond yields (bps)								
Country	Туре	AAA	AA	Α	BBB	BB	В	CCC
EU .	Non-financial	138	178	218	258	275	293	310
20	Financial	147	199	250	301	318	336	354
	Non-financial	196	235	275	291	305	319	333
05	Financial	205	256	307	328	342	356	370
Asia	Non-financial	100	140	180	196	210	224	238
	Financial	110	161	212	232	247	261	275

Table 1.7: Shocks to RMBS

Shocks to RMBS (bps)							
Country	AAA	AA	Α	BBB			
EU	156	176	196	240			
North America	170	194	218	272			
Asia	143	160	176	212			

Table 1.8: Shocks to other assets

Shocks to other assets (%)								
Private	e Equity	Hedge Funds		REIT		REIT		Commodities
EU	World	EU	World	EU	World			
-40	-37	-41	-34	-37	-33	0		



Table 1.9: Shocks to HICP inflation rate

Country	Shock to annual inflation rate
EA	0.06
CZ	0.00
HR	0.03
DK	0.07
HU	0.20
PL	0.09
RO	0.05
SE	0.01
UK	0.03
СН	0.04
NO	0.01
US	0.10

Note: The number reported is the deviation, in terms of percentage, of the annual inflation from the baseline over one quarter. These numbers were calibrated without a complete macroeconomic scenario, and are only based on correlations with other financial variables.



Annex 2: Tables for the "yield curve down" scenario

		Shocks to	o SWAP rat	es (bps)		
Country	Currency	1Y	2Y	5Y	10Y	20Y
EA	EUR	-11	-27	-55	-80	-78
BG	BGN	-30	-36	-45	-48	-45
HR	HRK	-36	-36	-30	-42	-42
CZ	CZK	-20	-36	-49	-46	-39
DK	DKK	-23	-59	-71	-79	-60
HU	HUF	-47	-45	-52	-59	-75
IS	ISK	-30	-36	-45	-48	-45
СН	CHF	-30	-45	-46	-44	-41
NO	NOK	-57	-61	-65	-62	-60
PL	PLN	-30	-40	-55	-53	-60
RO	RON	-72	-26	-35	-56	-18
RU	RUB	-28	-28	-23	-23	-23
SE	SEK	-43	-51	-60	-56	-60
UK	GBP	-50	-59	-71	-72	-74
AU	AUD	-42	-55	-78	-83	-72
BR	BRL	-19	-29	-44	-44	-44
CA	CAD	-54	-62	-72	-70	-65
CL	CLP	-17	-19	-29	-30	-27
CN	CNY	-22	-29	-28	-36	-36
CO	COP	-8	-8	-8	-7	-16
НК	HKD	-25	-28	-40	-42	-42
IN	INR	-22	-30	-39	-44	-44
JP	JPY	-6	-11	-17	-19	-19
MY	MYR	-27	-36	-62	-64	-64
MX	MXN	-22	-33	-46	-51	-51
NZ	NZD	-30	-36	-45	-48	-45
SG	SGD	-29	-38	-47	-49	-47
ZA	ZAR	-21	-20	-20	-20	-20
KR	KRW	-20	-21	-19	-20	-21
TW	TWD	-30	-36	-45	-48	-45
TH	THB	-41	-60	-74	-80	-26
TR	TRY	-5	20	20	20	20
US	USD	-54	-67	-92	-94	-97
Country	Currencv	25Y	30Y	35Y	40Y	45Y
СН	CHF	-45				
UK	GBP	-75	-76	-77	-78	-79
US	USD	-99	-101	-103	-104	-106

Table 2.1: Shocks to swap rates

Note: In the grey cells the average was used as there was insufficient data to perform the calibration at all maturities.



Table 2.2: Shocks to government bond yields

Shocks to government bond yields (bps)								
Country	Country	1Y	2Y	5Y	10Y	20Y	30Y	
BE	Belgium	-10	-17	-29	-33	-36	-39	
BG	Bulgaria	4	4	4	4	4	4	
CZ	Czech Republic	9	5	0	-19	-12	-5	
DK	Denmark	-11	-7	-22	-26	-15	-5	
DE	Germany	-16	-28	-43	-44	-44	-43	
EE	Estonia	-9	-25	-35	-36	-34	-32	
IE	Ireland	15	-21	-30	-30	-21	-14	
GR	Greece	-9	-25	-35	-36	-34	-32	
ES	Spain	15	-17	-25	-24	-27	-29	
FR	France	-2	-26	-37	-39	-41	-43	
HR	Croatia	-9	-25	-35	-36	-34	-32	
IT	Italy	16	-10	-18	-20	-15	-9	
CY	Cyprus	-9	-25	-35	-36	-34	-32	
LV	Latvia	-9	-25	-35	-36	-34	-32	
LT	Lithuania	17	17	17	17	17	17	
LU	Luxembourg	-31	-31	-31	-31	-31	-31	
HU	Hungary	-33	-33	-33	-23	-23	-23	
MT	Malta	12	12	12	12	12	12	
NL	Netherlands	-12	-26	-41	-40	-42	-43	
AT	Austria	-24	-25	-38	-40	-40	-40	
PL	Poland	-3	-13	-34	-14	-14	-14	
РТ	Portugal	-2	-2	-20	-19	-19	-19	
RO	Romania	-15	-15	-15	-15	-15	-15	
SI	Slovenia	14	14	14	14	14	14	
SK	Slovakia	-23	-23	-22	-16	-16	-16	
FI	Finland	-9	-32	-39	-44	-44	-44	
SE	Sweden	-9	-37	-37	-43	-43	-43	
UK	United Kingdom	-32	-43	-50	-49	-39	-29	
EA (weighted averages)	EA (weighted averages)	-3	-22	-33	-35	-34	-34	
EU (weighted averages)	EU (weighted averages)	-9	-25	-35	-36	-34	-32	
СН	Switzerland	12	20	26	-5	-5	-5	
NO	Norway	-19	-2	-23	-29	-29	-29	
US	United States	-9	-24	-53	-71	-71	-71	
JP	Japan	14	16	13	12	12	12	
Other advanced economies	Other advanced economies	-20	-20	-20	-28	-28	-28	
Emerging markets	Emerging markets	9	6	-10	-21	-21	-21	

Note: In the grey cells the average was used as there was insufficient data to perform the calibration at all maturities.



Shocks to stock prices (%)						
Country	Country	Shock				
BE	Belgium	-16				
BG	Bulgaria	-6				
CZ	Czech Republic	-15				
DK	Denmark	-17				
DE	Germany	-17				
EE	Estonia	-9				
IE	Ireland	-10				
GR	Greece	-12				
ES	Spain	-16				
FR	France	-17				
HR	Croatia	-9				
IT	Italy	-19				
CY	Cyprus	-7				
LV	Latvia	-2				
LT	Lithuania	-7				
LU	Luxembourg	-16				
HU	Hungary	-15				
MT	Malta	-2				
NL	Netherlands	-19				
AT	Austria	-16				
PL	Poland	-14				
РТ	Portugal	-10				
RO	Romania	-7				
SI	Slovenia	-7				
SK	Slovakia	-1				
FI	Finland	-16				
SE	Sweden	-14				
UK	United Kingdom	-15				
EA (weighted averages)	EA (weighted averages)	-16				
EU (weighted averages)	EU (weighted averages)	-16				
СН	Switzerland	-13				
NO	Norway	-17				
US	United States	-21				
JP	Japan	-6				
Other advanced economies	Other advanced economies	-18				
Emerging markets	Emerging markets	-13				

Table 2.3: Shocks to stock prices



Table 2.4: Shocks to corporate bond yields

Shocks to corporate bond yields (bps)								
Country	Туре	AAA	AA	Α	BBB	BB	В	CCC
EU	Non-financial	-29	-31	-29	-23	-14	-6	2
	Financial	-27	-30	-33	-36	-28	-20	-12
	Non-financial	-66	-68	-65	-60	-52	-44	-36
05	Financial	-64	-67	-70	-71	-63	-55	-47
Asia	Non-financial	-21	-23	-21	-16	-8	0	8
	Financial	-19	-23	-26	-27	-19	-11	-3

Table 2.5: Shocks to corporate bond yields

Shocks to RMBS (bps)					
Country	AAA	AA	А	BBB	
EU	-24	-4	3	15	
North America	-63	-47	-30	0	
Asia	-19	-8	7	27	

Table 2.6: Shocks to other assets

Shocks to other assets (%)						
Private	Private Equity Hedge Funds		RE	IT	Commodities	
EU	Global	EU	Global	EU	Global	
-13	-13	-16	-18	-10	-6	-23



Table 2.7: Shocks to HICP inflation rate

Country	Shock to annual inflation rate
EA	-0.01
CZ	-0.02
HR	-0.05
DK	-0.02
HU	-0.16
PL	-0.13
RO	-0.35
SE	-0.03
UK	0.01
СН	-0.02
NO	-0.02
US	-0.05

Note: The number reported is the deviation, in terms of percentage, of the annual inflation from the baseline over one quarter. These numbers were calibrated without a complete macroeconomic scenario, and are only based on correlations with other financial variables.