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Report on long-term guarantees measures and measures on equity risk

2016

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Executive Summary

The Solvency II Directive requires a review of the long-term guarantees (LTG) measures and the measures on equity risk until 1 January 2021. As part of this review, EIOPA will annually report on the impact of the application of the LTG measures and the measures on equity risk to the European Parliament, the Council and the Commission. This report on the LTG measures and the measures on equity risk is the first annual report.

The LTG measures are the extrapolation of risk-free interest rates, the matching adjustment, the volatility adjustment, the extension recovery period in case of non-compliance with the Solvency Capital Requirement, the transitional measure on the risk-free interest rates and the transitional measure on technical provisions. The equity risk measures are the application of a symmetric adjustment mechanism to the equity risk charge and the duration-based equity risk sub-module.

The use of the matching adjustment, the volatility adjustment, the two transitional measures and the duration-based equity risk sub-module are not mandatory for undertakings. In the European Economic Area (EEA), 901 insurance and reinsurance undertakings in 24 countries were on 1 January 2016 using at least one of these measures.

The aggregated amount of technical provisions for the undertakings using the matching adjustment, the volatility adjustment, the transitional measure on the risk-free interest rates, the transitional measure on technical provisions and the duration-based equity risk sub-module amounts to 69% of the technical provisions in the EEA insurance and reinsurance market. 852 undertakings representing 61% of the overall amount of technical provisions at EEA level are using the volatility adjustment. The transitional on technical provisions is the second most used measure, applied by 154 undertakings representing 24% of the overall amount of technical provisions at EEA level. The matching adjustment is used by 38 undertakings representing 16% of the overall amount of technical provisions in the EEA. The transitional on risk free rate is used by 6 undertakings and the duration-based equity risk sub-module by 1 undertaking with a negligible market share in technical provisions in both cases.

In 2016, the first year of application of Solvency II, the reporting of insurance and reinsurance undertakings to national supervisory authorities has been limited. In particular, the impact of the measures on the financial position will be reported to national supervisory authorities for the first time in 2017. EIOPA has collected information on the impact of the measures matching adjustment, volatility adjustment, transitional measure on the risk-free interest rates and transitional measure on technical provisions through EIOPA's 2016 insurance stress test. This information relates to the financial position on 1 January 2016 of a sample of mostly life insurance undertakings from all EEA countries. For those undertakings in this sample using these measures, removing the measures would result on average in a reduction of the Solvency Capital Requirement ratio by 73 percentage points; the ratio with measures is 193% while the ratio without the measures would be 121%. For the majority of insurance and reinsurance undertakings the impact of the measures on the Solvency Capital Requirement ratio is lower than 50 percentage points. Insurance and reinsurance undertakings comply with the Solvency Capital Requirement if their Solvency Capital Requirement ratio is at least 100%. For the stress test sample removing these measures would decrease the amount of eligible own funds to cover the Solvency Capital Requirement by 107 billion euro to 466 billion euro and increase the Solvency Capital Requirement by 50 billion euro to 343 billion euro.

The national supervisory authorities of the jurisdictions where the transitional measure on the risk-free interest rates and the transitional measure on technical provisions are applied generally expect that the dependency on these measures will gradually decrease provided that the phasing-in plans for the transitional measures are fulfilled. This needs to be closely monitored by the national supervisory authorities. The persistence of low interest rates or future unexpected economic developments could have an impact on this dependency and could require undertakings to take additional measures to reduce it.

Removing the symmetric adjustment mechanism to the equity risk charge and the duration-based equity risk sub-module would have had no impact on the financial position of undertakings on 1 January 2016. A transitional measure for the calculation of the capital requirement for equity risk applies during the first six years of Solvency II, phasing out gradually. Hence, an impact of the equity risk measures is expected from 2017 onwards.

The feedback from national supervisory authorities indicates that there is no specific case yet, where undue capital relief was observed for an undertaking due to the application of the LTG measures or measures on equity risk. It is not possible to assess any positive or negative impact of the measures on policyholder protection at this early stage.

It is also still too early to draw any conclusions about the impact of the measures on the investments of insurance and reinsurance undertakings, either because there is no observable impact yet or because it is not possible to separate the impact of the measures from the impact of current market conditions and the introduction of Solvency II more generally. Furthermore, a great diversity of the composition of investments of insurance and reinsurance undertakings across countries can be observed.

No legal definition of “long-term guarantee” exists under Solvency II. The commonly accepted understanding of “long-term guarantee” differs in the EEA countries and is mainly linked to the type of guarantees offered or linked to the duration of the insurance contract. LTG are included in many different types of products, mainly life insurance products. Products with LTG are available in most of the markets of the EEA. LTG measures are broadly applied by undertakings selling insurance products with LTG, but it is still too early to conclude on the impact of the LTG measures on the availability of these products. So far, the availability of LTG products is mainly stable or slightly decreasing across the EEA. The main drivers for the decrease in availability are the low interest rates and the resulting cost of guarantees, which are reflected in technical provisions and capital requirements under Solvency II. For some countries an increase of the availability of LTG products was reported.

With respect to the impact of the measures on financial stability, national supervisory authorities have not reported any concrete observations for 2016. The impact of the measures in a double hit scenario, affecting interest rates levels and asset prices, and in a low yield scenario was analysed in EIOPA's 2016 insurance stress test. In the case of the double hit scenario, the LTG measures seem to provide a financial stability cushion. In the absence of the alleviating effect of the LTG measures, insurers may be induced to force sales and de-risk reducing their SCR and MCR, possibly pushing further down asset prices, adding to the market volatility and potentially affecting financial stability.

I. Introduction

I.1 Review of the LTG measures and measures on equity risk

The LTG measures were introduced in the Solvency II Directive[1] through the Omnibus II Directive[2] in order to ensure an appropriate treatment of insurance products that include LTG. The measures on equity risk should ensure an appropriate measure of equity risk in setting the capital requirement for insurance and reinsurance undertakings in relation to the risks arising from changes in the level of equity prices.

The Solvency II Directive requires a review of the LTG measures and the measures on equity risk by 1 January 2021. The review consists of the following elements:

- An annual report from EIOPA on the impact of the application of the LTG measures and the measures on equity risk to the European Parliament, the Council and the Commission.
- An EIOPA opinion on the assessment of the application of the LTG measures and the measures on equity risk to the Commission.
- Based on the opinion submitted by EIOPA, a report submitted by the Commission on the impact of the LTG measures and the measures on equity risk to the European Parliament and to the Council. The report will be accompanied, if necessary, by legislative proposals.

The 2016 EIOPA report on the LTG measures and the measures on equity risk is the first annual report. This report is structured in three main sections. The first section captures the overall impact of the LTG and measures on equity risk on the financial position of the undertakings, impact on policyholder protection, impact on consumer protection and availability of products, impact on investments and the impact on financial stability.

The second section of the report sets out in more detail the impact of each of the measures.

The third section consists of three thematic foci as follows:

- Approval processes for the use of the measures.
- Technical information on the risk-free interest rates calculated and published by EIOPA.
- Technical information on the symmetric adjustment to the equity risk sub-module calculated and published by EIOPA.

EIOPA will continue to analyse thematic foci on different aspects of the LTG and the equity measures in each annual report. The different thematic foci are being chosen in accordance with relevant available data, supervisory practices and other developments in the use or perceived impact of the measures. The foci will gradually cover all aspects which will be required to eventually support EIOPA's opinion by 2020.

EIOPA plans to submit the opinion on the assessment of the application of the LTG measures and the measures on equity risk to the Commission in 2020, based on the annual reports submitted by then.

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[1] Directive 2009/138/EC of 25 November 2009 of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II), OJ L 335, 17.12.2009.

[2] Directive 2014/51/EU of the European Parliament and of the Council of 16 April 2014 amending Directives 2003/71/EC and 2009/138/EC and Regulations (EC) No 1060/2009, (EU) No 1094/2010 and (EU) No 1095/2010 in respect of the powers of the European Supervisory Authority (European Insurance and Occupational Pensions Authority) and the European Supervisory Authority (European Securities and Markets Authority), OJ L153, 22.05.2014.

I.2 Legal background

Article 77(f)(1) of the Solvency II Directive requires EIOPA on an annual basis and until 1 January 2021 to report to the European Parliament, the Council and the Commission about the impact of the application of Articles 77a to 77e and 106, Article 138(4) and Articles 304, 308c and 308d, including the delegated or implementing acts adopted pursuant thereto.

The table below summarises the LTG and the measures on equity risk subject to the review and the relevant articles of the Solvency II Directive.

Articles	Name of the measure	Abbreviation in this report
77a	Extrapolation of the risk-free interest rates	-
77b, 77c	Matching adjustment	MA
77d	Volatility adjustment	VA
106	Symmetric adjustment mechanism to the equity risk charge	ED[3]
138(4)	Extension of the recovery period	ERP
304	Duration-based equity risk sub-module	DBER
308c	Transitional on the risk-free rate	TRFR
308d	Transitional on technical provisions	TTP

The review also covers Article 77e of the Solvency Directive on technical information on the risk-free interest rates produced by EIOPA.

Article 77(f)(1) also requires national supervisory authorities (NSAs) to provide the following information to EIOPA on an annual basis:

- the availability of LTG in insurance products in their national markets and the behaviour of insurance and reinsurance undertakings as long-term investors;
- the number of insurance and reinsurance undertakings applying the matching adjustment, the volatility adjustment, the extension of the recovery period in accordance with Article 138(4), the duration-based equity risk sub-module and the transitional measures set out in Articles 308c and 308d;
- the impact on the insurance and reinsurance undertakings' financial position of the matching adjustment, the volatility adjustment, the symmetric adjustment mechanism to the equity capital charge, the duration-based equity risk sub-module and the transitional measures set out in Articles 308c and 308d, at national level and in anonymised way for each undertaking;
- the effect of the matching adjustment, the volatility adjustment, the symmetric adjustment mechanism to the equity capital charge and the duration-based equity risk sub-module on the investment behaviour of insurance and reinsurance undertakings and whether they provide undue capital relief;

[3] The symmetric adjustment to the equity risk charge is also called equity dampener.

- the effect of any extension of the recovery period in accordance with Article 138(4) on the efforts of insurance and reinsurance undertakings to re-establish the level of eligible own funds covering the Solvency Capital Requirement or to reduce the risk profile in order to ensure compliance with the Solvency Capital Requirement;
- where insurance and reinsurance undertakings apply the transitional measures set out in Articles 308c and 308d, whether they comply with the phasing-in plans referred to in Article 308e of the Solvency II Directive and the prospects for a reduced dependency on these transitional measures, including measures that have been taken or are expected to be taken by the undertakings and supervisory authorities, taking into account the regulatory environment of the Member State concerned.

I.3 Data

The data used for this report are taken from the reporting of insurance and reinsurance undertakings to their NSAs (Solvency II opening balance sheet, usually with reference date 1 January 2016 and information from the first quarterly reporting, usually with a reference date of 30 March 2016) and from EIOPA's 2016 insurance stress test.

In particular, the impact on the financial position of the undertakings of using the LTG measures and the measures on equity risk was based on the data obtained from the stress test because this impact is in 2016, the first year of Solvency II, not included in the reporting of undertakings to their NSAs. The stress test captures 77 per cent of the EEA life insurance market. This report as a result does not contain the impact of the measures on all insurance and reinsurance undertakings. EIOPA's 2017 report on the LTG measures and measures on equity risk will contain the impact of the measures on the financial position of all undertakings.

EIOPA also carried out a questionnaire to ascertain the experience of NSAs with regard to the impact of the LTG measures and the measures on equity risk.

I.4 Introduction to Solvency II quantitative requirements

The main objective of Solvency II is to protect insurance policyholders and beneficiaries. An essential aspect of policyholder protection is the ability of insurance and reinsurance undertakings to fulfil their insurance and reinsurance contracts, even under adverse circumstances, for example in a financial crisis or when a natural catastrophe occurs. Solvency II includes quantitative requirements on insurance and reinsurance undertakings to ensure that their financial position allows them to pay the expected insurance benefits and also to bear unexpected losses that they might incur under adverse circumstances.

The quantitative requirements include in particular:

- market-consistent valuation of assets and liabilities,
- economic determination of own funds,
- risk-based capital requirements.

Assets and liabilities

Solvency II introduced a valuation of assets and liabilities specifically for supervisory purposes. Assets and liabilities are valued at the amount for which they could be exchanged between knowledgeable willing parties in an arm's length transaction.

The assets of an insurance or reinsurance undertaking consist mainly of the investments that insurers make with the insurance premiums they receive. Typically these investments comprise bonds, equities and real estate, held directly or through investment funds.

The liabilities of an insurance or reinsurance undertaking consist mainly of technical provisions set up for the insurance and reinsurance obligations of the undertaking. Insurance and reinsurance obligations can be of long duration.

The LTG measures extrapolation, MA, VA, TRFR and TTP relate to the calculation of technical provisions, the first four of them specifically to the risk-free interest rates.

Own funds and capital requirements

Insurance and reinsurance undertakings have to hold own funds that cover their capital requirements. The own funds are based on the difference between assets and liabilities.

There are two capital requirements in Solvency II, the Solvency Capital Requirement (SCR) and the Minimum Capital Requirement (MCR).

The SCR is a risk-based capital requirement. The SCR corresponds to the amount of own funds needed to withstand the worst annual loss expected to occur over the next 200 years. If an insurance or reinsurance undertaking is not complying with the SCR, it has to take measures to meet the SCR again within six months, for example by increasing its capital or by reducing its risk.

The SCR can be calculated with a standard formula that is specified in the law or with an internal model that was approved by the NSA. It is also possible to calculate a part of the SCR with an internal model (partial internal model) and the remaining part with the standard formula.

The SCR standard formula consists of modules for the different risks that an insurance and reinsurance undertaking is exposed to (in particular market risks, underwriting risks, counterparty default risks, operational risks). The risk that relates to the change of equity prices is captured in the equity risk sub-module of the standard formula. The measures on equity risk relate to the calculation of the equity risk sub-module.

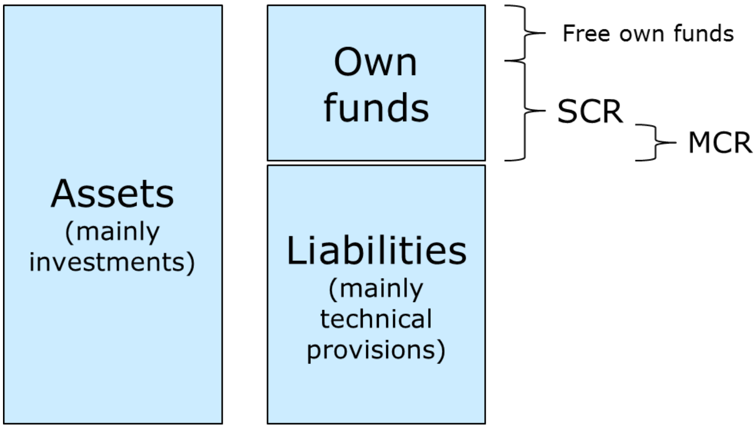
The MCR is usually lower than the SCR. It corresponds to the minimum level of security that is required under Solvency II. An insurance or reinsurance undertaking not complying with the MCR would expose policyholders and beneficiaries to an unacceptable level of risk. If an insurer does not cover the MCR with own funds, its authorisation will be withdrawn unless the MCR is covered again within 3 months.

Other than the SCR, the MCR is calculated in a simple manner. The MCR is usually between 25% and 45% of the SCR.

The existence of two capital requirements establishes a "ladder of supervisory intervention". It allows NSAs and undertakings to take early measures to ensure that the capital requirements are met.

The SCR ratio is the ratio of eligible own funds and SCR. If the SCR ratio is 100% or higher, then the SCR is complied with, otherwise not. The MCR ratio is the ratio of eligible own funds and MCR. If the MCR ratio is 100% or higher, then the MCR is complied with, otherwise not.

The following figure provides a stylised description of the quantitative requirements of Solvency II.



I.5 Overview of the European insurance market

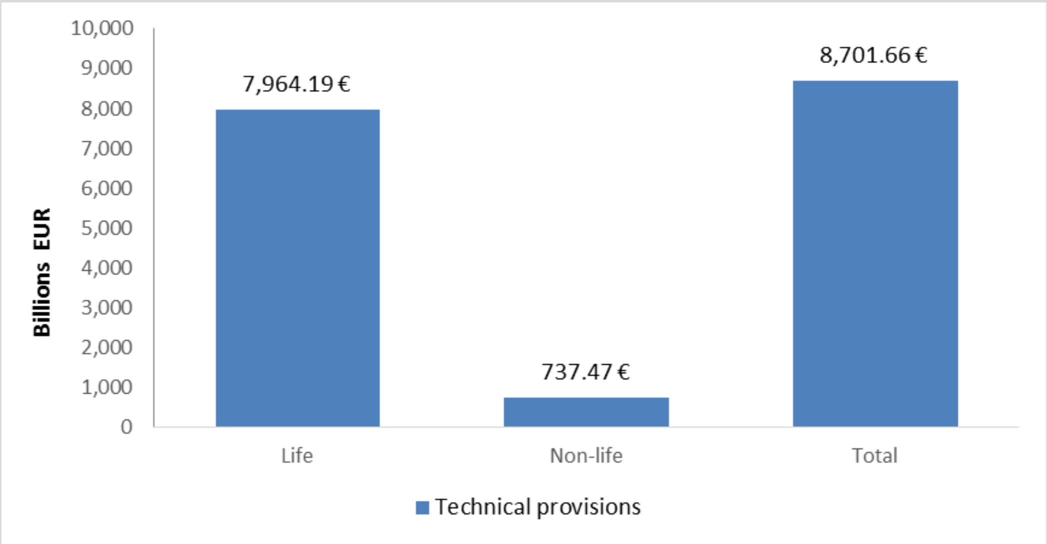
In the European insurance market 3050 insurance and reinsurance undertakings are under supervision according to Solvency II[4]. The table below shows the number of undertakings split by type of undertakings[5] and by the method of SCR calculation (standard formula, partial internal model or full internal model).

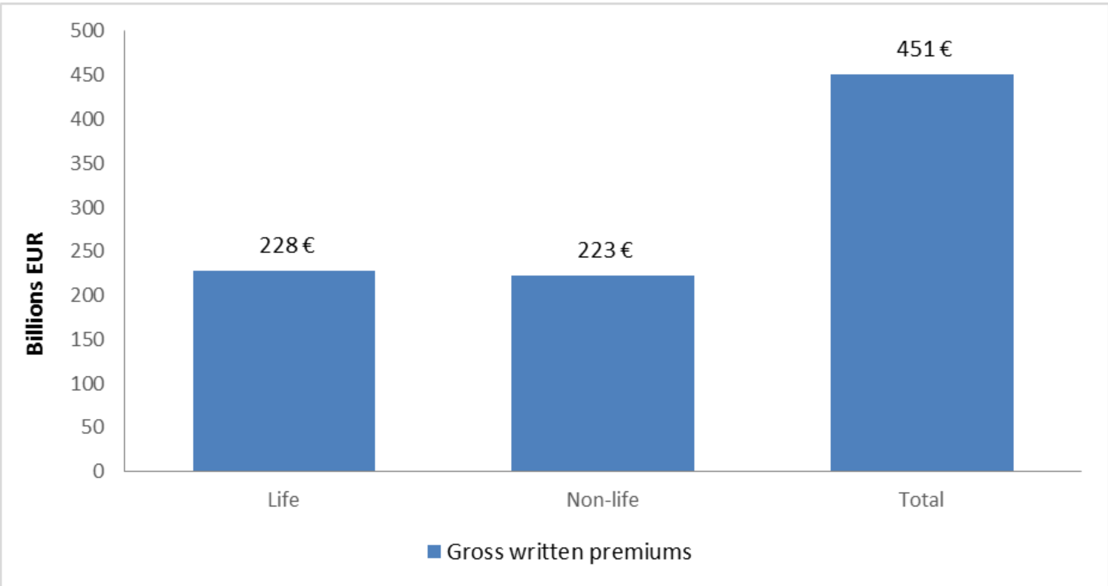
Number of undertakings				
	Standard formula	Partial internal model	Full internal model	Total
Life undertakings	626	27	28	681
Non-life undertakings	1860	35	44	1939
Undertakings pursuing both life and non-life activity	395	21	14	430
Total	2881	83	86	3050

[4] The number of undertakings, the figures on technical provisions and written premiums shown in this section have been reported to EIOPA by the NSAs as part of the quantitative questionnaire set out in Annex 7 of this report

[5] The classification of life undertakings, non-life undertakings and undertakings pursuing both life and non-life activity corresponds to the type of undertaking in the Basic Information template (S.01.02) of the Solvency II opening balance sheet reported to NSAs. The classification refers to both insurance and reinsurance undertakings.

The following diagrams provide an overview of the amount of technical provisions and gross written premiums for all insurance and reinsurance undertakings subject to Solvency II. The amounts are provided separately for life insurance and for non-life insurance obligations. Additional information with respect to the European insurance market can be consulted in Annex 1 of this report.





II. Overview of the use and the impact of LTG measures and measures on equity risk

II.1 Use of the measures

Some of the LTG measures and measures on equity risk are applied by insurance and reinsurance undertakings on an optional basis, while the use of other measures is mandatory.

The application of MA, VA, TRFR, TTP and DBER is optional for undertakings, subject to conditions laid down in the Solvency II Directive and Regulations.

All other measures are an integral part of the Solvency II framework and hence of mandatory application. In particular, the extrapolation of risk-free interest rates is applicable to all undertakings for the calculation of their technical provisions. The symmetric adjustment mechanism is applicable to all undertakings that use the standard formula to calculate the equity risk sub-module of the SCR, including all undertaking using a partial internal model not covering that sub-module.

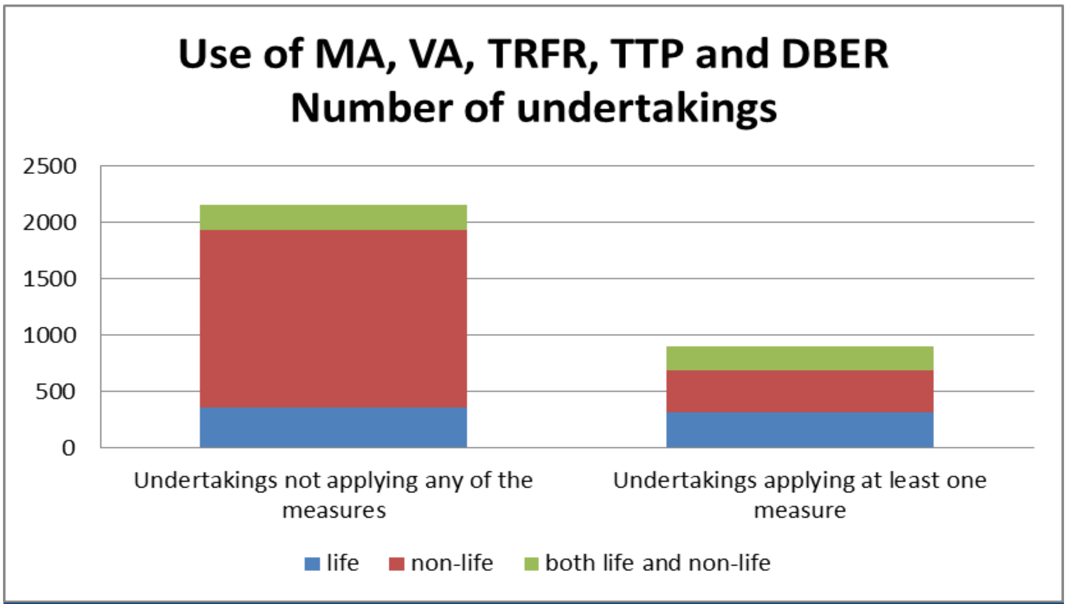
Finally, the ERP in exceptional adverse situations is only applicable to undertakings breaching the SCR after a declaration of such a situation by EIOPA. So far, EIOPA has not declared an exceptional adverse situation.

All information on the use of the measures set out in this section relates to the situation as known on 1 January 2016.

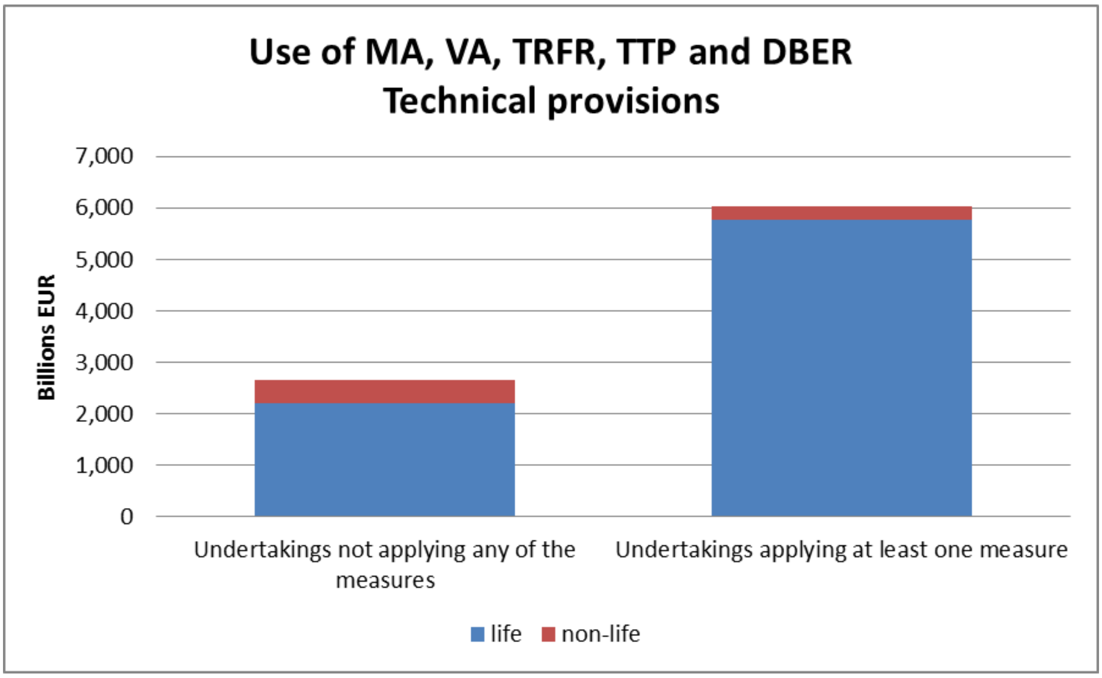
Use of MA, VA, TRFR, TTP and DBER

In the EEA, 901 insurance and reinsurance undertakings in 24 countries are using at least one of the optional measures MA, VA, TRFR, TTP or DBER. The aggregated amount of technical provisions for those undertakings is 69.4% of the technical provisions in the European market.

2149 undertakings, representing 30.6% of the technical provisions in the European market are not using any of the measures MA, VA, TRFR, TTP or DBER. In particular, there are 8 countries where those measures are not applied by any of the national undertakings (EE, HR, IS, LT, LV, MT, PL and SI – see section III for further explanation).

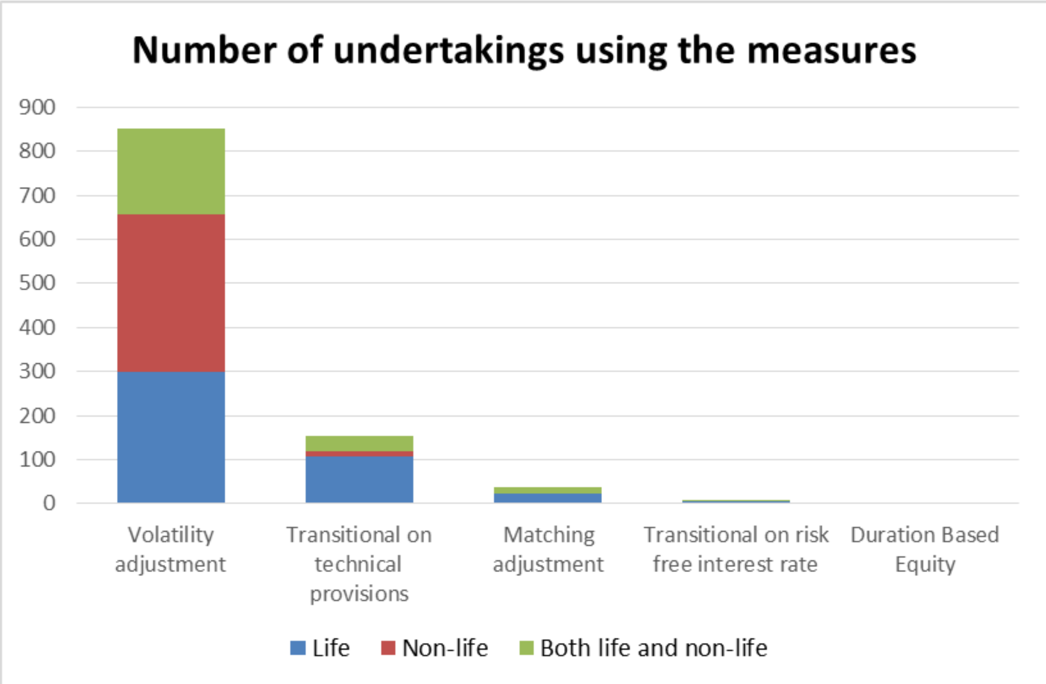


	Undertakings not applying any of the measures	Undertakings applying at least one measure
both life and non-life	219	213
non-life	1570	367
life	360	321
Total	**2149**	**901**

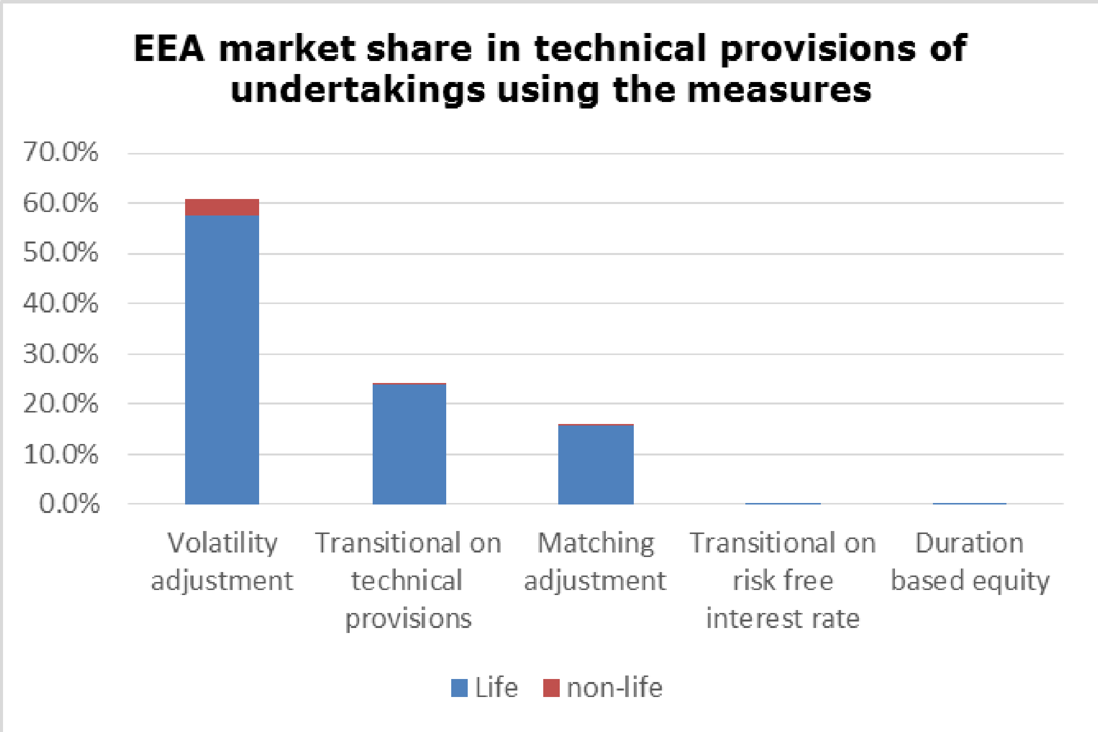


Technical provisions in EUR billions		
	Undertakings not applying any of the measures	**Undertakings applying at least one measure**
non-life	459	279
life	2,205	5,759
Total	**2,664**	**6,038**

852 undertakings located in 23 countries are using VA. The TTP is used by 154 undertakings in 12 countries. The MA is used by 38 undertakings in Spain and the United Kingdom. The TRFR is used by 5 undertakings in 4 countries. Only 1 undertaking, in France, is using the DBER sub-module.



	VA	TTP	MA	TRFR	DBER
both life and non-life	195	34	16	1	0
non-life	359	14	0	0	0
life	298	106	22	4	1
Total	**852**	**154**	**38**	**5**	**1**



	VA	TTP	MA	TRFR	DBER
non-life	3.1%	0.1%	0%	0%	0%
life	57.7%	24%	15.8%	0.2%	0%
Total	**60.8%**	**24.1%**	**15.8%**	**0.2%**	**0%**

Use of a combination of the measures MA, VA, TRFR, TTP and DBER

According to the Solvency II Directive it is admissible for an insurance or reinsurance undertaking to apply several measures at the same time. Certain combinations of measures, however, are explicitly excluded:

- Undertakings that apply the TTP cannot apply the TRFR (see Articles 308c(4)(b) and 308d(5)(a) of the Solvency II Directive).
- Undertakings that apply the TRFR cannot apply the MA to the same insurance and reinsurance obligations (see Article 308c(3) of the Solvency II Directive).
- Undertakings that apply the MA to a portfolio of insurance or reinsurance obligations cannot apply the VA to those obligations (see Articles 77b(3) and 77d(5) of the Solvency II Directive).

152 undertakings are applying simultaneously one of the transitional measures and either MA or VA to the same liabilities.

The following table shows the cases where the simultaneous application of two measures with respect to the same liabilities is allowed by the Directive and the number and market share of undertakings at EEA level applying such combinations:

Combination of measures	Number of undertakings	Market share (technical provisions)
Use of TTP and MA	29	14.4%
Use of TTP and VA	118	14.1%
Use of TRFR and VA	5	0.2%
Total	152	28.7%

II.2 Impact of the measures on the financial position of undertakings

Background on the impact of the measures MA, VA, TRFR and TTP

The LTG measures MA, VA, TRFR and TTP relate to the calculation of technical provisions. But the impact of these measures on the financial position of insurance and reinsurance undertakings is not restricted to a change in the amount of technical provisions. The change in technical provisions itself can also have an impact on other items of the balance sheet and on the capital requirements and own funds.

Hereunder is an explanation of how these LTG measures impact the financial position of insurance and reinsurance undertakings. The description is based on the typical effects and may not be applicable to all undertakings.

Impact on technical provisions

Removing MA, VA and TRFR usually decrease of the relevant risk-free interest rates used to calculate the technical provisions[6] and consequently in most cases increase the technical provisions by means of higher discounting effects[7]. Apart from the discounting effect the measures may also impact some assumptions made in the calculation of technical provisions, for example about the amount of future discretionary benefits of insurance with profit participation.

The TTP directly impacts the amount of technical provisions. Removing it typically increases the amount of technical provisions.

Impact on assets and liabilities other than technical provisions

Where removing the measures increase the amount of technical provisions this increase in liabilities may often be accompanied by a decrease of net deferred tax liabilities.

[6] Removing MA, VA and TRFR will in most instances reduce the relevant risk-free term structures. However, under certain circumstances, the adjustments through these measures can turn negative. In that situation, removing the adjustment would increase the relevant risk-free interest rates.

[7] It is possible under Solvency II that the part of technical provisions to which the measures are applied is negative (for example when the value of expected insurance premiums exceeds the value of expected insurance payments). In that specific case, lower discount rates result in lower technical provisions.

Impact on SCR and MCR

The measures can impact parts of the SCR and MCR calculation in different directions. Some parts may not at all be affected by the use of the measures, for others an increase or a decrease of the capital requirements can occur. An increase of the capital requirement after removing the measures may in particular happen where the technical provisions are used as quantity for the size of risk that the capital requirements aim to capture. The capital requirements may also be increased through a higher loss-absorbing capacity of technical provisions where the removal of the measures decreased the amount of future discretionary benefits in technical provisions. A similar effect is the increase of the capital requirements through a higher loss-absorbing capacity of deferred taxes where deferred taxes are decreased by the removal of the measures.

Typically the measures will decrease SCR and MCR.

Impact on own funds

The increase in technical provisions leads to a decrease of own funds. A slight relative increase of technical provisions may lead to a significant relative reduction of own funds, in particular for life insurance undertakings. For a typical life insurance undertaking the ratio of own funds and technical provisions is 1/10. Therefore an increase of technical provisions by 1% would lead to a reduction of own funds of 10%. This comparison is only based on the direct impact of changes in technical provisions on the amount of own funds. The impact may be mitigated by indirect effects, for example a reduction in deferred tax liabilities.

Also the changes to the SCR and MCR caused by the removal of the measures can have an impact on the eligible own funds to cover these capital requirements because there are limits to these own funds that depend on the capital requirements.

Typically removing the measures will reduce the amount of own funds.

Summary of the impacts on the financial position

The following table summarises the typical impact on different items of the financial position. The arrows are upward (resp. downward) if it is more likely than unlikely that the items concerned will increase (resp. decrease) when the measures are removed.

Items	**Typical impact of removing MA, VA, TRFR and TTP**
Technical provisions	↗
Net deferred tax liabilities	↘
Eligible own funds	↘
SCR and MCR	↗
Loss-absorbing capacity of future discretionary benefits and deferred tax liabilities	↘

Data availability and reliability for assessing the impact of the measures in 2016

In 2016, the first year of the application of Solvency II, the reporting of insurance and reinsurance undertakings to NSAs is limited. In particular, the impact of the measures on the financial position will be reported to NSAs for the first time in 2017. Therefore also the information available to EIOPA about the impact of the measures on the financial position of undertakings is limited.

EIOPA has collected information about the impact of the measures extrapolation, MA, VA, TRFR, TTP and ED on 1 January 2016 through EIOPA's 2016 insurance stress test. Mainly life insurance undertakings participated in that stress test.

Only for the measures MA, VA, TRFR and TTP the information collected allows a consistent analysis of their impact. For this reason, the remainder of this section deals with these four measures, but not any of the other measures.

On the extrapolation, the available data related to the impact of changes to the assumptions underlying that measure under insurer-specific scenario calculations that were collected in the stress test. An overview of these scenarios and the related impact is provided in section III.1.

Removing the ED should have no impact on the capital requirements on 1 January 2016 because of a transitional measure on the equity risk submodule.[8]

The ERP has by definition no impact on the financial position of undertakings.

At the beginning of 2016 only 1 insurance undertaking was using the DBER. That undertaking did not participate in the stress test. EIOPA has therefore currently no information about the impact of the DBER.

The impact results presented in this section are based on data from EIOPA's 2016 insurance stress tests. 236 undertakings with a market share of 77 per cent of the EEA life insurance market participated in that test. Despite the high overall coverage of the stress test, the impacts derived at national level may only be based on a small number of undertakings that apply the measures. The observations made in this section may therefore **not be fully representative of the impact of the measures in the different markets and at EEA level**.

In particular it should be noted that mainly life insurance undertakings participated in the stress test. The presented results may therefore **not be representative for non-life and reinsurance undertakings.**

The presented results relate to the reference date of 1 January 2016.

Impact of the measures MA, VA, TRFR and TTP

The absolute impact of the measures MA, VA, TRFR and TTP on the whole stress test sample is set out in the following table. Removing the measures would increase the amount of technical provisions by 144 billion euro. Eligible own funds to cover the SCR would reduce by 107 billion euro. The SCR would increase by 50 billion euro.

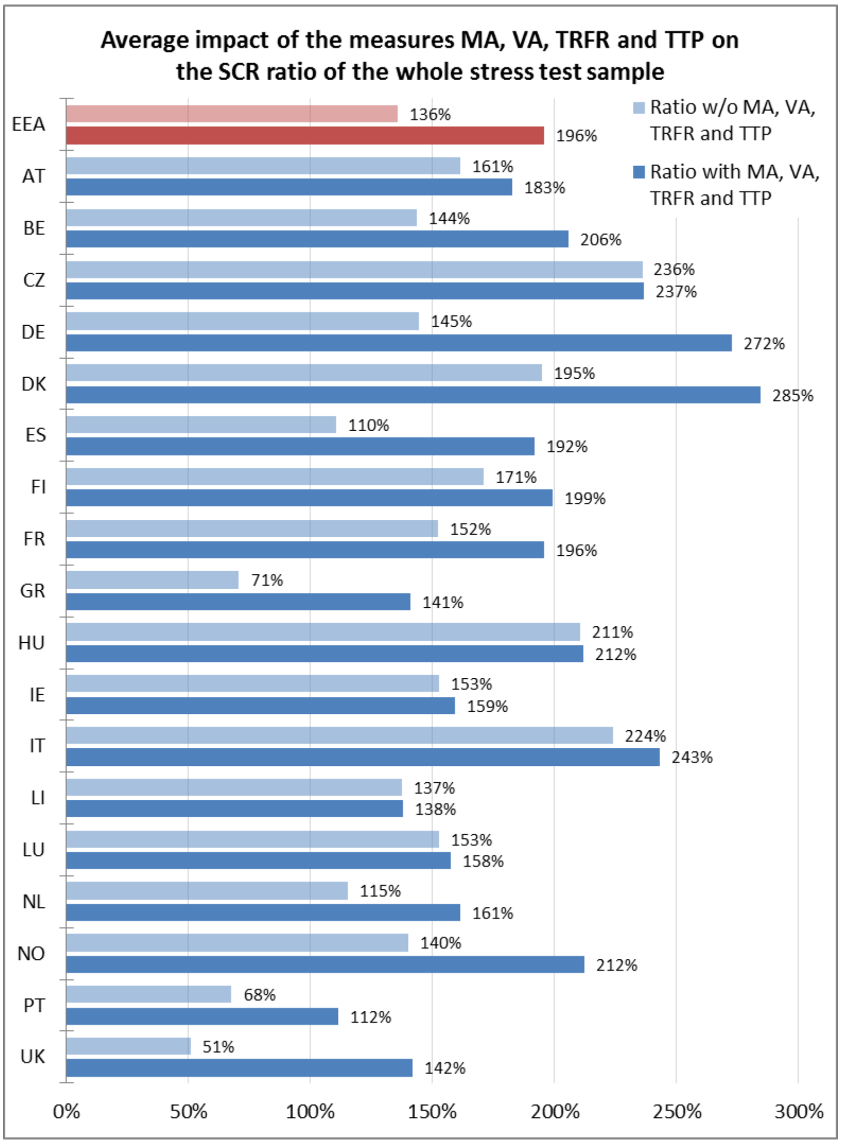
[8] See Article 308b(13) of the Solvency II Directive.

	Amount with MA, VA, TRFR and TTP (billion euro)	Impact of removing the measures (billion euro)					Amount without MA, VA, TRFR, and TTP (billion euro)
		MA	VA	TRFR	TTP	All measures	
Technical provisions	5,194	36	33	0.7	74	144	5,338
Eligible own funds to cover the SCR	573	-29	-23	-0.4	-55	-107	466
SCR	293	22	24	0.1	5	50	343
Eligible own funds to cover the MCR	545	-28	-23	-0.4	-57	-109	437
MCR	102	4	7	0.0	1	13	114

The following graph displays the average impact of the measures MA, VA, TRFR and TTP with regard to the SCR ratio for the whole stress test sample (including both undertakings using and not using the measures). The impact is shown at EEA and at country level. The graph shows the SCR ratio with (dark blue) and without (light blue) these measures. No results at country level are shown for Croatia, Estonia, Latvia, Lithuania, Malta, Poland, Romania, Slovenia and Sweden because the stress test participant from these countries do not apply the measures MA, VA, TRFR and TTP.

No results at country level are shown for Bulgaria, Cyprus and Slovakia, due to confidentiality reasons; for the three countries the national average impact of the measures is below the EEA average impact.

At EEA level, removing the measures results on average in a decrease of the SCR ratio by 60 percentage points. The impact goes up to 127 percentage points at country level. For several countries the average solvency ratios without the use of the measures are below 100%. Throughout this report average ratios are weighted averages, where the denominator of the ratios was used as weights.



The following graphs display the impact of removing the measures MA, VA, TRFR and TTP on the SCR ratio of every undertaking using at least one of those measures. Each dot in the diagram represents one undertaking.

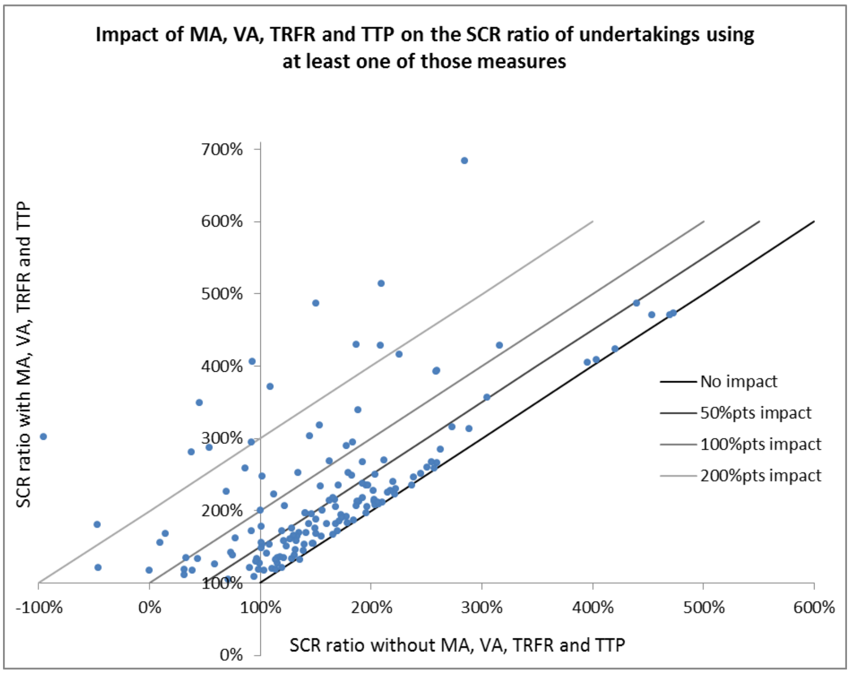
The horizontal axis relates to the SCR ratio without the measures MA, VA, TRFR and TTP. The solvency ratios with all these measures that undertakings actually apply (current SCR ratio) are shown on the vertical axis.

The axes cross at 100%, the SCR ratio that undertakings are required to have under Solvency II. There are no undertakings below the horizontal axis because all stress test participants that apply at least one of the measures have an SCR ratio of at least 100%. The dots left of the vertical axis show that there are undertakings that do not meet their SCR without application of the measures. Three undertakings have an SCR ratio below 0% without the measures – they have negative own funds.

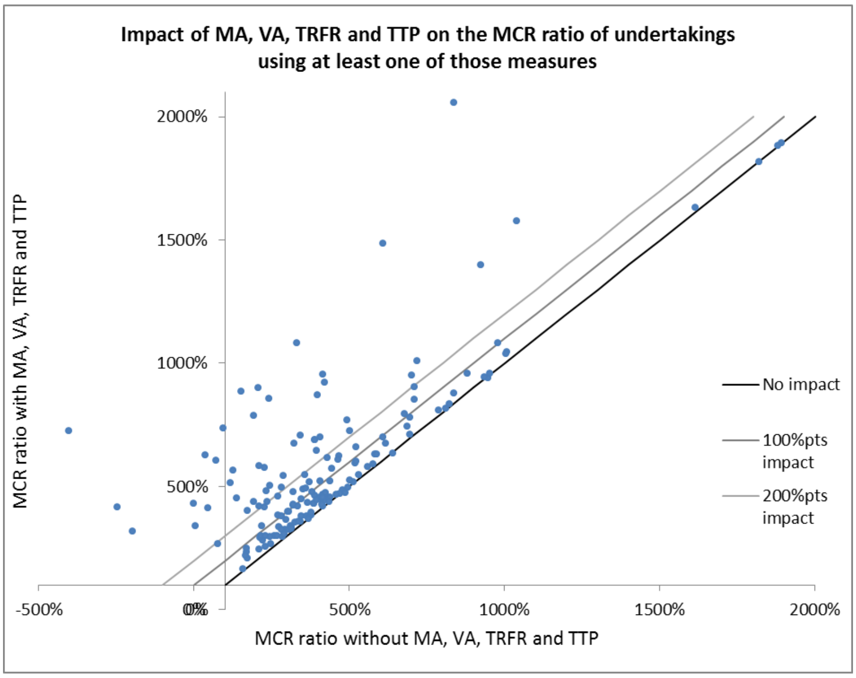
The black diagonal line corresponds to undertakings without an impact of the measures. Undertakings located on this line have the same SCR ratios with and without measures. The more an undertaking is located away from the diagonal line, the bigger the impact of the measures.

The dark grey line corresponds to an impact of 50 percentage points on the SCR ratio. Impacts of points located below this line are lower than 50 basis points. The medium grey line corresponds to an impact of 100 percentage points and the light grey line corresponds to an impact of 200 percentage points on the SCR ratio.

For the majority of the undertaking the impact of removing the measures on the SCR ratio is lower than 50 percentage points.

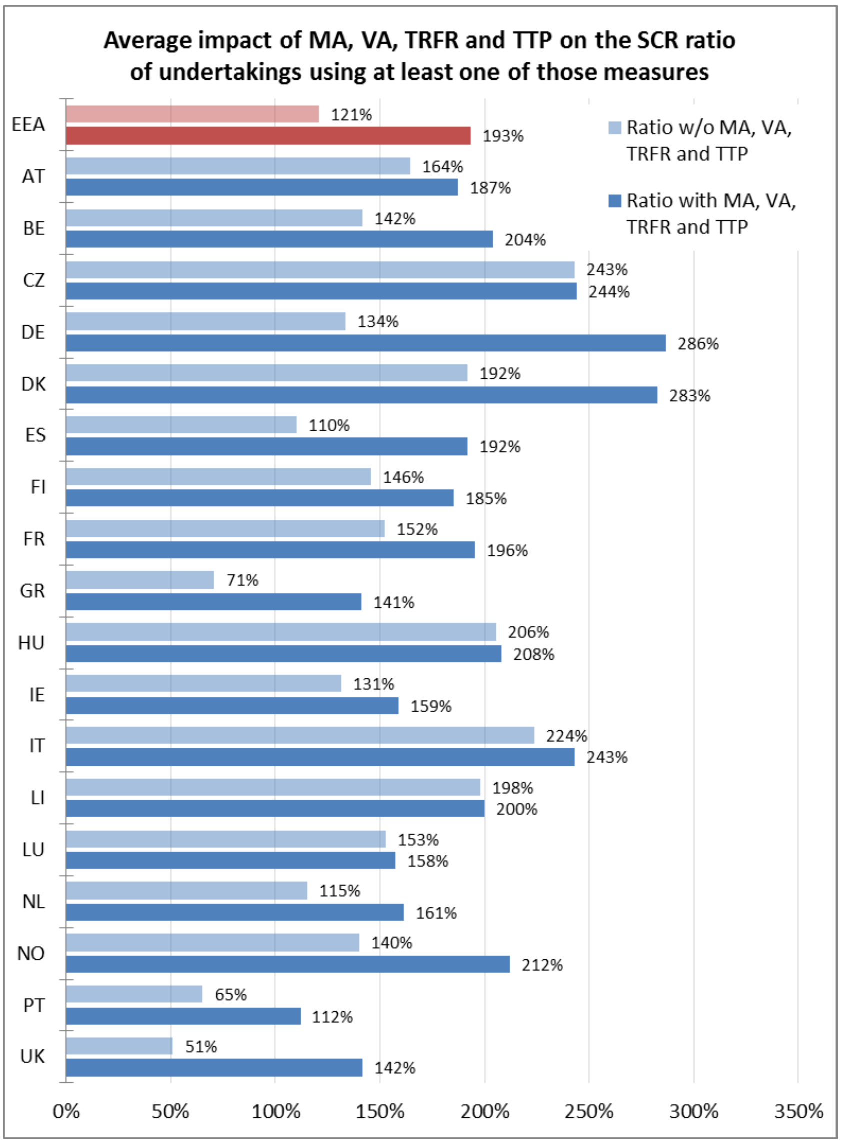


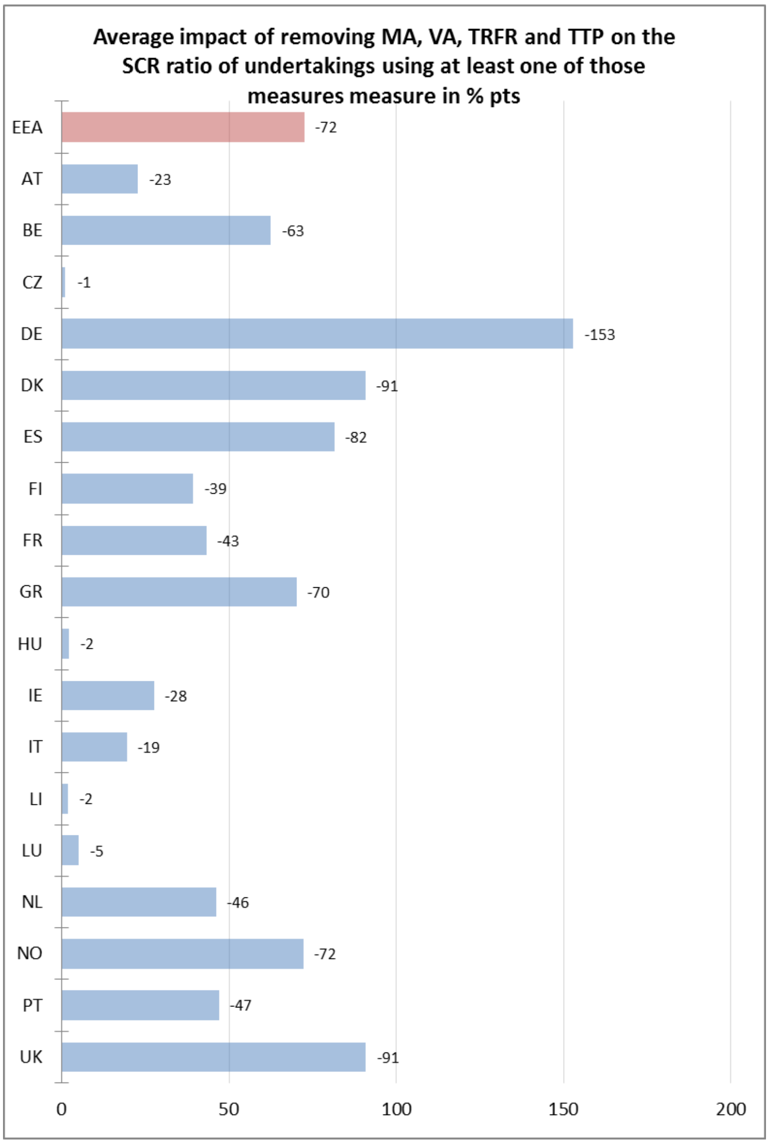
The following graph shows the impact of removing the measures MA, VA, TRFR and TTP on the MCR ratio of every undertaking using at least one of those measures. The axes cross at 100%, the MCR ratio that undertakings are required to have under Solvency II. All undertakings that participated in the stress test have an MCR above 100%. Similar to the SCR ratio, the application of the measures increases the MCR ratio while there is a broad variety in the size of that increase across the participants.



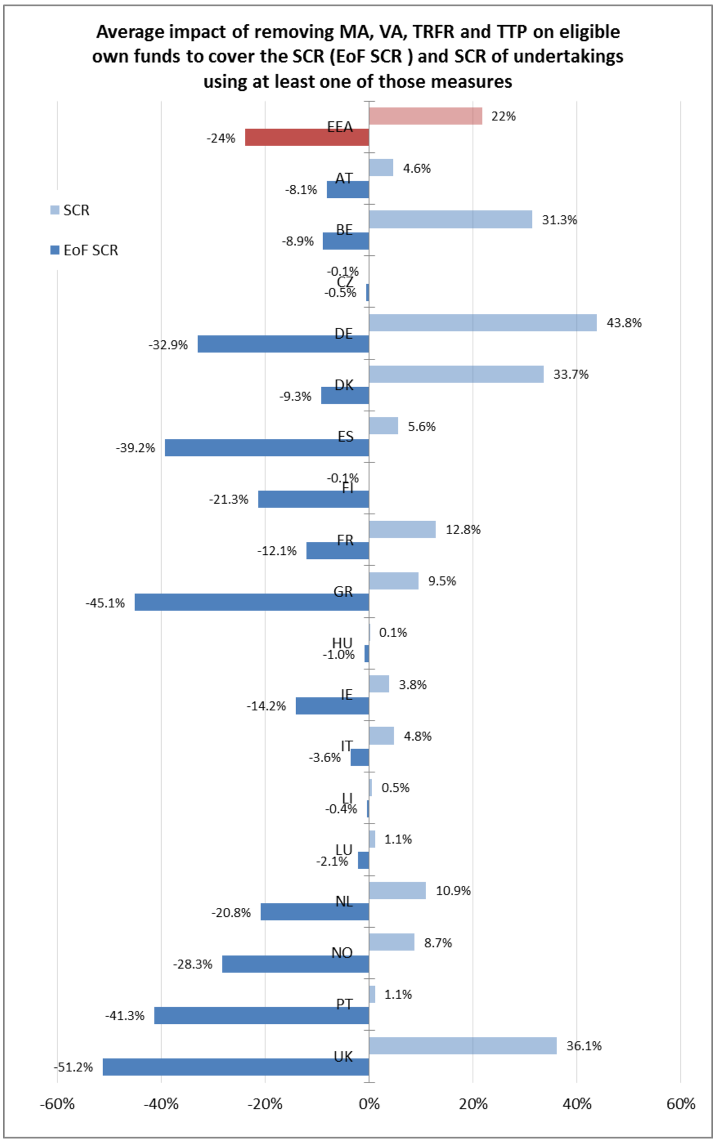
The following graphs display the overall impact of the measures MA, VA, TRFR and TTP on the SCR ratio for those undertakings that apply at least one of the measures. The impact is shown at EEA and at country level. The first graphs shows the SCR ratio with (dark blue) and without (light blue) these measures. The red bars are for the EEA level.

At the EEA level, removing the measures result on average in a decrease of the SCR ratio by 72 percentage points. The impact goes up to 153 percentage points at country level. For several countries the average solvency ratios without the use of the measures are below 100%.




Average impact of removing MA, VA, TRFR and TTP on the SCR ratio of undertakings using at least one of those measures measure in % pts
EEA -72
AT -23
BE -63
CZ -1
DE -153
DK -91
ES -82
FI -39
FR -43
GR -70
HU -2
IE -28
IT -19
LI -2
LU -5
NL -46
NO -72
PT -47
UK -91
0
50
100
150
200

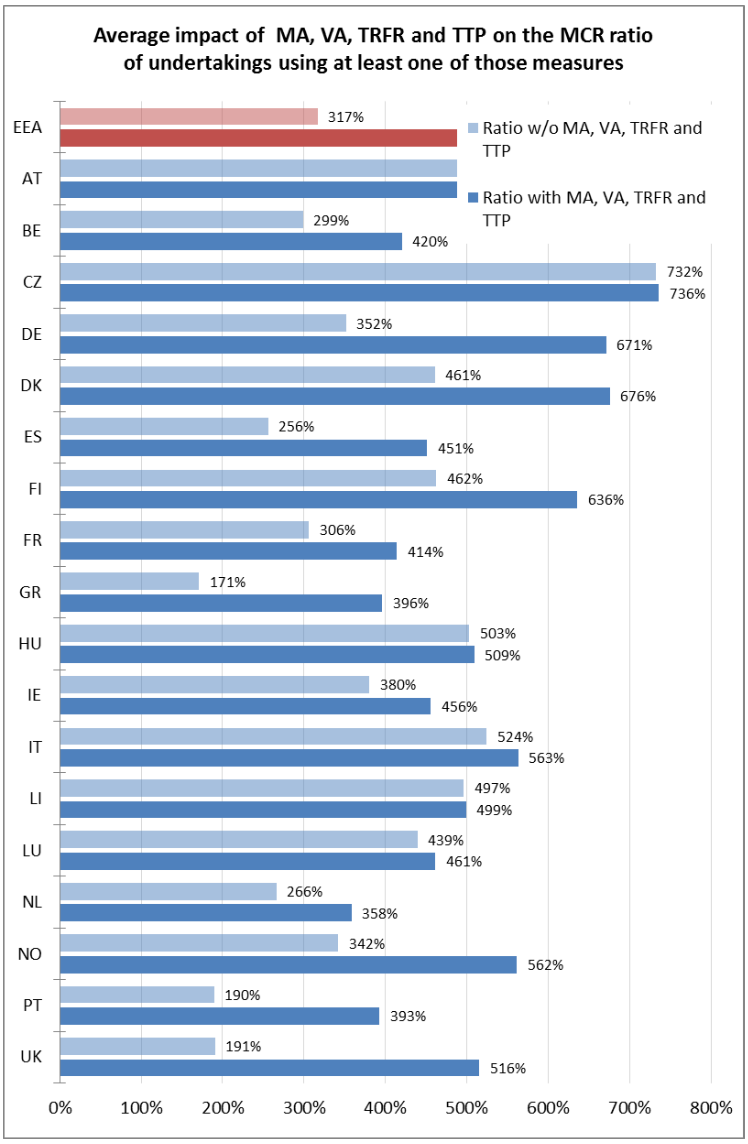
The following graph shows the impact of removing the measures on the SCR (light blue) and on the eligible own funds to cover the SCR (dark blue). The red bars are for the EEA level. On average, eligible own funds to cover the SCR would decrease by 24%, while the SCR would increases by 22% if the measures were removed.

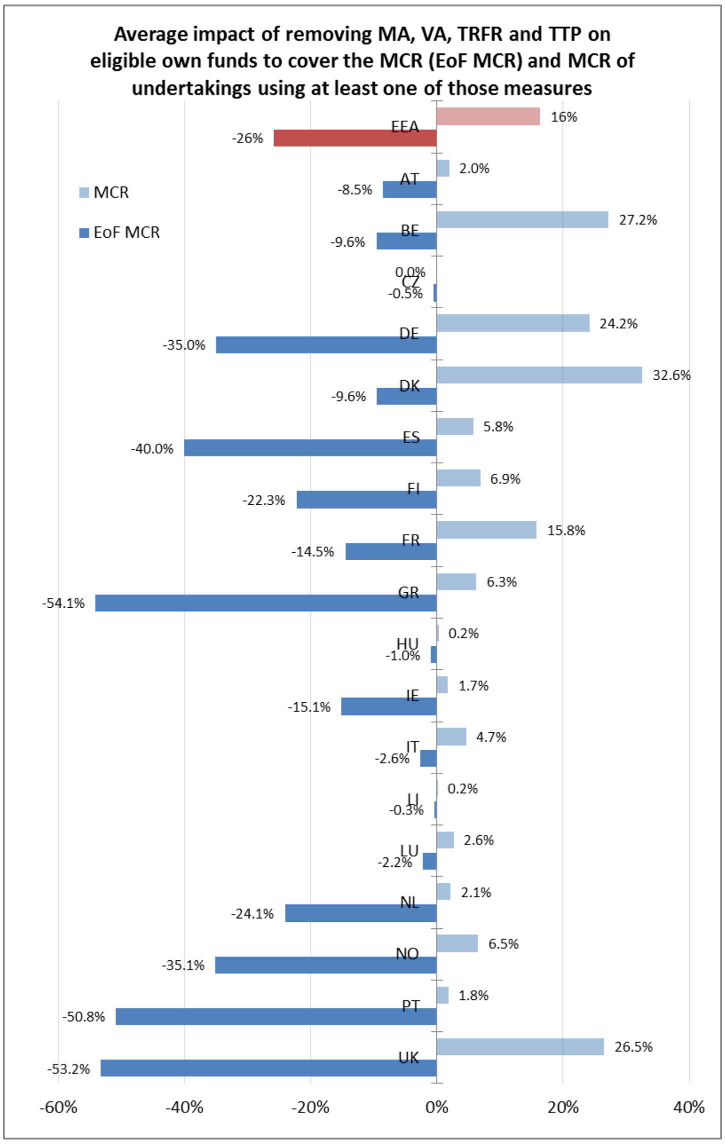


Similar graphs show the impact on the MCR ratio, the MCR and the eligible own funds to cover the MCR.

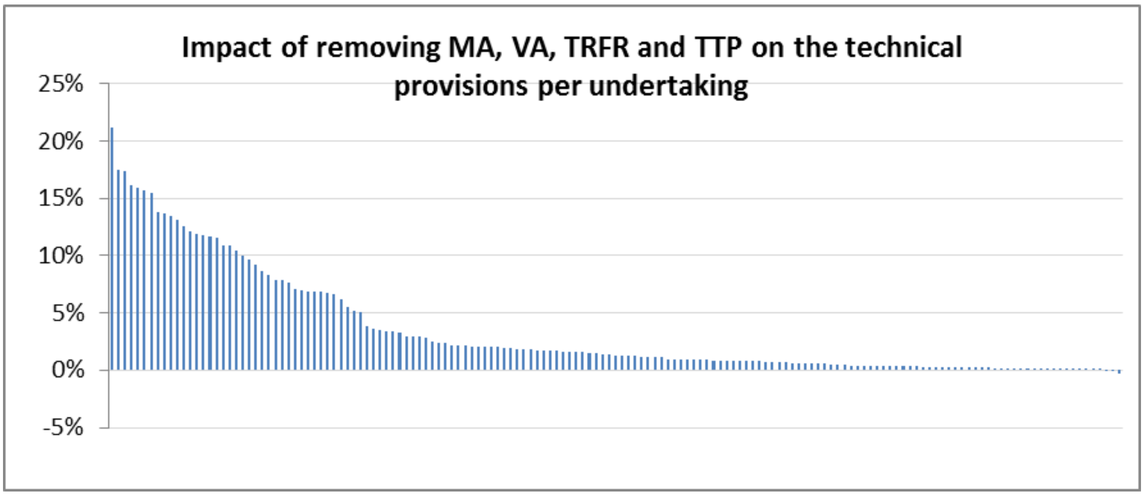
At the EEA level, removing the measures would result in an average loss of 180 percentage points with regard to the MCR ratio. The average impact goes up to 325% points at country level.

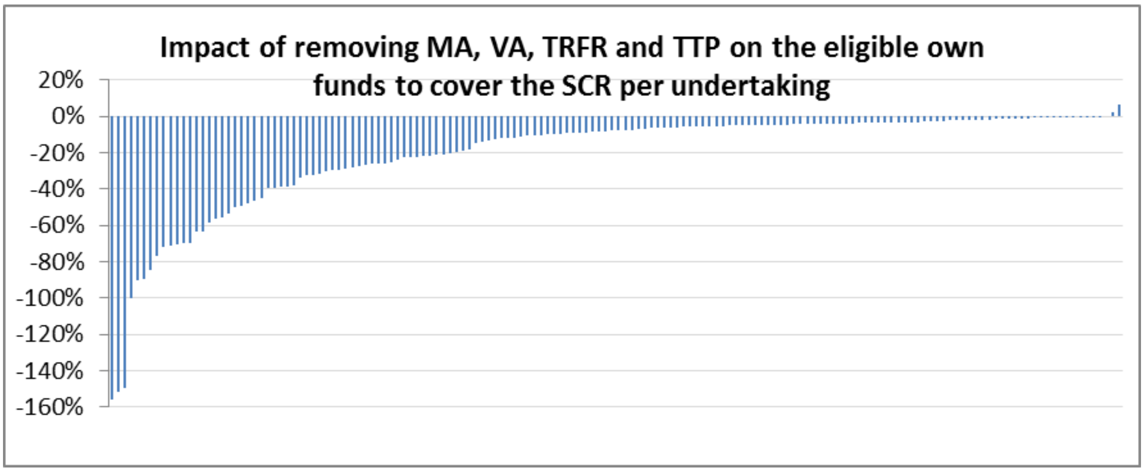
At EEA level, removing the measures would decrease eligible own funds to cover the MCR 26%, while the MCR would increase by 16%.

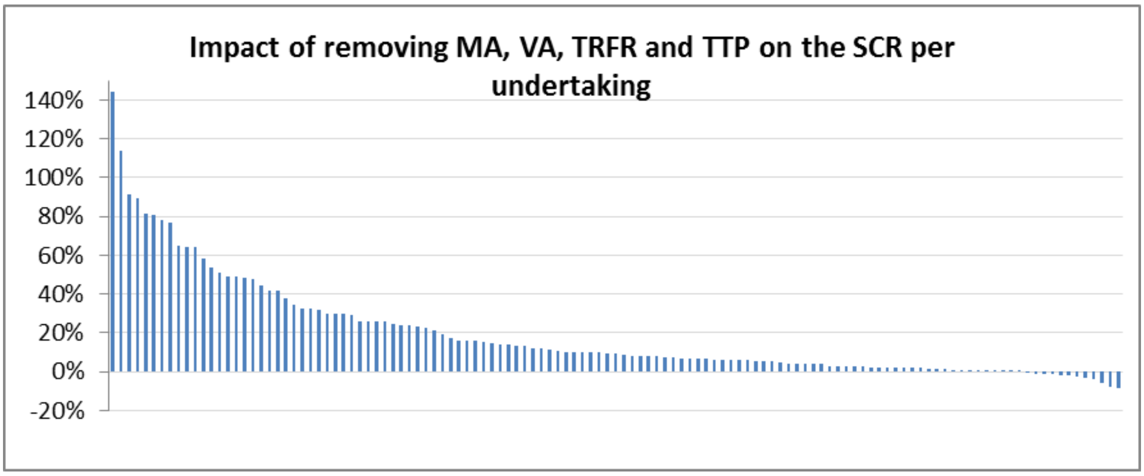



Average impact of removing MA, VA, TRFR and TTP on eligible own funds to cover the MCR (EoF MCR) and MCR of undertakings using at least one of those measures
MCR
EoF MCR
EEA
16%
-26%
AT
2.0%
-8.5%
BE
27.2%
-9.6%
CZ
0.0%
-0.5%
DE
24.2%
-35.0%
DK
32.6%
-9.6%
ES
5.8%
-40.0%
FI
6.9%
-22.3%
FR
15.8%
-14.5%
GR
6.3%
-54.1%
HU
0.2%
-1.0%
IE
1.7%
-15.1%
IT
4.7%
-2.6%
LI
0.2%
-0.3%
LU
2.6%
-2.2%
NL
2.1%
-24.1%
NO
6.5%
-35.1%
PT
1.8%
-50.8%
UK
26.5%
-53.2%
-60%
-40%
-20%
0%
20%
40%

The following graphs show the impact of removing the measures MA, VA, TRFR and TTP on technical provisions, eligible own funds to cover the SCR and the SCR per undertaking. The impact is measured relative to the amount with the measures. Each bar corresponds to one undertaking. The bars are ordered by size in each graph. The graphs demonstrate that there is a wide disparity of the impact.







II.3 Impact on policyholder protection

The review analyses the effect of the LTG measures and measures on equity risk on policyholder protection. For this purpose, EIOPA has asked NSAs to report observations on the impact of the measures on policyholder protection and in particular on cases of revocation of the approval to apply one of the measures, undertakings subject to reorganization or winding-up proceedings and cases of undue capital relief by the LTG measures or measures on equity risk. The reports covered the period until the end of the first quarter of 2016.

NSAs did not report any concrete observations of positive or negative impacts of the measures on policyholder protection. Most NSAs referred to the limited experience with the measures to explain their lack of observations.

None of the NSAs reported revocations of the approvals to apply MA, VA, TRFR, TTP or DBER. None of those undertakings subject to reorganization measures or winding-up proceedings applies any optional LTG measure or measures on equity risk.

An undue capital relief would be an unduly low amount of technical provisions or capital requirement negatively impacting policyholder protection. In order to support NSAs in identifying cases of undue capital relief and facilitate comparability among NSAs' assessments, a list of indicators for undue capital relief due to the application of the MA, the VA, the ED or the DBER was proposed[9]. None of the NSAs has identified any concrete case of undue capital relief for an undertaking applying these measures. Consequently, no NSA imposed yet a capital add-on based on observed cases of undue capital relief.

NSAs were asked about the existence of insurance guarantee schemes in their jurisdiction that cover insurance products with LTG and their scope and functioning. The implementation of such additional safeguards with respect to products with LTG could be an indicator for concerns with respect to policyholder protection. None of the NSAs has reported the establishment of dedicated guarantee funds specifically oriented to cover insurance with LTG as a reaction to the LTG and equity measures being implemented. However, a number of NSAs have reported national guarantee schemes which are in place and cover policyholders with LTG. The nature, scope and financing of those schemes are quite diverse; in particular with respect to the scope, some national guarantee funds cover only life and/or health insurance products but some others are also applicable to long-term non-life insurance contracts[10].

The feedback from NSAs indicates that there is no specific case yet, where undue capital relief was observed for an undertaking due to the application of the LTG measures or measures on equity risk. It is not possible to assess any positive or negative impact of the LTG and measures on equity risk on policyholder protection at this early stage.

[9] See Question 5 of the qualitative questionnaire included in Annex 7.

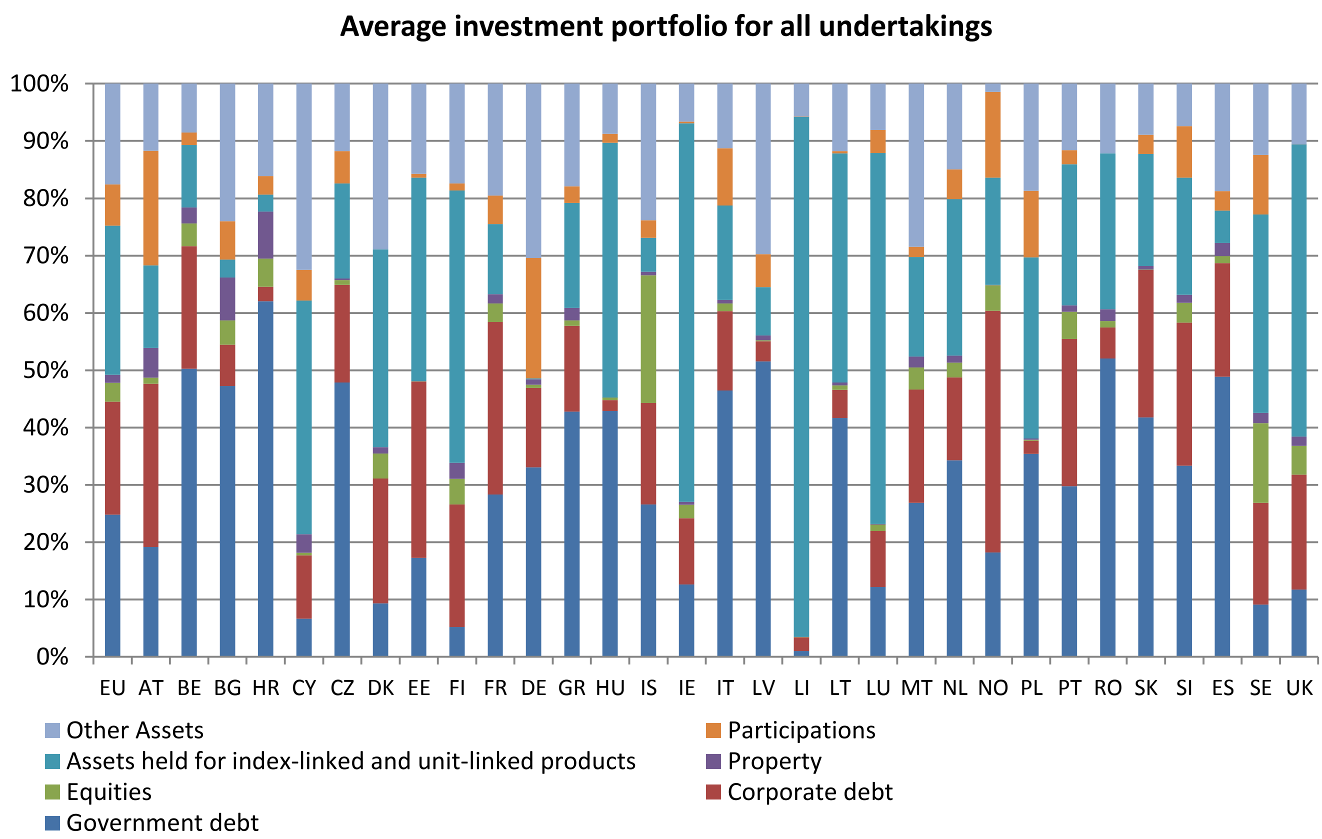
[10] An overview of the existing insurance guarantee schemes in the EEA can be found in "EIOPA's Discussion Paper on Recovery and Resolution (Nov 2016)", including an overview of the products which are covered by the insurance guarantee schemes.

II.4 Impact on undertakings' investments

Investment allocation of insurers using the measures MA, VA, TRFR or TTP

According to Article 77f(1)(a) and (3) of the Solvency II Directive, the review should analyse the effect of the LTG measures and measures on equity risk on long term investment strategies. To assess the impact of the measures MA, VA, TRFR or TTP on the investments of insurance and reinsurance undertakings, EIOPA has analysed the investment allocation of undertakings as reported to NSAs under Solvency II. The data on assets classes were derived from the opening balance sheet for Solvency II. The data on credit quality and durations of bonds stem from the list of assets reported to NSAs at the end of the first quarter of 2016.

The following graph describes the investment allocation of insurance and reinsurance undertakings on 1 January 2016. The graph shows the average allocation to seven asset classes[11] at EEA level and for each country. A great diversity of the allocations at country level can be observed. These country specificities should be taken into account when analysing the investments of undertakings that apply the LTG measures and equity risk measures, in particular where the use of a measure is not equally common in all countries.



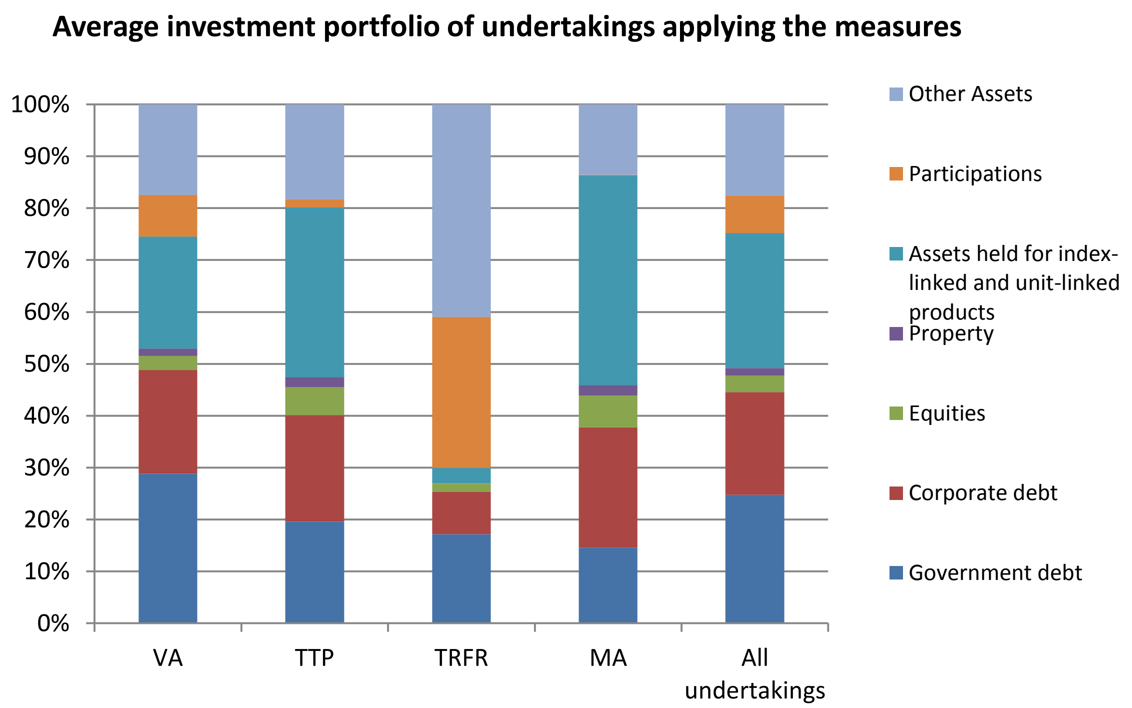
The following graph shows the average investment allocation on 1 January 2016 of the undertakings that apply the measures MA, VA, TRFR or TTP in comparison with the average allocation of all EEA undertakings. The undertakings that apply the VA have on average a higher proportion of government debt and a lower proportion of assets held for unit-linked and index-linked products than the whole market. In

[11] For a full description of each asset class, refer to Annex 3

contrast, the users of the TTP show on average a lower proportion of government debt and a higher proportion of assets held for unit-linked and index-linked products than the whole market.

Undertakings applying the MA have a higher proportion of equities and assets held for unit-linked and index-linked products than the whole market. Their investments in government debt are significantly lower than that of the whole market.

The investments of undertakings that apply the TRFR show a higher proportion of participations and lower proportion of debt and assets held for index-linked and unit-linked products. In particular with regard to this result it is important to note that the number of undertakings applying the TRFR is very small and that the average investment portfolio is not representative for each undertaking using that measure.



The following graph illustrates the credit quality of the bond portfolio of the undertakings applying the measures MA, VA, TRFR or TTP as at 30 March 2016. Credit quality is measured in credit quality steps (CQS). CQS 0 denotes the best credit quality. Investment grade bonds have a CQS between 0 and 3. The undertakings applying the MA have on average a lower percentage of non-rated assets and a higher proportion of assets with CQS 1 and 3. In contrast, the undertakings applying the VA have a credit quality distribution that is on average very similar to the whole market. For this measure the most remarkable difference is the higher proportion of CQS 3 assets.

It should be noted that the non-rated class comprehends all assets for which a credit assessment of a credit rating agency is not available to the insurance or reinsurance undertaking. However, the undertakings might have derived an internal rating for these assets.

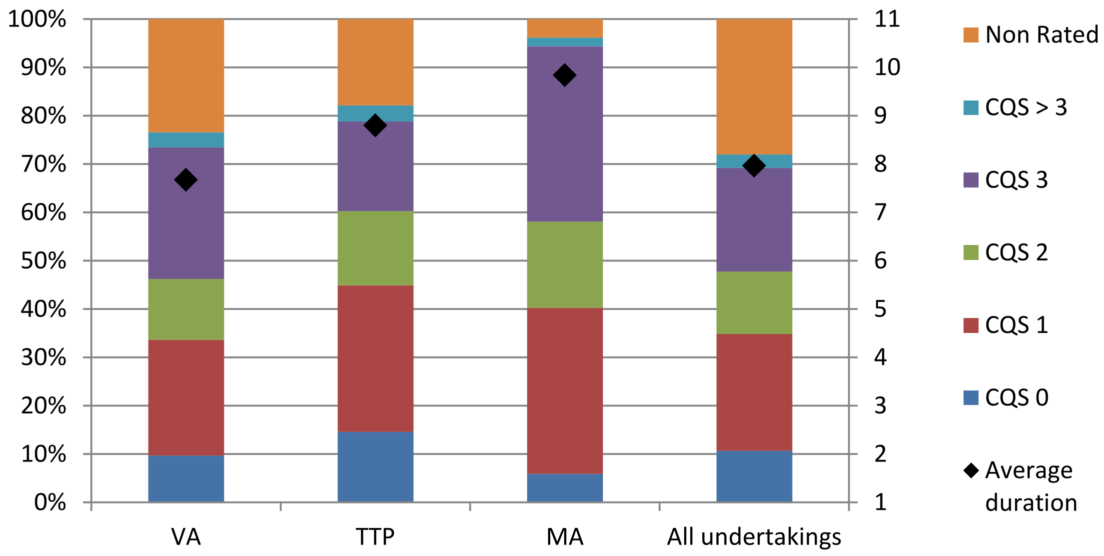
Undertakings applying the MA have on average a higher bond duration[12] than the market. Furthermore, undertakings that apply TTP have an slightly higher average

[12] Modified duration

bond duration and undertakings that apply the VA a slightly lower average bond duration than the whole market.

The graph does not include information on the investments of undertakings that apply the TRFR because the database was incomplete with regard to that measure.

Credit quality and duration for undertakings applying the measures



Supervisory observations on the investment behaviour

To collect information about the impact of the LTG measures and measures on equity risk on the investment behaviour of undertakings, EIOPA has addressed four qualitative questions to all NSAs.

When asked about any observable changes in the asset allocation of undertakings during the preparatory phase of Solvency II, more than half of the NSAs reported that their market did not experience significant changes in the asset allocation. From the remaining countries, half of them observed an increasing investment in corporate bonds.

Where changes in the asset allocation had been be observed, the identification of triggers or drivers for such changes was not straightforward since changes in asset allocation visible in the balance sheet do not only depend on the undertakings' investment decisions, but also on changes of market prices.

Moreover, according to the statistics of the European Central Bank on the investments of insurance corporations in the euro area[13] there has been a steady increase of investments in funds and bonds between 2008 and 2015, with became steeper in 2011.

NSAs were also asked whether they had observed any relationship between the LTG measures and measures on equity risk and the investment behaviour of undertakings. The general view among NSAs was that it is still too early to draw any conclusions since experience with the measures is limited and it is almost impossible to differentiate the impact of the measures from the introduction of Solvency II and the current market conditions.

[13] Aggregated balance sheet of euro area insurance corporations. The balance sheet is based on national accounting standards.

With regard to undertakings' current behaviour as long-term investors almost all NSAs mentioned that they did not observe any significant changes in their markets, whereas, two NSAs reported a slight decrease in long-term investments due to the low yield environment and the need for asset-liability matching and one NSA reported an increase in long-term investments due to a growing search for yield.

It is still too early to draw any conclusions about the impact of the LTG measures and measures on equity risk on the investments of insurance and reinsurance undertakings, either because there is no observable impact yet or because it is not possible to separate the impact of the measures from the impact of current market conditions and the introduction of Solvency II. Furthermore, a great diversity of the composition of investments of insurance and reinsurance undertakings across countries can be observed.

At this stage, the average VA user shows a very similar asset mix to the entire market, the most significant difference being a higher proportion of government bonds and a slightly lower credit quality. In turn, the set of undertakings applying the TTP reported a higher proportion of assets held for unit-linked and index-linked products, a lower proportion of government bonds and a higher credit quality than the whole market.

Finally, the MA and the TRFR are the measures more significantly connected to a different structure of the asset portfolio, which may be mainly caused by the small number of undertakings applying the measures or that they are applied in only few countries.

II.5 Impact on consumers and products

According to Article 77f(1)(a) of the Solvency II Directive, the review should analyse the effect of the LTG measures and measures on equity risk on the availability of LTG in insurance products. As the legal framework for Solvency II does not include a definition of "long-term guarantee", NSAs were asked to report any definition or common use of the term at national level.

Moreover, in order to get an overview about the main types of insurance products with LTG sold in the EEA, NSAs were asked to describe the main characteristics of such products in terms of guarantees, line of business, duration, number of undertakings offering the products and LTG measures applied. Also enquiry was made as to the current trend regarding the availability of LTG products at national level.

Definition of "long-term guarantee"

The Solvency II regulatory framework does not include a legal definition of "long-term guarantee". NSA reported that also at national level no legal definition of the term was given. The common use of the term is mainly linked to the type of guarantee offered or the duration of the contract.

NSAs quoted the following **types of products** as examples of insurance products including LTG that are currently available in their national markets:

- Traditional life insurance (e.g. with profit contracts, saving products, whole life, endowments policies, annuities, "universal life" life insurance)

- Unit-linked policies with guaranteed investment yield or capital protection
- Variable annuities
- Some types of health insurance (e.g. annuities stemming from protection contracts that offer the policyholder the maintenance of their wages in case of severe illness)
- Non-life annuities (e.g. stemming from third party liability insurance)
- Specific non-life insurance products (e.g. construction risk and borrowers' insurance)

The Solvency II Delegated Regulation[14] defines **lines of business** for insurance and reinsurance obligations (Annex I of the Delegated Regulation). LTG occur both in life and non-life insurance obligations. They mainly fall into all the lines of business for life insurance obligations[15], but there are also specific products offering LTG (e.g. construction risk and borrowers' insurance) that fall into lines of business for non-life insurance obligations like "fire and other damage to property insurance", "general liability insurance" and "miscellaneous financial loss".

The most common **types of guarantees** included in the long-term products mentioned by NSAs are:

- Minimum guaranteed interest every year or on every paid premium, usually fixed at the inception of the contract
- Guarantee on the sum assured at maturity
- Guarantee on the surrender value during the life of the policy

The **duration** of such guarantees is mainly lifelong or a fixed duration. Among NSAs that provided specific information on this respect, fixed durations not shorter than 6-8 years were mentioned.

LTG products are widespread in most of the national markets, in some cases being offered by that all the life insurance undertakings of the market. Only five NSAs (IS, PL, IE, LI, MT) reported that LTG products are a minority of the products offered (usually these markets are dominated by unit-linked products with no guarantees), are offered only in non-life motor insurance or are not offered at all.

The tables below show an indicative distribution of the **number of undertakings in the different countries selling products with LTG**. Different buckets were set up according to the share of undertakings in relation to:

- the number of life insurance and composite undertakings,
- the number of all insurance and reinsurance undertakings (life, non-life and composite) in the market.

Please note that figures are based on NSAs own definition of LTG (which may vary across the national markets), thus the following tables gives only an indicative overview.

The total number of undertaking selling these products in the EEA is estimated to exceed 700.

[14] Commission Delegated Regulation (EU) 2015/35 of 10 October 2014 supplementing Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of insurance and reinsurance (Solvency II).

[15] The lines of business for life insurance obligations are "health insurance", "insurance with-profit participation", "index-linked and unit-linked insurance", "other life insurance", "annuities stemming from non-life insurance contracts and relating to health insurance obligations" and "annuities stemming from non-life insurance contracts and relating to insurance obligations other than health insurance obligations".

Life insurance and composite undertakings	
% of undertakings selling LTG products	Number of countries
0-25%	2(EE, IE)
25%-50%	2 (FI, LI)
50%-75%	6 (CY, CZ, LU, NL, NO, SI)
75-100%	12 (AT, BE, HR,DE, ES, FR, GR, HU, IT, LV, LT, RO)

For all these countries together, between 50% and 75% of undertakings offer LTG products.

All undertakings (life, non-life and composite)	
% of undertakings selling LTG products	Number of countries
0-25%	9 (CY, EE, FI, IE, LV, LU, NL, NO, UK)
25%-50%	10 (BE, CZ, DE, ES, FR, GR, IT, LI, RO, SE)
50%-75%	5 (AT, HR, HU, LT, SI)
75-100%	1 (PT)

For all these countries together, between 25% and 50% of undertakings sell LTG products.

Trend regarding availability of products including LTG

Approximately one third of NSAs interviewed did not observe any significant change regarding the availability of LTG products in their national market. In some cases the reason is that the shift toward other types of product (mainly unit-linked policies) took already place in the past.

Almost the same number of countries observed a slightly decreasing trend of availability in terms of number of undertakings offering such products. Only one country (Norway) observed a rapid decrease of such products, not sold any longer in its national market.

In general, both in case of stable and decreasing trends, the following phenomenon was observed by a number of NSAs:

- a shift to unit-linked or pure protection products,
- a decreasing level of financial guarantee included in the contracts or a change in the type of guarantee offered (i.e. no guarantee in case of surrender, review of the minimum guaranteed rate annually every year),
- a decreasing duration of the guarantees.

The main drivers identified for the decreasing trend regarding the availability of LTG products are:

- the low interest rate environment (mentioned by 14 NSAs);

- the increased cost of guarantees caused by the low interest rate environment and the reflection of the cost in the Solvency II requirements, in particular in the calculation of the technical provisions and the SCR (mentioned by 7 NSAs).

In contrast, an increase of LTG products was observed in 3 countries for the following main reason:

- the search for yield by consumers (mentioned by 2 NSAs),
- higher degree of freedom for companies offering market-based products (mentioned by one NSA),
- the overall economic recovery (mentioned by one NSA).

In the EEA countries no legal definition of "long-term guarantee" exists. The commonly accepted understanding of "long-term guarantee" differs in the EEA countries and is mainly linked to the type of guarantees offered or to the duration of the insurance contract.

LTG are included in many different types of products, mainly life insurance products. Products with LTG are available in most of the markets of the EEA. Only 5 NSAs (IS, PL, IE, LI, MT) reported that products with LTG are not present or constitute a minority in their national market.

LTG measures are broadly applied by undertakings selling products with LTG, but it is still too early to conclude on the impact of the LTG measures on these products.

Availability of LTG products is mainly stable or slightly decreasing across the EEA. Main drivers for the decrease in availability are the low interest rates, the resulting cost of guarantees, which are reflected in technical provisions and capital requirements under Solvency II.

II.6 Impact on financial stability

According to Article 77f(3)(j) of the Solvency II Directive, the review should analyse the effect of the LTG measures and measures on equity risk on financial stability. For that purpose EIOPA has asked the NSAs to report any concrete impact of the measures on the financial stability. NSAs have not reported concrete observations in that respect in 2016.

In its report[16] on systemic risks in the European insurance sector of December 2015, the European Systemic Risk Board (ESRB) identified the LTG measures, in particular the volatility adjustment, the matching adjustment and the ERP, and the symmetric adjustment to the equity risk charge as available measures to address the common vulnerability of life insurance to a double hit (i.e. prolonged low risk-free rates and suddenly falling asset prices) and pro-cyclicality in asset allocation.

The impact of the measures in a double hit scenario and in a low yield scenario was analysed in EIOPA's 2016 insurance stress test. In the case of the double hit scenario, the LTG measures seem to provide a financial stability cushion. In the absence of the alleviating effect of the LTG measures, insurers may be induced to force sales and de-risk in order to lower their SCR and MCR, possibly pushing further down asset prices, adding to the market volatility and potentially affecting financial stability. Also in a low yield scenario the LTG measures provide a financial stability cushion, potentially acting in a counter cyclical manner, but supervisory vigilance is required in order to avoid misestimating of risks due to the longer-term type of concerns implied by the scenario.

[16] https://www.esrb.europa.eu/pub/pdf/other/2015-12-16-esrb_report_systemic_risks_EU_insurance_sector.en.pdf

III. Specific analysis for each of the measures

III.1 Extrapolation of the risk-free interest rates

Recital 30 of the Omnibus II Directive[17] states that the relevant risk-free interest rate term structure should avoid artificial volatility of technical provisions and eligible own funds and provide an incentive for good risk management. Furthermore, the choice of the starting point of the extrapolation of risk-free interest rates should allow undertakings to match with bonds the cash flows which are discounted with non-extrapolated interest rates in the calculation of the best estimate.

Article 77a of the Solvency II Directive requires that the determination of the relevant risk-free interest rate term structure shall make use of, and be consistent with, information derived from relevant financial instruments. According to Article 44 of the Delegated Regulation on Solvency II the relevant financial instruments are interest rate swaps and government bonds.

According to Article 77a of the Solvency II Directive the determination of the risk-free interest rate term structure shall take into account relevant financial instruments of those maturities where the markets for those financial instruments as well as for bonds are deep, liquid and transparent. The highest of those maturities is called last liquid point (LLP).

For maturities where the markets for the relevant financial instruments or for bonds are no longer deep, liquid and transparent, the relevant risk-free interest rate term structure shall be extrapolated. The extrapolated part of the relevant risk-free interest rate term structure shall be based on forward rates converging smoothly from one or a set of forward rates in relation to the longest maturities for which the relevant financial instrument and the bonds can be observed in a deep, liquid and transparent market to an ultimate forward rate (UFR).

Use of the extrapolation

The extrapolation of risk-free interest rates is not an optional measure. It is applicable to all insurance and reinsurance undertakings for the calculation of their technical provisions.

Impact on the financial position of undertakings

As part of their asset-liability management insurance and reinsurance undertakings need to regularly assess the sensitivity of their technical provisions and eligible own funds to the assumptions underlying the extrapolation of the relevant risk-free interest rate term structure (Article 44(2a)(a) of the Solvency II Directive).

For this report EIOPA requested the participants of the 2016 insurance stress test to provide the results of their sensitivity assessments, in particular with regard to the LLP, the speed of convergence to the UFR and the UFR itself.

With respect to each scenario, the following information was requested: currency, reference date of the calculation, LLP, UFR, speed of convergence to the UFR, extrapolation technique, impact on eligible own funds and the impact on technical provisions.

[17] Directive 2014/51/EU of the European Parliament and of the Council of 16 April 2014 amending Directives 2003/71/EC and 2009/138/EC and Regulations (EC) No 1060/2009, (EU) No 1094/2010 and (EU) No 1095/2010 in respect of the powers of the European Supervisory Authority (European Insurance and Occupational Pensions Authority) and the European Supervisory Authority (European Securities and Markets Authority), OJ L 153, 22.5.2014

Since undertakings were asked to submit the results of their individual sensitivity analysis on extrapolation, reported scenarios differ, in particular on the assumptions regarding the LLP, level of the UFR and convergence period.

Most of the reported scenarios refer to the euro; however, some undertakings have reported scenarios regarding other currencies (CHF, CZK, DKK, GBP, HRK, HUF, NOK and RON).

The reference date most widely applied for undertakings in the reported scenarios is 31 December 2015 or 1 January 2016; other reference dates used for the calculations include 31 December 2014 and 31 March, 29 April and 31 May 2016.

With respect to the UFR, the following levels have been tested by undertakings in the reported scenarios: -2%, 1%, 1.5%, 2%, 2.2%, 3%, 3.2%, 3.5%, 3.6%, 3.7%, 4%, 4.2%, 5.2%, 5% and 6%.

With respect to the LLP, the following assumptions have been tested: 5, 7, 10, 15, 20, 25, 30, 40, 50, 60 and 100 years. LLPs higher than 20 years were mainly analysed with regard to liabilities denoted in euro.

With respect to the convergence period, being the time span between the LLP and the maturity where the forward rate is approximately equal to the UFR, the following assumptions have been tested: 10, 20, 30, 40, 50, 53, 60, 65, 70, 80, 85 and 115 years.

The following table below summarises the result from the sensitivity assessments with regard to the risk-free interest rates for the euro. Because of the small number of undertakings within the stress test sample that reported the scenarios shown below, the impact calculations only cover a very limited amount of technical provisions compared to the total amount of technical provisions for the European market; in particular, none of the scenarios covers technical provisions with a market share of more than 0.01%. The results may therefore not be representative for the whole market.

Number of under-takings	**UFR**	**LLP** (years)	**Conver-gence period** (years)	**Impact on technical provisions** (increase, range)	**Impact on technical provisions** (increase, median)	**Impact on eligible own funds** (decrease, range)	**Impact on eligible own funds** (decrease, median)
15	2% - 2.2%	20	40	0.21% to 7.56%	1.32%	2.31% to 29.36%	6.04%
10	3%	20	40	0.01% to 1.4%	0.57%	0.06% to 11.32%	4.60%
22	3.2%	20	40	0% to 4.4%	0.47%	0% to 22.75%	2.40%
10	3.5%	20	40	0% to 0.75%	0.33%	0.02% to 5.91%	2.70%
14	3.7%	20	40	0.01% to 1.09%	0.14%	0.09% to 8.20%	0.79%
10	4.0%	20	40	0.02% to 0.26%	0.09%	0% to 2.80%	0.64%
9	4.2%	30	30	0.28% to 8.60%	0.68%	0.63% to 16.46%	4.93%

III.2 Matching adjustment

According to recital 31 of the Omnibus Directive, where insurance and reinsurance undertakings hold bonds or other assets with similar cash-flow characteristics to maturity, they are not exposed to the risk of changing spreads on those assets. In order to avoid changes of asset spreads from impacting on the amount of own funds of those undertakings, they should be allowed to adjust the relevant risk-free interest rate term structure in line with the spread movements of their assets.
Insurance and reinsurance undertakings may therefore apply a matching adjustment (MA) to the relevant risk-free interest rate term structure when they value their life insurance or reinsurance obligations, including annuities stemming from non-life insurance.

The MA can only be applied where specific requirements on the insurance and reinsurance obligations, the assets covering the obligations and the management of these obligations and assets are met (Article 77c of the Solvency II Directive). In particular, the expected asset cash flows must replicate each of the expected cash flows of the insurance or reinsurance obligations (cash-flow matching, Article 77c(1)(c) of that Directive).

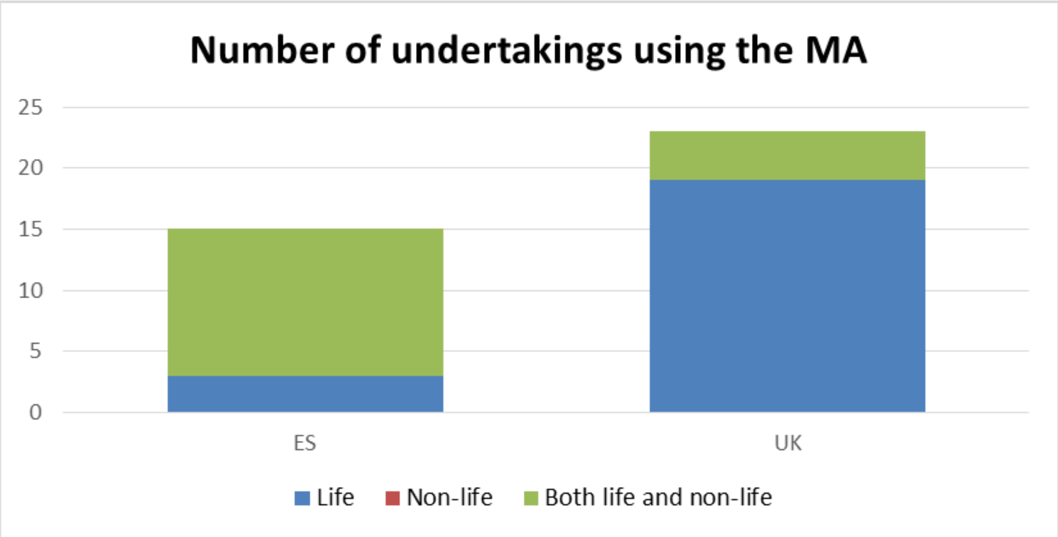
The use of the matching adjustment under the Solvency II regime is subject to prior supervisory approval.

The matching adjustment is derived from the spreads between the interest rate that could be earned from the undertaking's assets and the basic risk-free interest rates. The matching adjustment is reduced by a fundamental spread that allows for expected loss from default and downgrade of the undertaking's assets.

Undertakings calculate the MA themselves, based on their own portfolios of assets. The fundamental spreads are specified in implementing acts.

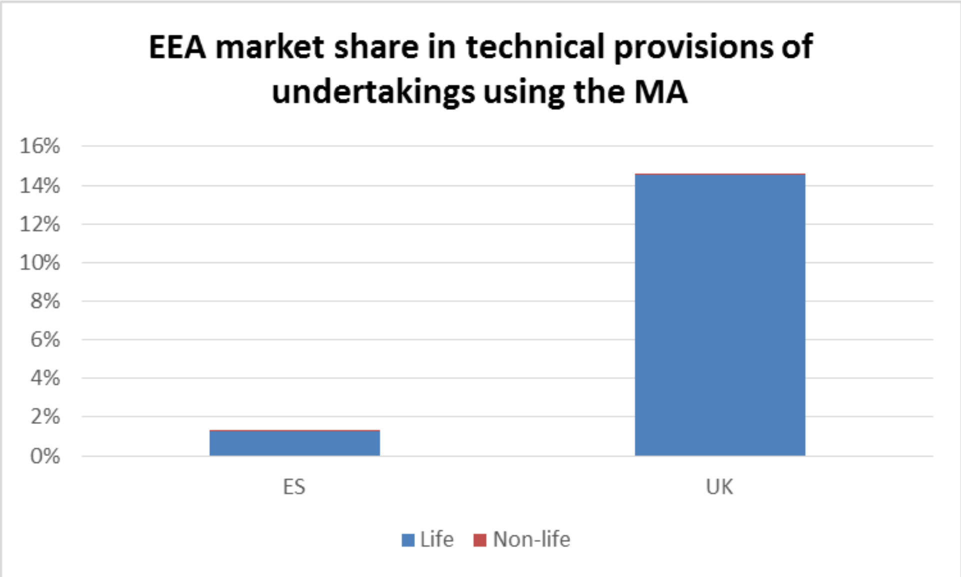
Use of the matching adjustment

38 insurance undertakings from Spain (15 undertakings) and the UK (23 undertakings) apply the MA.

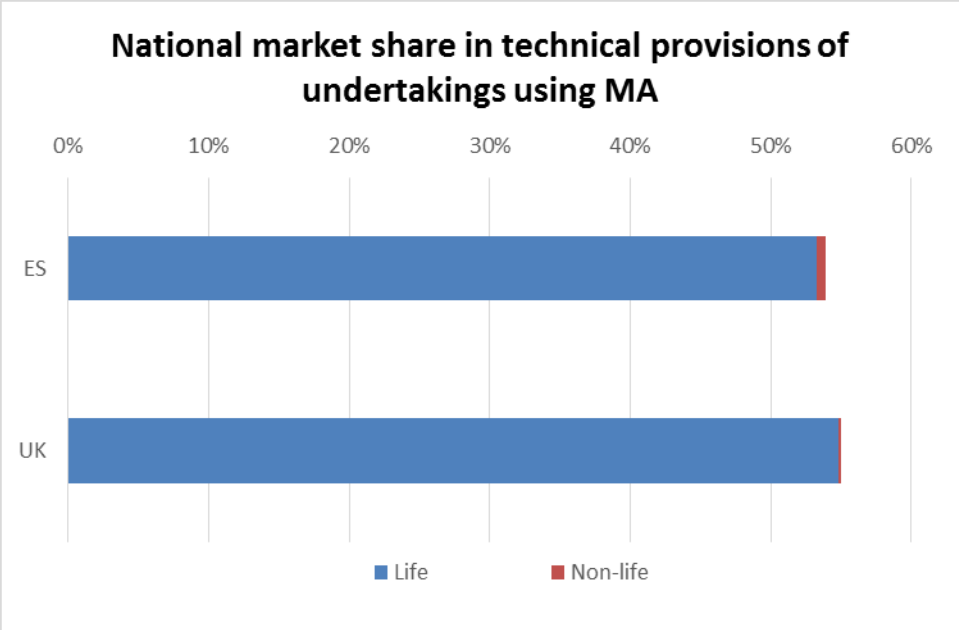


Number of undertakings using the MA				
Country	both life and non-life	non-life	life	Total
ES	12	0	3	15
UK	4	0	19	23
EEA	**16**	**0**	**22**	**38**

The technical provisions of undertakings applying the MA represent 15.8% of the total amount of technical provisions in the EEA. The technical provisions of undertakings applying the MA in Spain represent 1.2% and in the United Kingdom 14.6% of the overall technical provisions in the EEA. No non-life undertaking is applying the MA.



The following graph displays the market share in terms of technical provisions at national level for undertakings using the MA. In the UK, undertakings representing 54.9% of the national market are using the MA. In Spain, undertakings representing 53.9% of the national market are using the MA.



According to the Solvency II Directive it is possible to apply simultaneously TTP and MA to the same liabilities. 8 of 15 undertakings in Spain are using simultaneously TTP and MA to the same liabilities. In UK, 21 of 23 undertakings are using both TTP and MA to the same liabilities.

Undertakings applying simultaneously TTP and MA to the same liabilities			
	Number of undertakings	%TP EEA	%TP national market
ES	8	0.4%	18.9%
UK	21	14.0%	52.6%
EEA	29	14.4%	-

NSAs reported different reasons why the MA is not applied in their national market yet. Six NSAs reported that there is no sufficient exposure to LTG in their national market for the MA to have an impact.

Another reason mentioned is that fulfilling the conditions for MA for small companies is quite a challenge. 15 NSAs reported that currently no products match the legal requirements for MA set out in Article 77b of the Solvency II Directive.

2 NSAs explicitly mentioned that in the future it may be possible that undertakings will consider using the MA, in particular for new policies issued after the entry of Solvency II.

One NSA reported that their insurers invest a large part of their assets in government bonds with low or negative spreads relative to the basic risk free interest rate term the MA is not beneficial. Applying the MA with mortgage loans would be beneficial form a spread perspective, but mortgage loans do not meet the requirements of the MA as the cash flows are not completely fixed due to the prepayment option.

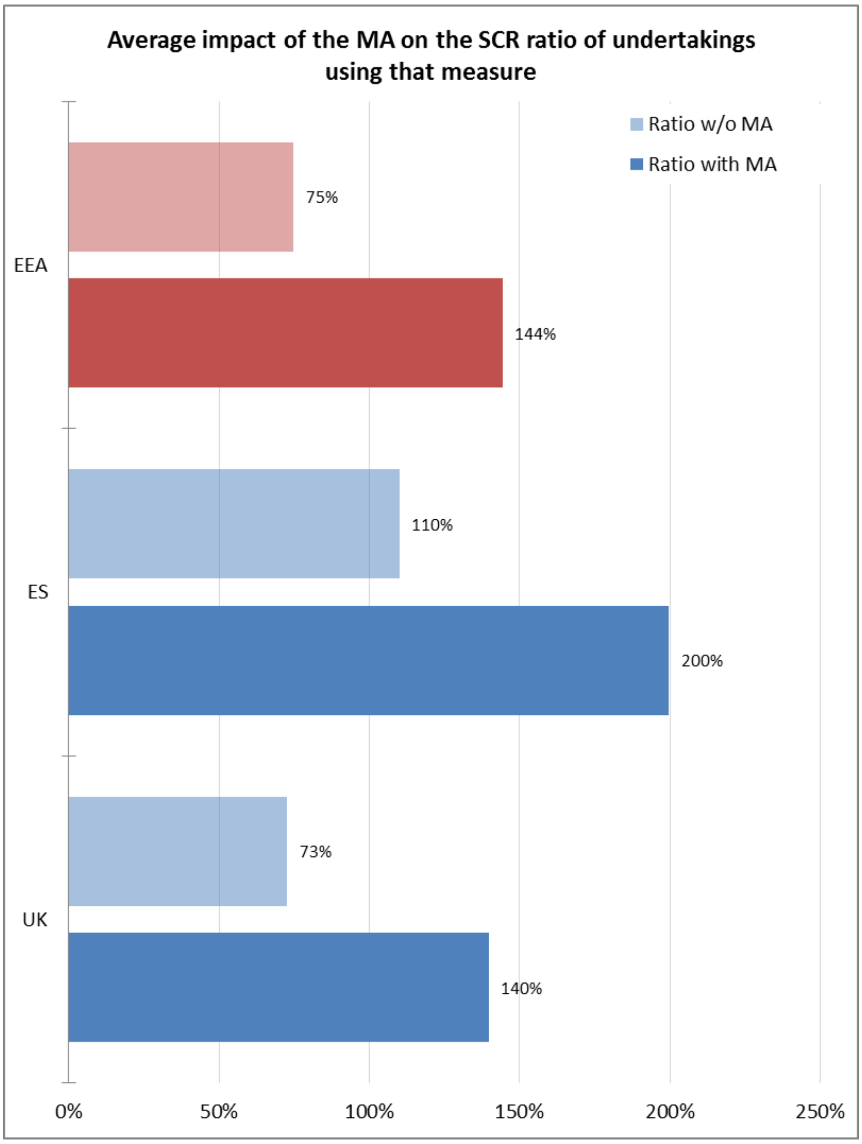
For another county it was reported that the asset allocation made previous to Solvency II included assets which are not eligible for the MA portfolio. Application of MA would therefore require changes to the asset allocation.

Impact on the financial position of undertakings

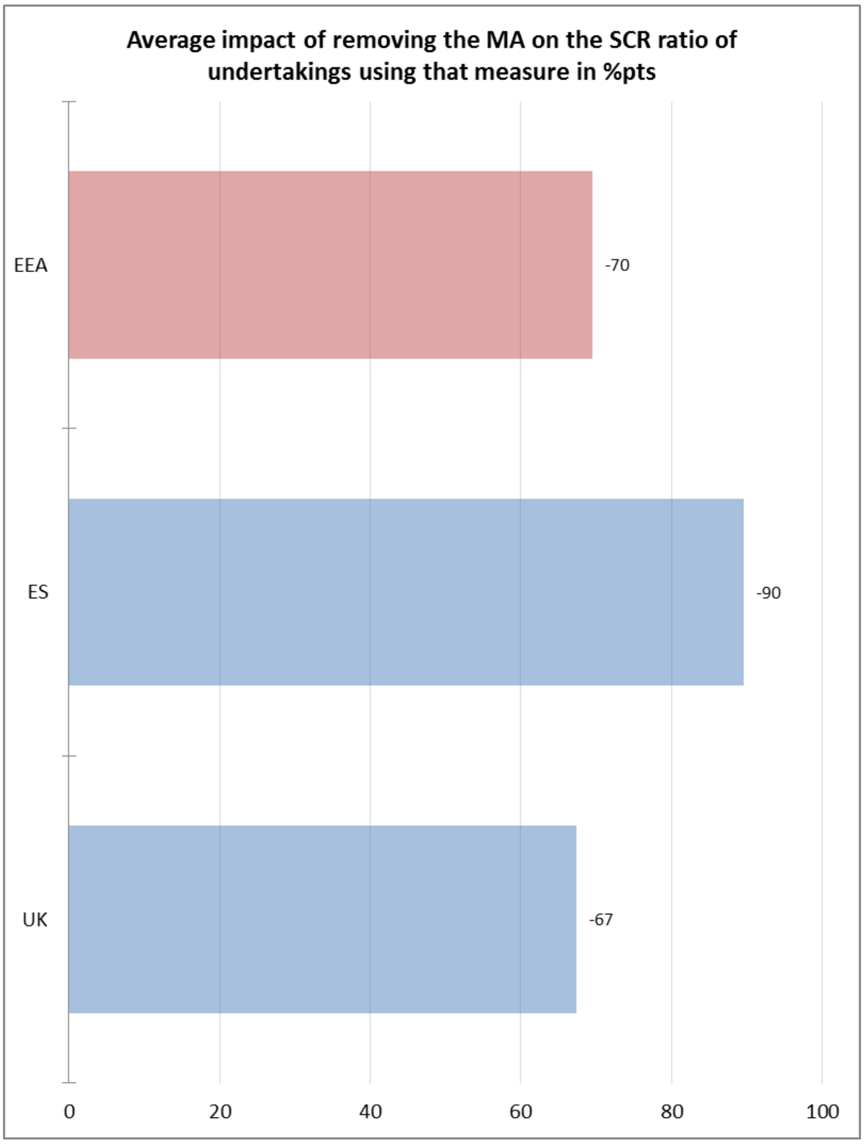
The impact results presented in this section are based on data from EIOPA's 2016 insurance stress tests. On the representativeness of the data see section II.2.

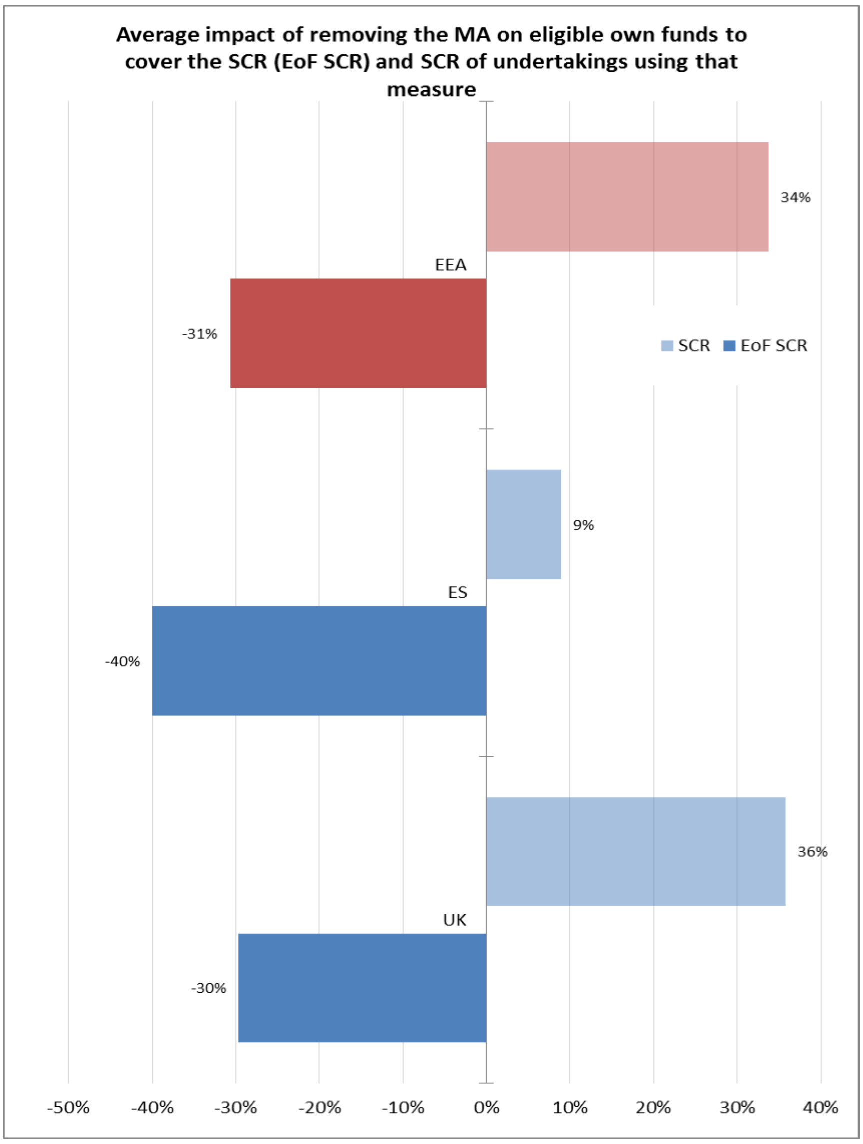
As the MA is used in two countries, Spain and United Kingdom, the impact at the EEA level is being driven by the impact in these two countries.

The following graphs show the overall quantitative impact of the use of the MA.

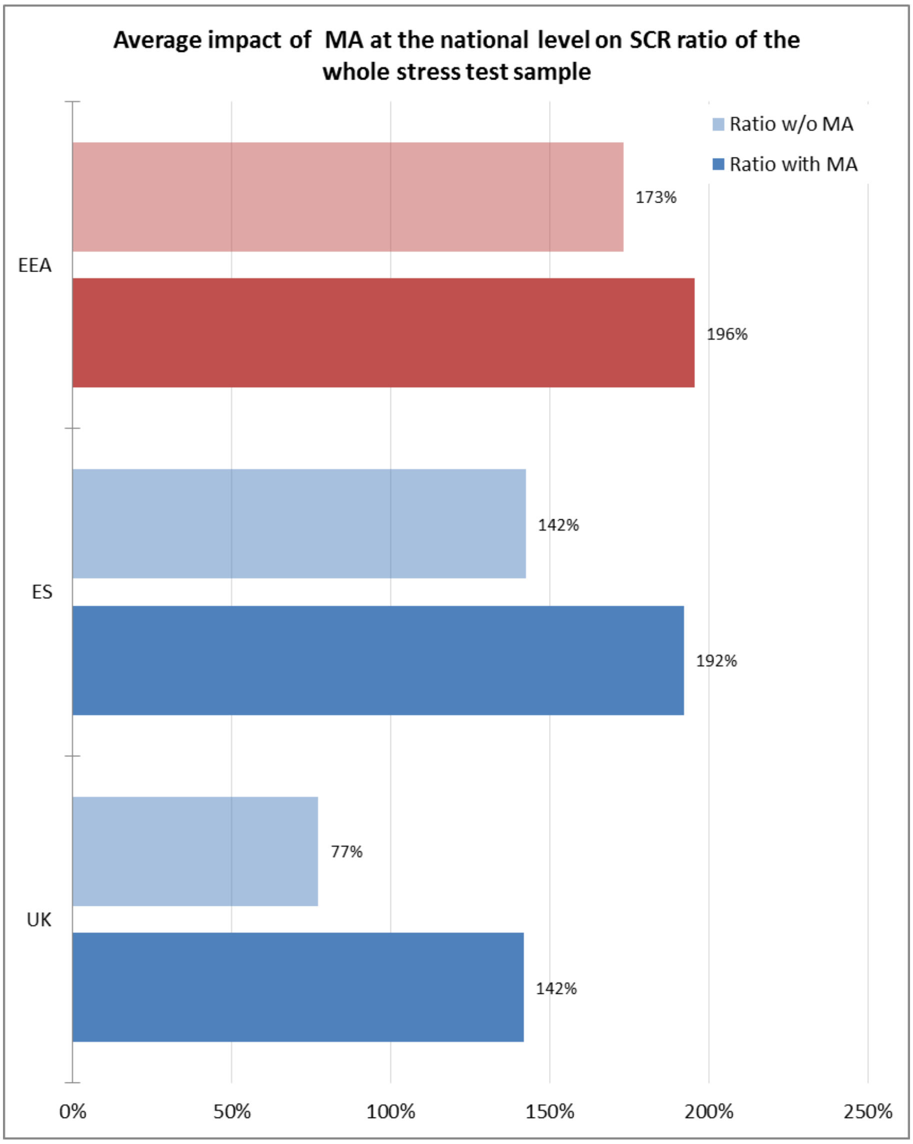


Average impact of the MA on the SCR ratio of undertakings using that measure
Ratio w/o MA
Ratio with MA
EEA
75%
144%
ES
110%
200%
UK
73%
140%
0%
50%
100%
150%
200%
250%

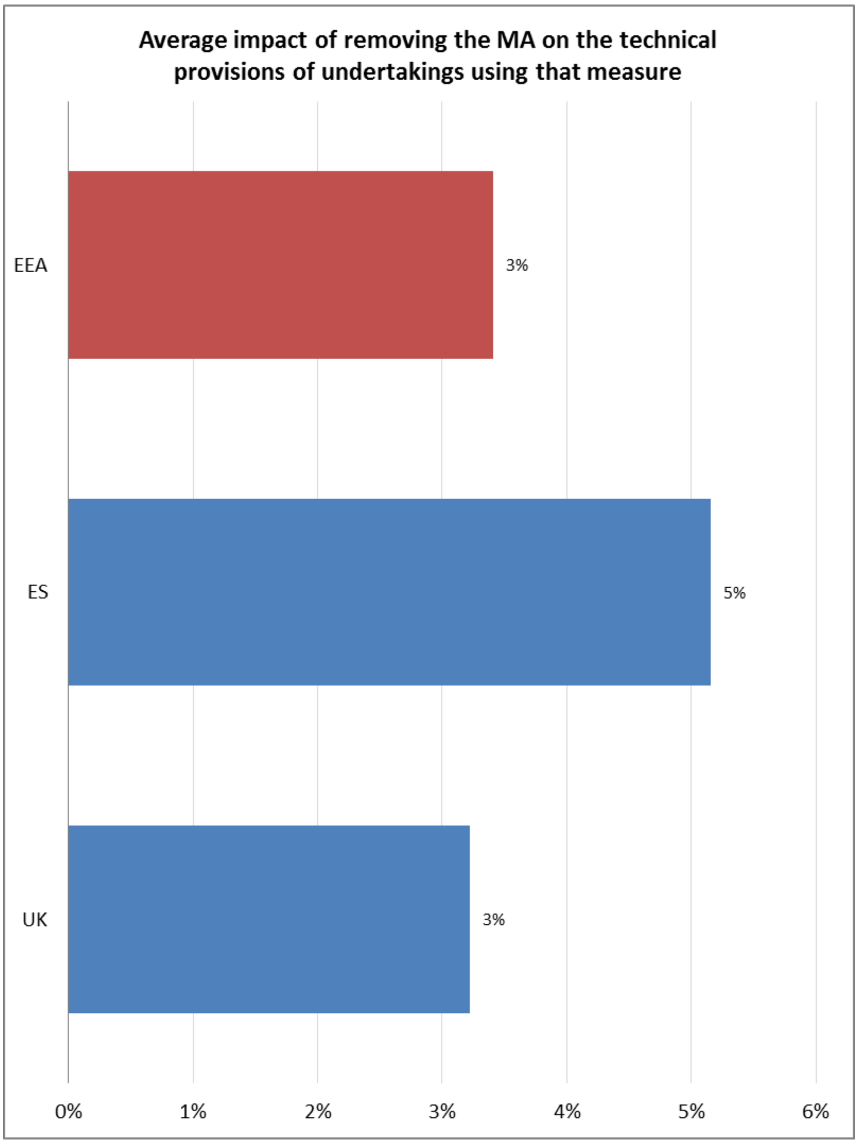

Average impact of removing the MA on the SCR ratio of undertakings using that measure in %pts
EEA
-70
ES
-90
UK
-67
0
20
40
60
80
100


Average impact of removing the MA on eligible own funds to cover the SCR (EoF SCR) and SCR of undertakings using that measure
34%
EEA
-31%
SCR
EoF SCR
9%
ES
-40%
36%
UK
-30%
-50%
-40%
-30%
-20%
-10%
0%
10%
20%
30%
40%

The following graph shows the overall impact of the use of the MA on the SCR ratio for the whole stress test sample of the countries where the MA is used. That sample includes both undertakings from those countries using and not using the MA. For this sample, the MA results on average in an increase of the SCR ratio by 23 percentage points.

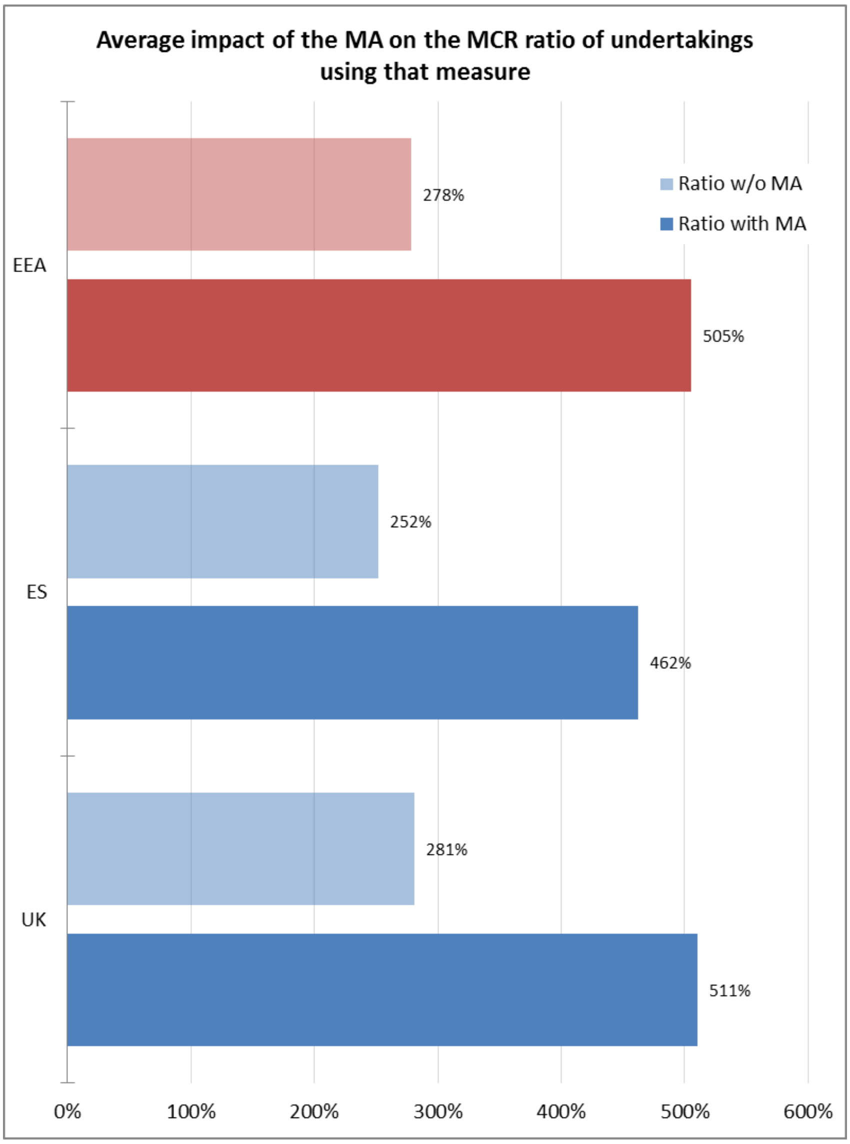


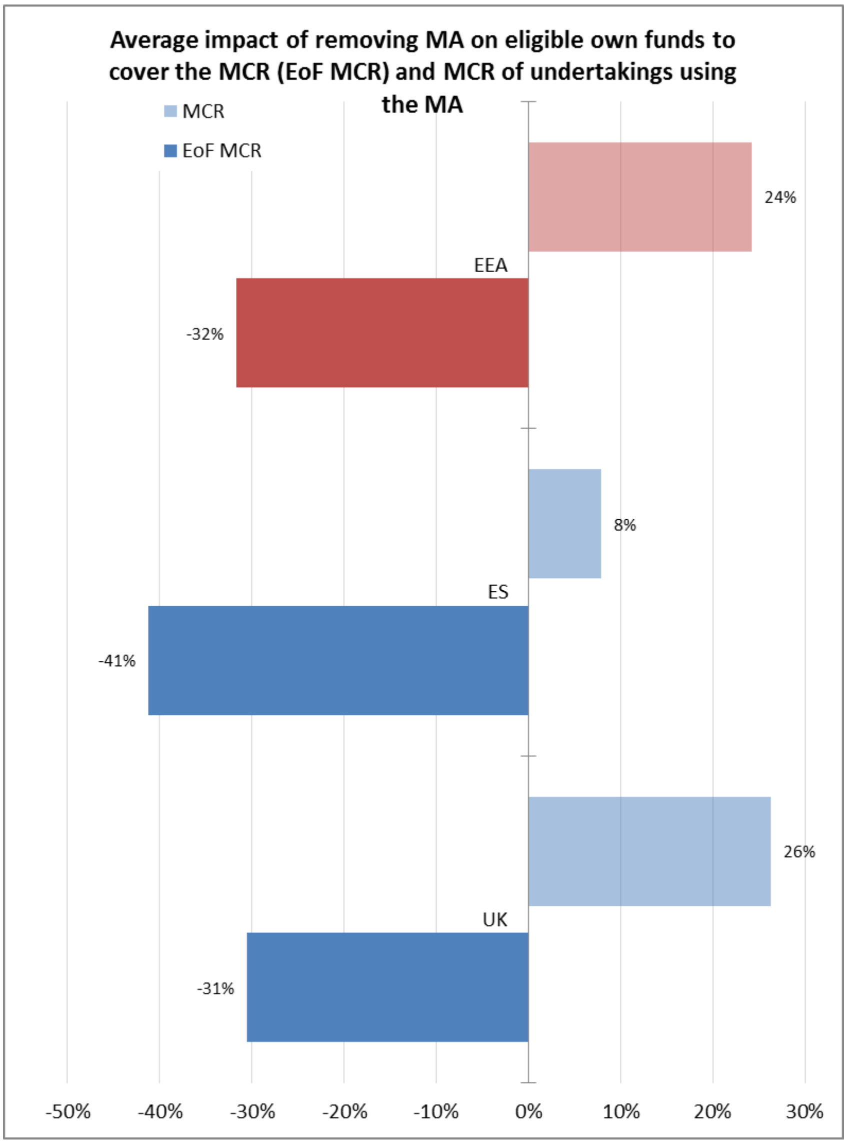
The average increase in technical provisions without the MA for those undertakings applying the measure would be around 3% at EEA level.



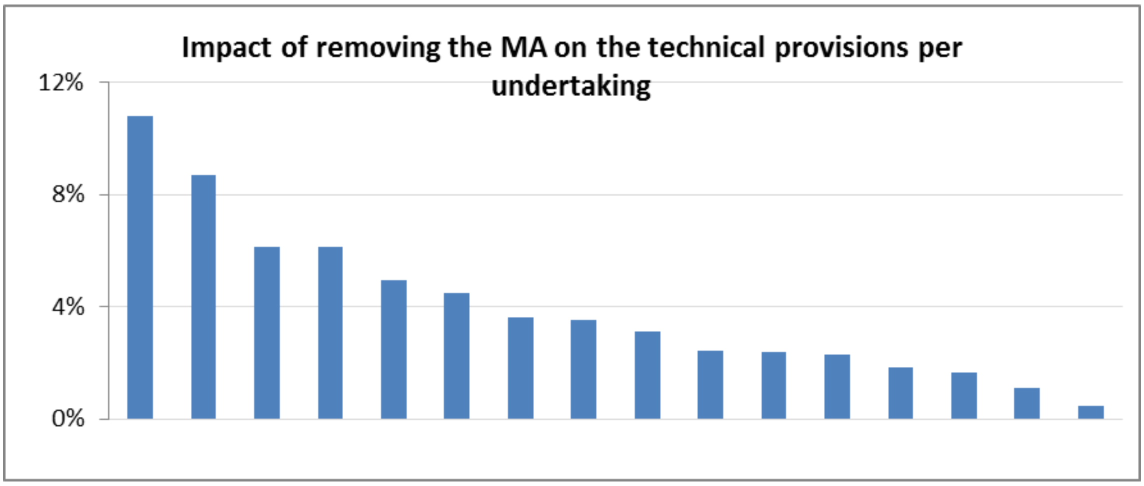
Average impact of removing the MA on the technical provisions of undertakings using that measure
EEA
ES
UK
3%
5%
3%
0%
1%
2%
3%
4%
5%
6%

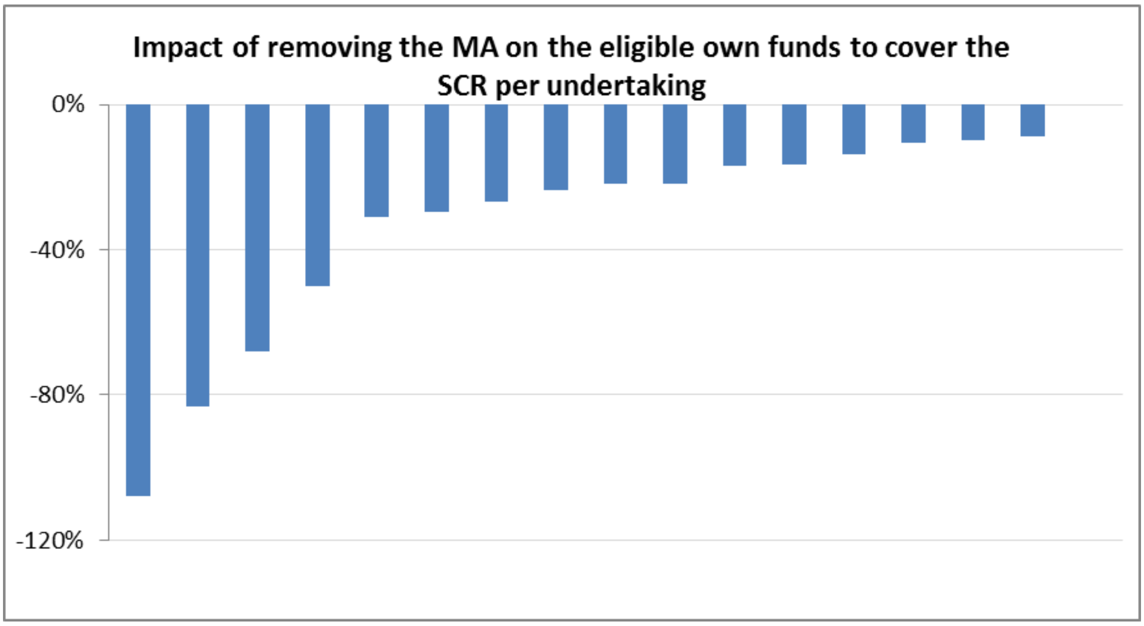
The following graph shows the impact of the MA on the MCR ratio at country and at EEA level for undertakings using that measure. Without the MA the MCR ratio would decrease on average by 227 percentage points.

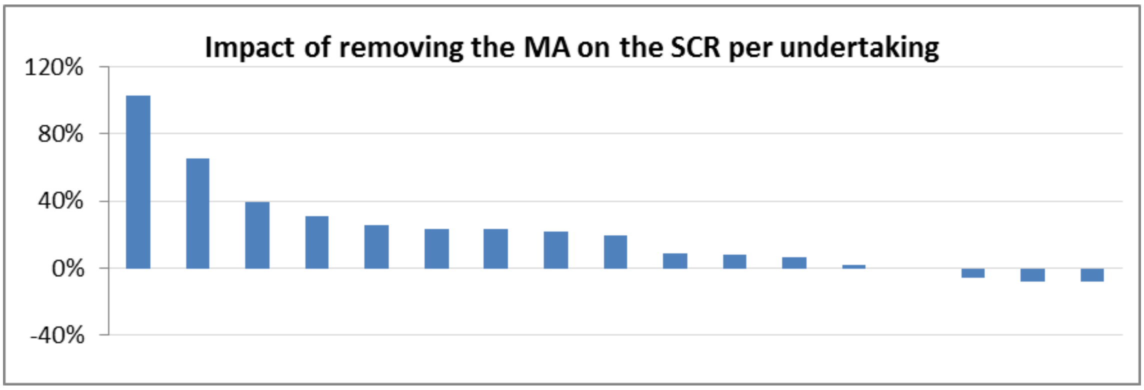




The following graphs show the impact of removing the MA on technical provisions, eligible own funds to cover the SCR and the SCR per undertaking. The impact is measured relative to the amount with the measures. Each bar corresponds to one undertaking. The bars are ordered by size in each graph. The graphs demonstrate that there is a wide disparity of the impact.

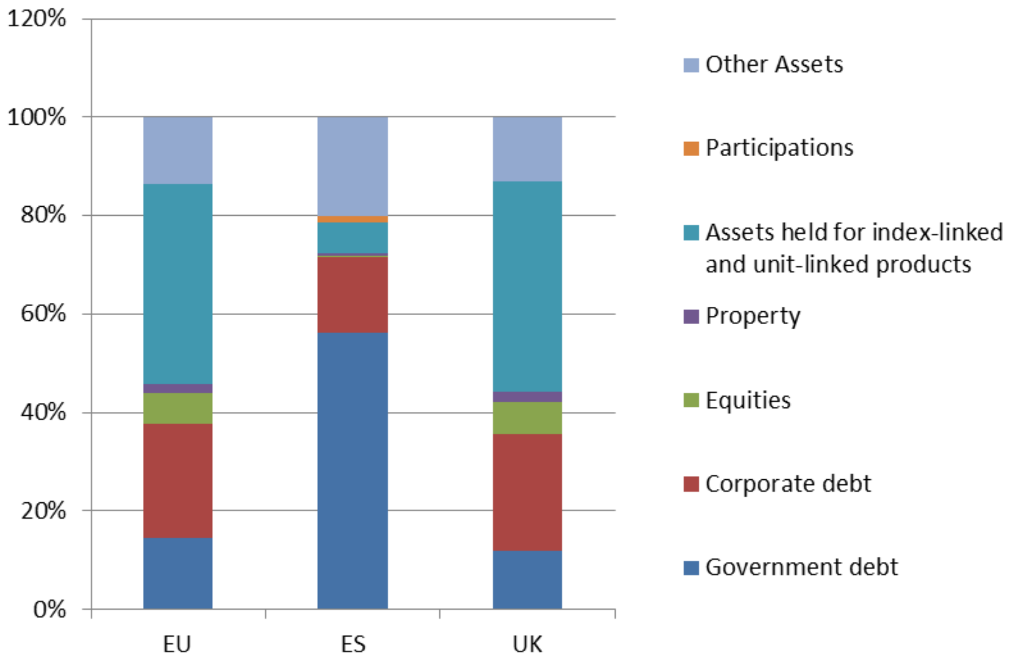


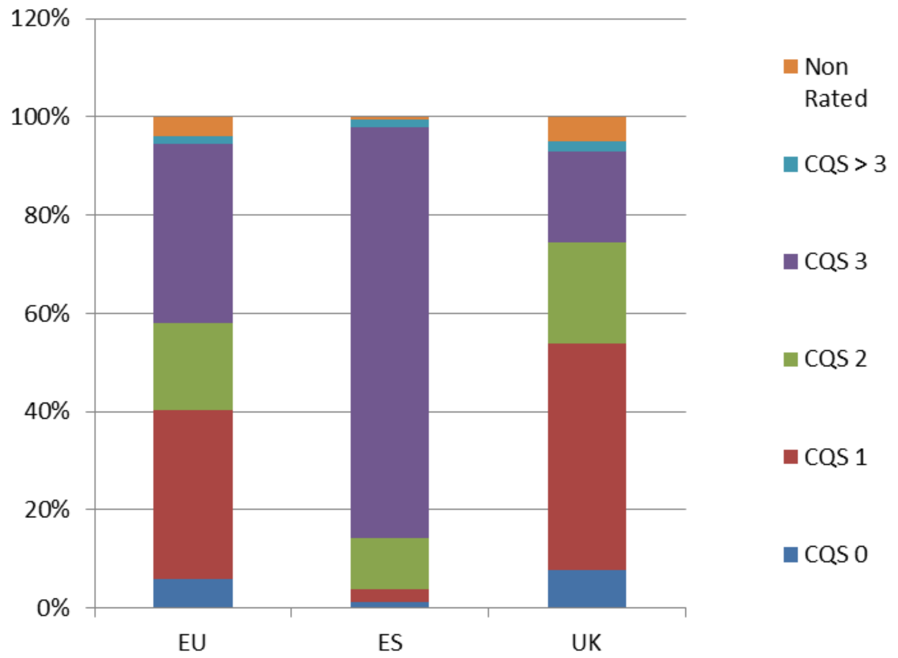

Impact of removing the MA on the eligible own funds to cover the SCR per undertaking
0%
-40%
-80%
-120%


Impact of removing the MA on the SCR per undertaking
120%
80%
40%
0%
-40%

Impact on undertakings' investments

The following graphs compare the average asset portfolio of undertakings applying the MA. The first graph is based on the opening balance sheet for Solvency II on 1 January 2016[18]. The second graph is based on information from to the list of assets that undertakings reported to NSAs for the first quarter 2016. Both graphs show that the undertakings from Spain and from the United Kingdom that use the MA have on average a different average asset portfolio.





18 For a description of the asset classes used in the graphs please refer to Annex 3.

Impact on consumers and products

With respect to the insurance products offered by insurance undertakings applying the MA in Spain, the following characteristics have been reported by the NSA:

- the purpose of the products is saving for retirement,
- the insurance obligations for the products fall in the Solvency II line of business "other life insurance",
- the products guarantee life annuities or a lump sum payment,
- the products offer a guaranteed interest rate.

In the United Kingdom, MA-eligible liabilities primarily consist of 'individual' annuities and 'bulk-purchase' annuities. At a basic level an annuity is a contract that pays an income to the policyholder in return for an upfront premium, although as with any contract there are variants on this core theme (for example, in some cases the income stream increases in line with an inflation index). An 'individual' annuity is sold to individual policyholders, usually at retirement. 'Bulk-purchase' annuities are products that are generally sold to pension funds, which purchase an annuity-style asset to cover some or all of the liabilities of the pension fund. These products fall under the Solvency II line of business "other life insurance".

III.3 Volatility adjustment

Recital 32 of the Omnibus II Directive states that in order to prevent pro-cyclical investment behaviour, insurance and reinsurance undertakings should be allowed to adjust the relevant risk-free interest rate term structure to mitigate the effect of exaggerations of bond spreads.

For that purpose insurance and reinsurance undertakings can apply a volatility adjustment (VA) to the risk-free interest rate term structure. The VA is based on 65% of the risk-corrected spread between the interest rate that could be earned from a reference portfolio of assets and the risk-free interest rates without any adjustment. The reference portfolio is representative for the assets which insurance and reinsurance undertakings are invested in to cover their insurance and reinsurance obligations.

Member States may require prior approval by supervisory authorities for insurance and reinsurance undertakings to apply a VA.

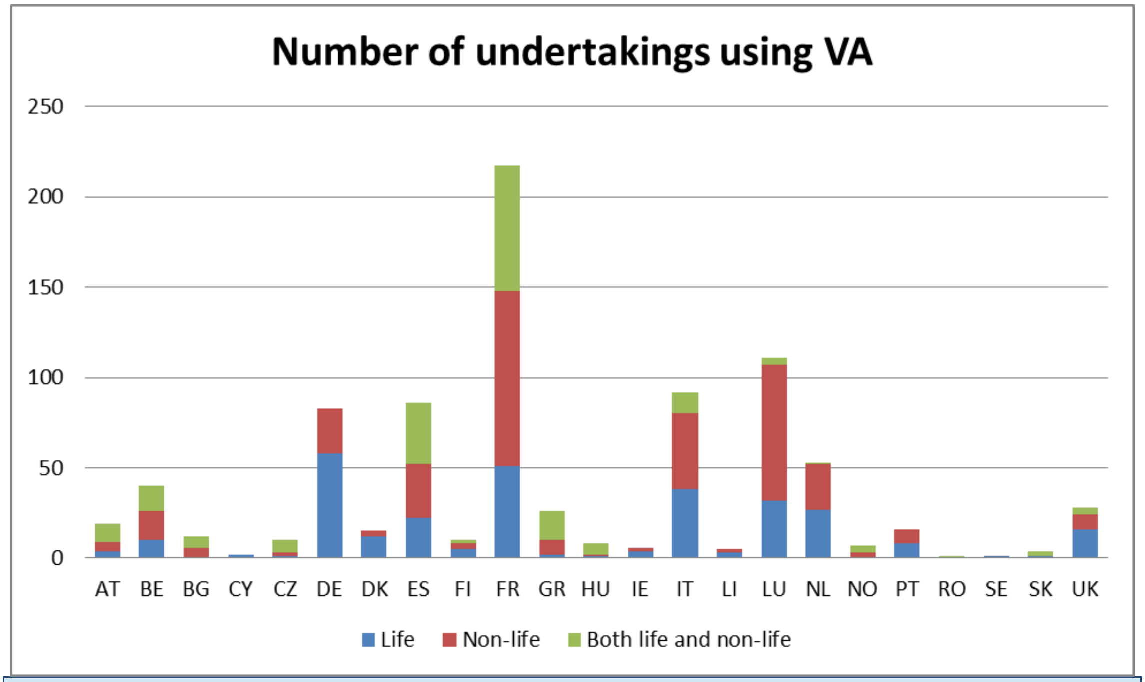
The VA is derived per currency. It is the same for all insurance and reinsurance obligations of a currency unless a country specific increase applies.

Undertakings that apply a VA to a portfolio of insurance or reinsurance obligations shall not apply a MA to those obligations.

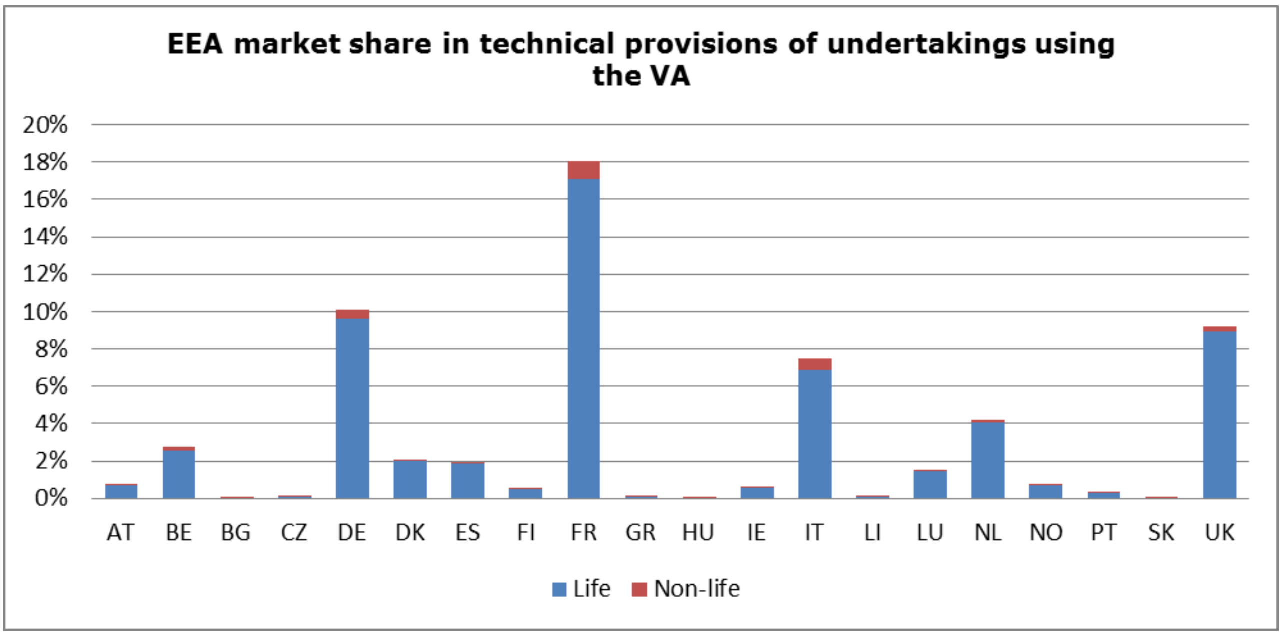
Article 77d(6) of the Solvency Directive states that by way of derogation from Article 101, the SCR shall not cover the risk of loss of basic own funds resulting from changes of the VA.

Use of the volatility adjustment

The VA is used by 852 undertakings in 23 countries (AT, BE, BG, CY, CZ, DK, FI, FR, DE, GR, HU, IE, IT, LI, LU, NL, NO, PT, RO, SK, ES, SE and UK).

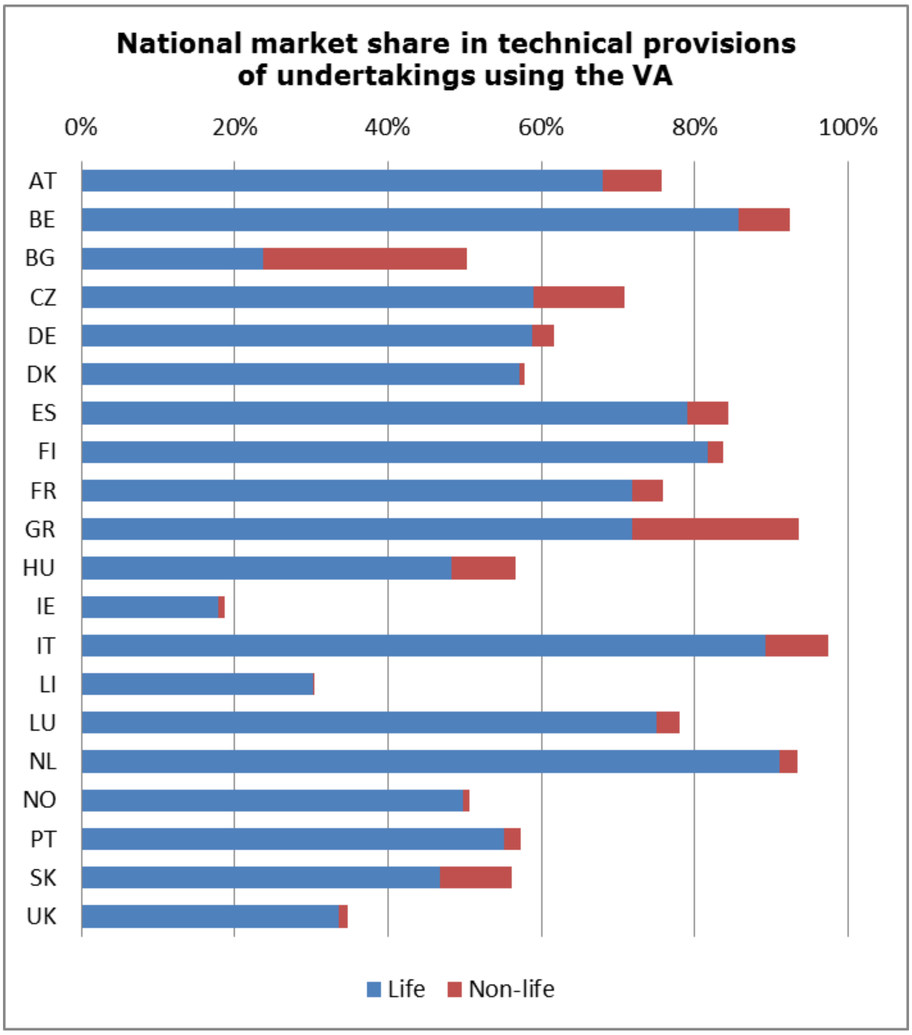


Number of undertakings using the VA				
Country	both life and non-life	non-life	life	Total
AT	10	5	4	19
BE	14	16	10	40
BG	6	6	0	12
CY	0	0	2	2
CZ	7	2	1	10
DE	0	25	58	83
DK	0	3	12	15
ES	34	30	22	86
FI	2	3	5	10
FR	69	97	51	217
GR	16	8	2	26
HU	6	1	1	8
IE	0	2	4	6
IT	12	42	38	92
LI	0	2	3	5
LU	4	75	32	111
NL	1	25	27	53
NO	4	3	0	7
PT	0	8	8	16
RO	1	0	0	1
SE	0	0	1	1
SK	3	0	1	4
UK	4	8	16	28
EEA	**195**	**359**	**298**	**852**



Insurance and reinsurance undertakings representing 60.8% of the overall amount of technical provisions at EEA level are using the VA. The technical provisions of undertakings applying the VA in France represent 18.1%, in Germany 10.1% and in the United Kingdom 9.2% of the overall technical provisions in the EEA.

The following graph displays for each country how widespread the use of the VA is, measured in technical provisions of undertakings that use the VA. In 9 countries (AT, BE, ES, FI, FR, GR, IT, LU and NL) undertakings with more than 75% of the national amount of technical provisions are using the VA. Most of the technical provisions for life insurance liabilities are held by undertakings using the VA. In Romania and Bulgaria, also undertakings with a larger part of technical provisions for non-life insurance are using the VA.



According to the Solvency II Directive it is possible to apply simultaneously the TTP or the TRFR and the VA to the same liabilities.

At EEA level, undertakings with 14.1% of the overall amount of technical provisions are using the VA and the TTP or the TRFR to the same liabilities. In Finland undertakings with more than half of the national amount of technical provisions are using the VA and the TTP for the same liabilities.

Undertakings applying simultaneously TTP and VA to the same liabilities			
Country	Number of undertakings	%TP of TP EU	%TP of national market
AT	2	(*)	(*)
DE	48	3.9%	23.8%
ES	19	0.6%	25.4%
FI	7	0.3%	55.4%
FR	7	1.8%	7.5%
NO	3	0.7%	47.4%
PT	10	0.1%	19.5%
UK	17	6.5%	24.4%

EEA	118	14.1%	-

(*) Data from Austria are not disclosed for confidentiality reasons because the number of undertakings concerned is lower than 3.

The VA is applied by undertakings in most of the EEA countries. Eight NSAs reported that the volatility adjustment is not applied in their country. Five of them reported that if undertakings can comply with the SCR without the VA they prefer not to apply it, because the impact of the VA on the financial position does not outweigh the additional reporting burden. In one country undertakings do not have sufficient exposure to LTG to justify an application in relation to the VA.

Impact on the financial position of undertakings

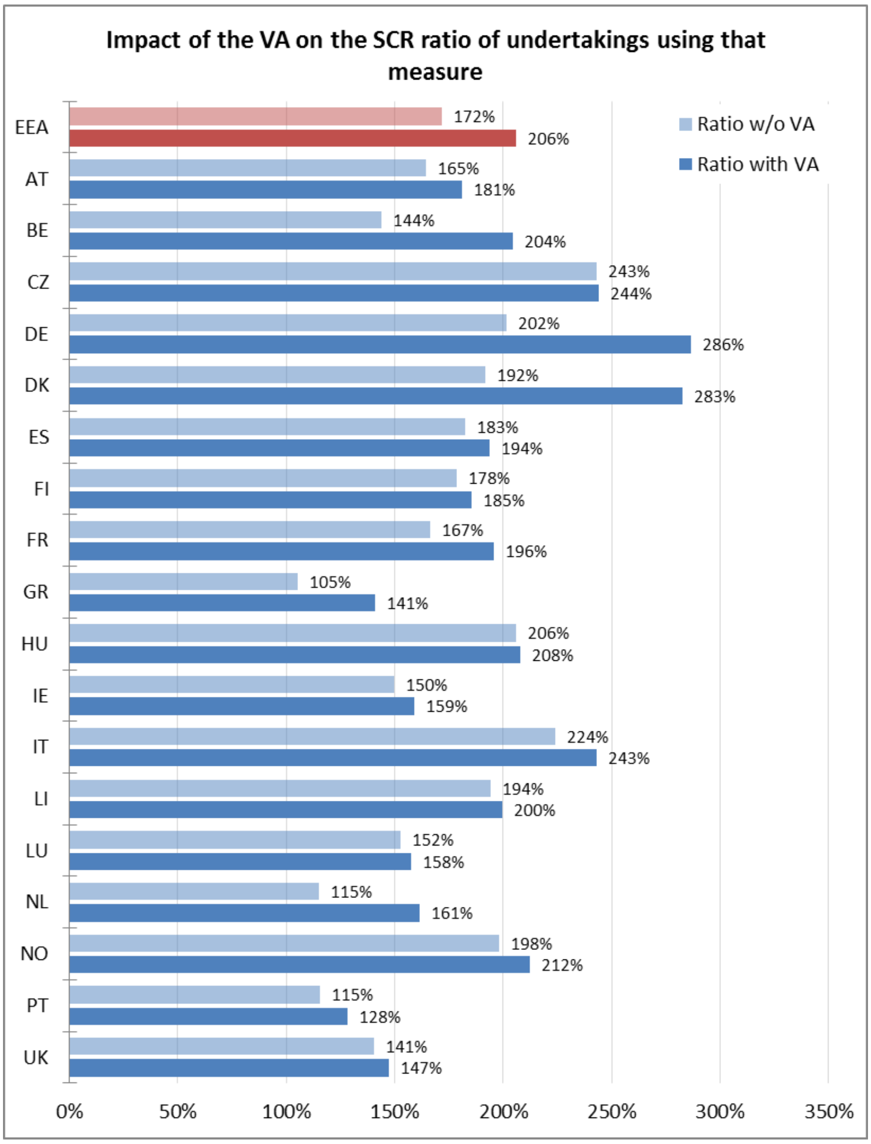
The impact results presented in this section are based on data from EIOPA's 2016 insurance stress tests. On the representativeness of the data see section II.2.

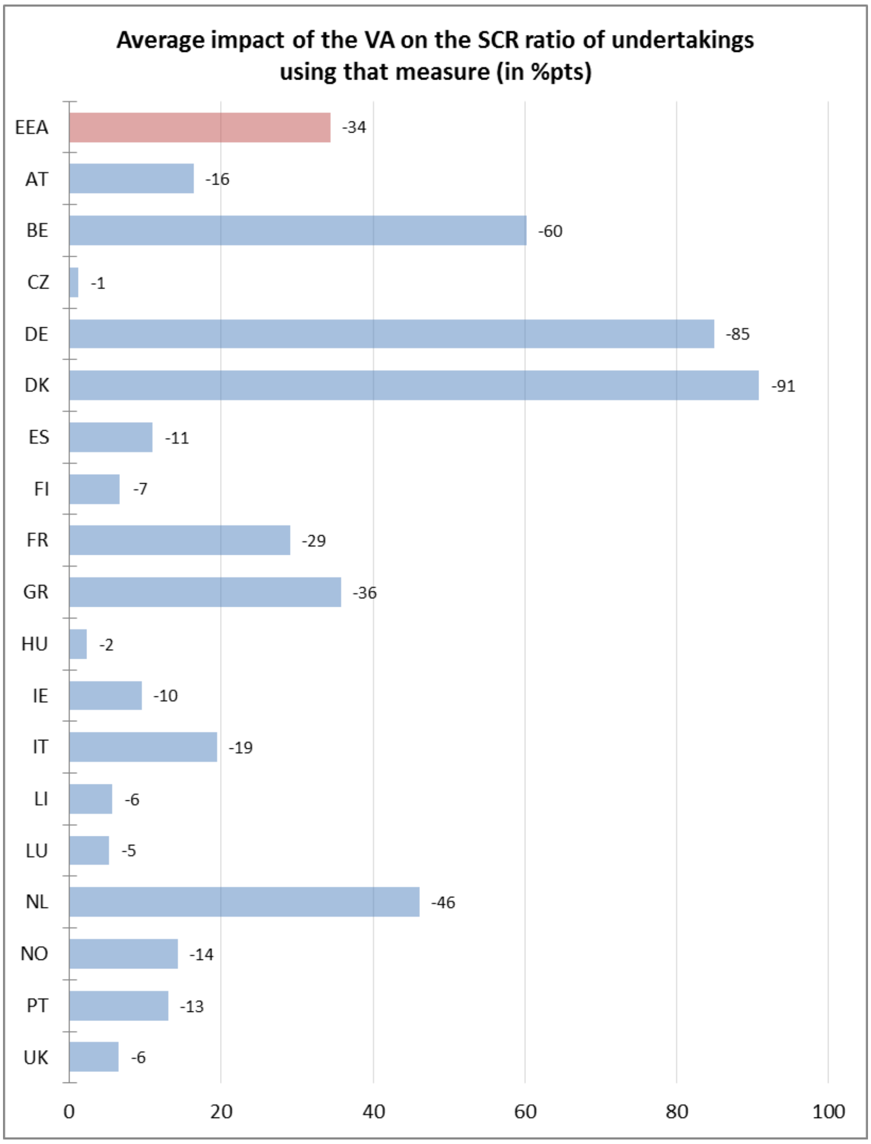
The impact of the VA should be interpreted in the light of the level of the observed spreads in the financial markets.

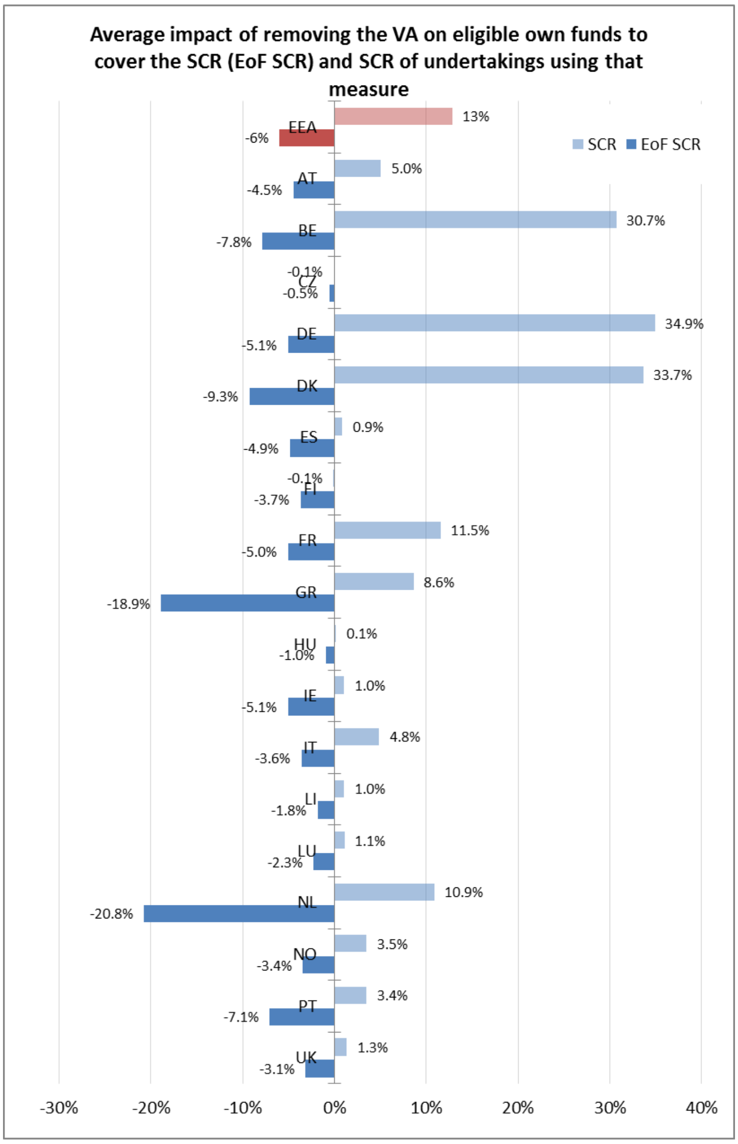
The following graphs show the average impact at EEA level and per country of the VA on the SCR ratio, the SCR and the eligible own funds to cover the SCR. The graphs are based on impact of the VA for the undertakings that apply the VA.

At EEA level removing the VA results in an average reduction of the SCR ratio of 34 percentage points.

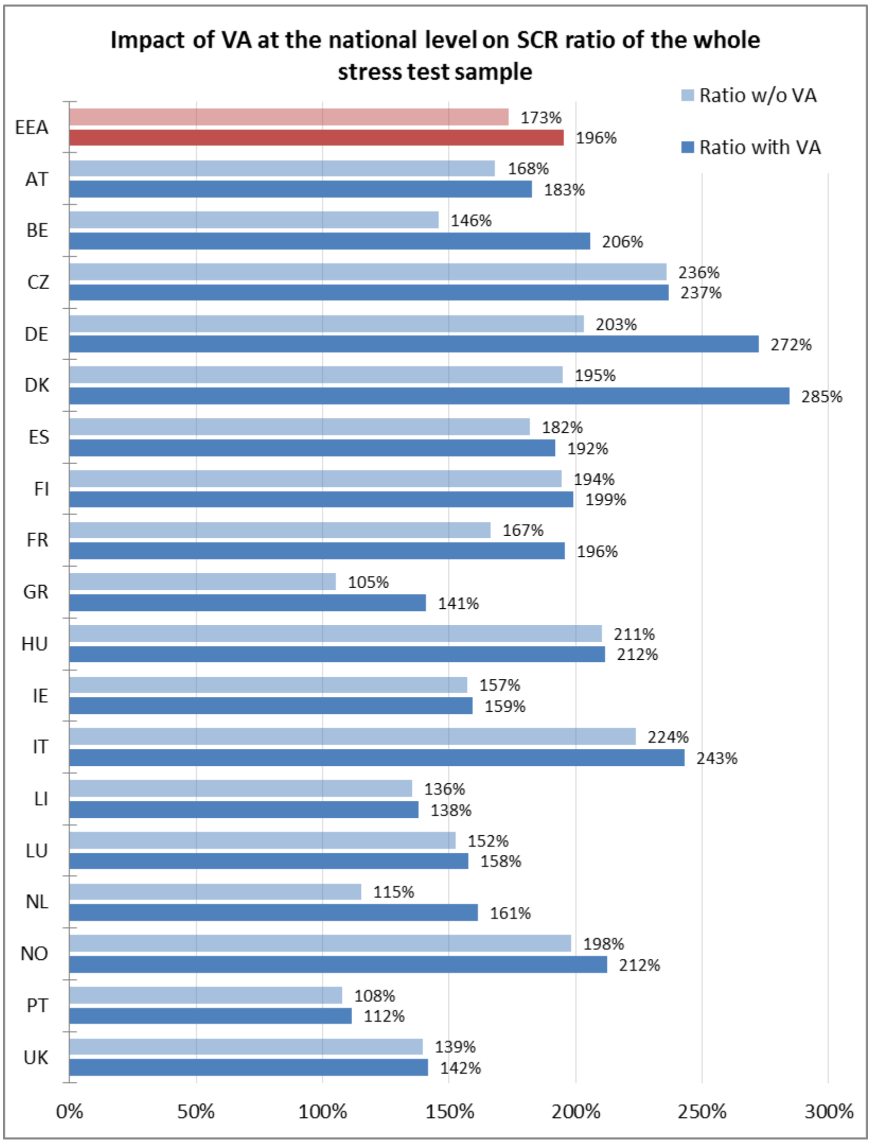
No results at country level are shown for Bulgaria, Cyprus and Slovakia, due to confidentiality reasons; for the three countries the national average impact of the VA is below the EEA average impact.


Impact of the VA on the SCR ratio of undertakings using that measure
Ratio w/o VA
Ratio with VA
EEA 172% 206%
AT 165% 181%
BE 144% 204%
CZ 243% 244%
DE 202% 286%
DK 192% 283%
ES 183% 194%
FI 178% 185%
FR 167% 196%
GR 105% 141%
HU 206% 208%
IE 150% 159%
IT 224% 243%
LI 194% 200%
LU 152% 158%
NL 115% 161%
NO 198% 212%
PT 115% 128%
UK 141% 147%
0% 50% 100% 150% 200% 250% 300% 350%

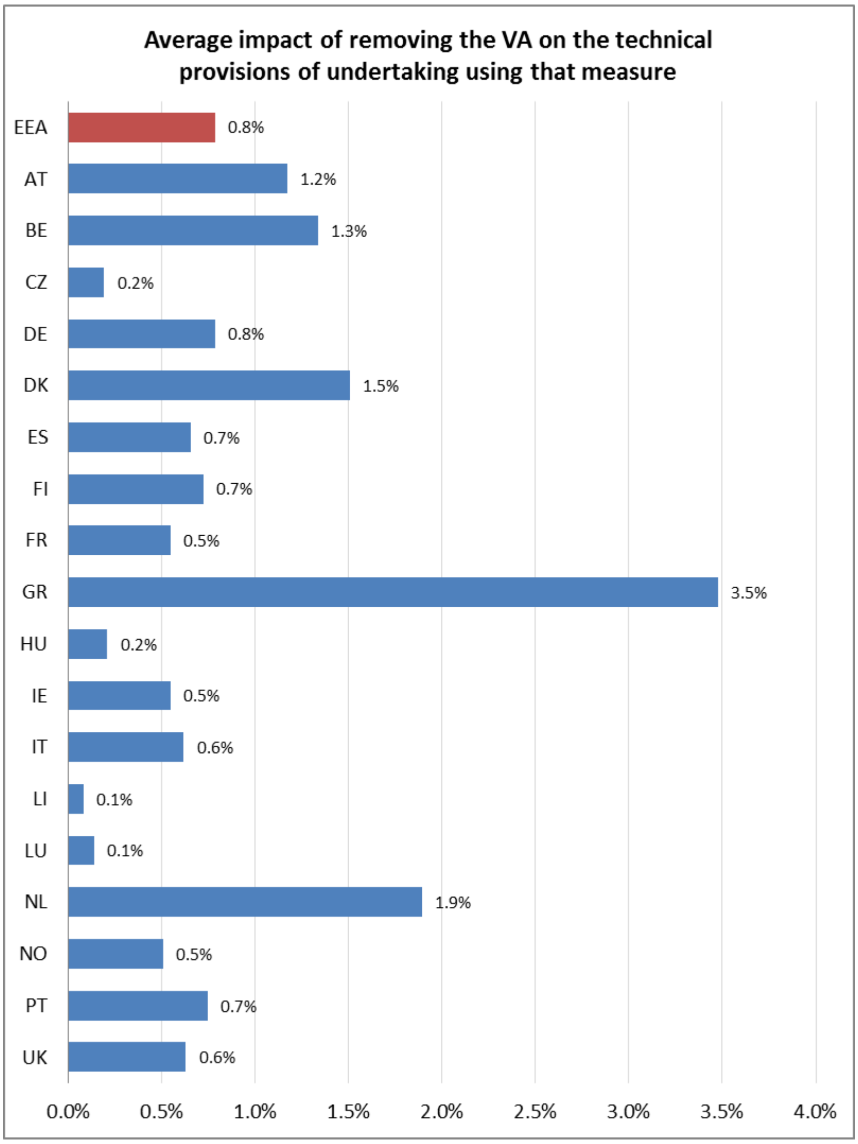

Average impact of the VA on the SCR ratio of undertakings using that measure (in %pts)
EEA -34
AT -16
BE -60
CZ -1
DE -85
DK -91
ES -11
FI -7
FR -29
GR -36
HU -2
IE -10
IT -19
LI -6
LU -5
NL -46
NO -14
PT -13
UK -6
0
20
40
60
80
100



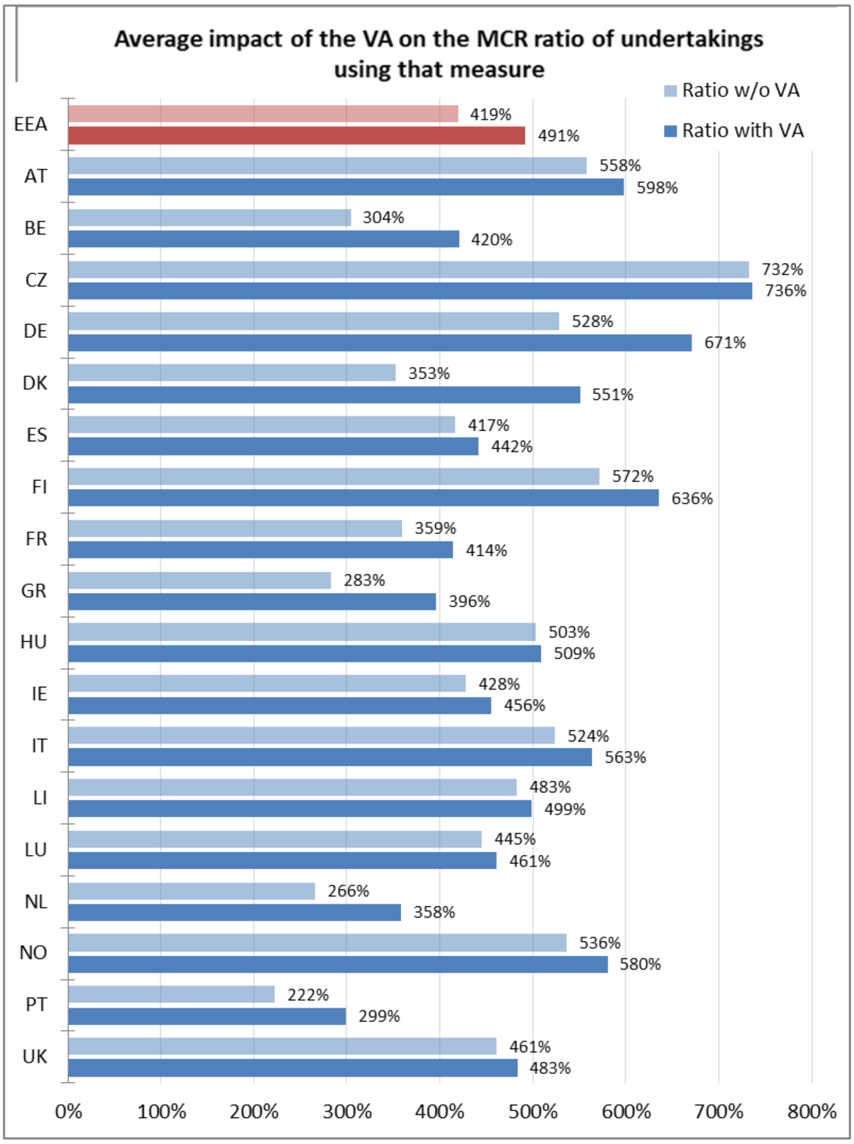
The following graph display the overall impact of the use of the VA on the SCR ratio for the whole stress test sample (including both undertakings using or not using the measure). At the EEA level, the removal of the VA would result on average in a reduction of the SCR ratio by 23 percentage points.

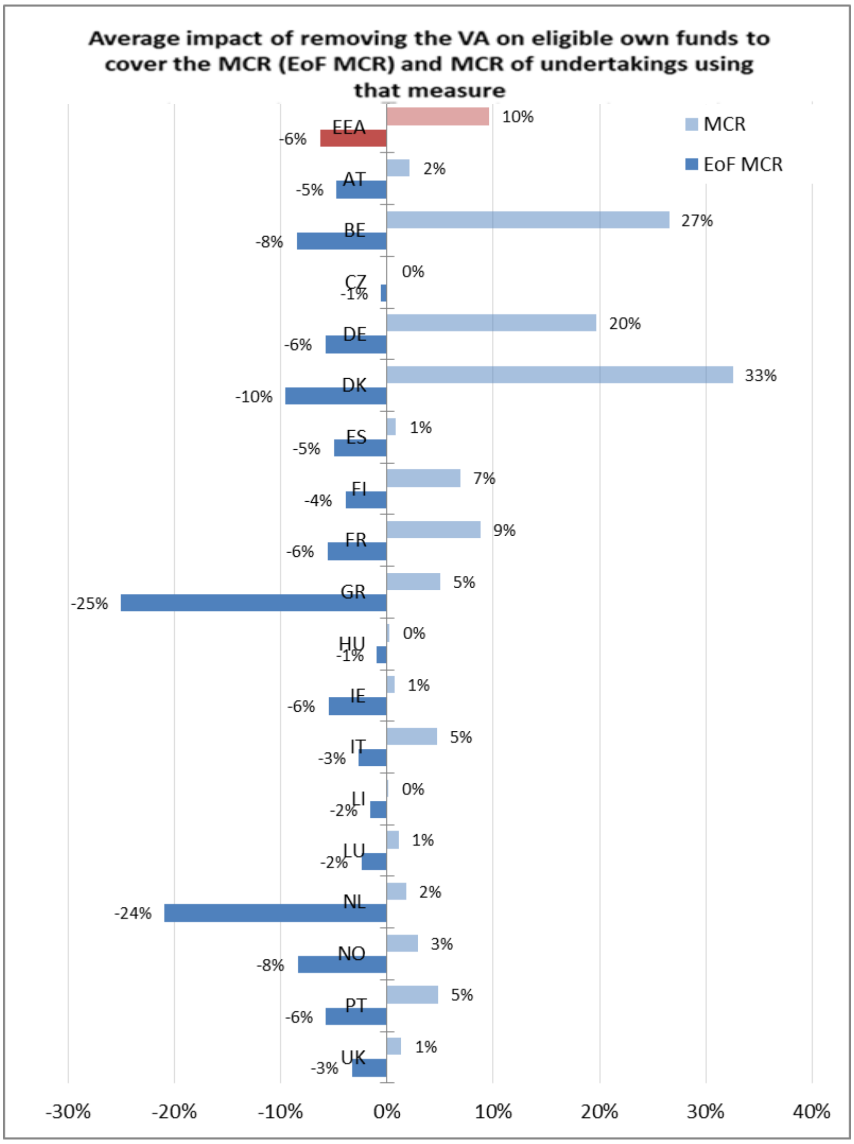


Removing the VA would result in an average increase of technical provisions by 0.8% at EEA level.

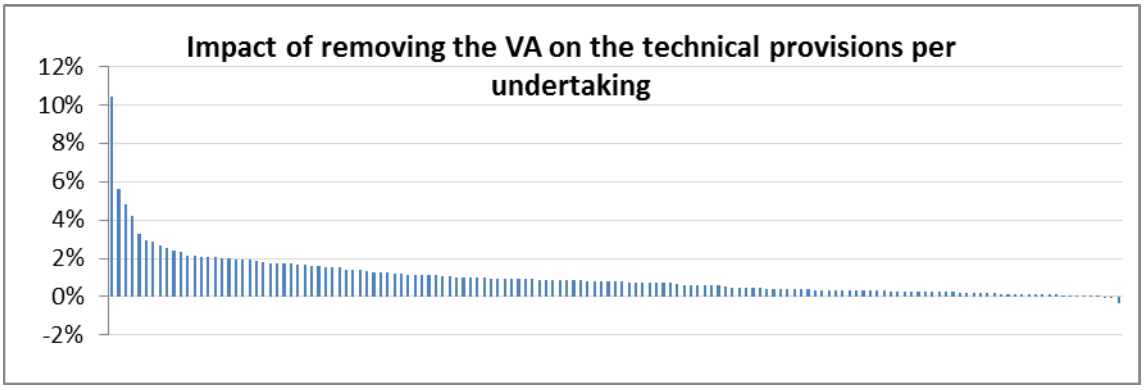


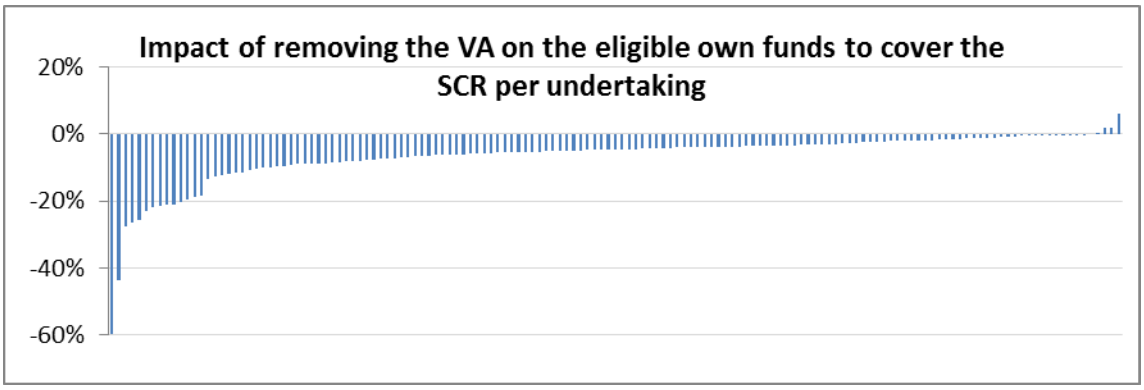
The following graph shows the impact of the VA on the MCR ratio at country and at EEA level for undertakings using that measure. At the EEA level, the removal of the VA would result on average in a reduction of the MCR ratio by 72 percentage points.

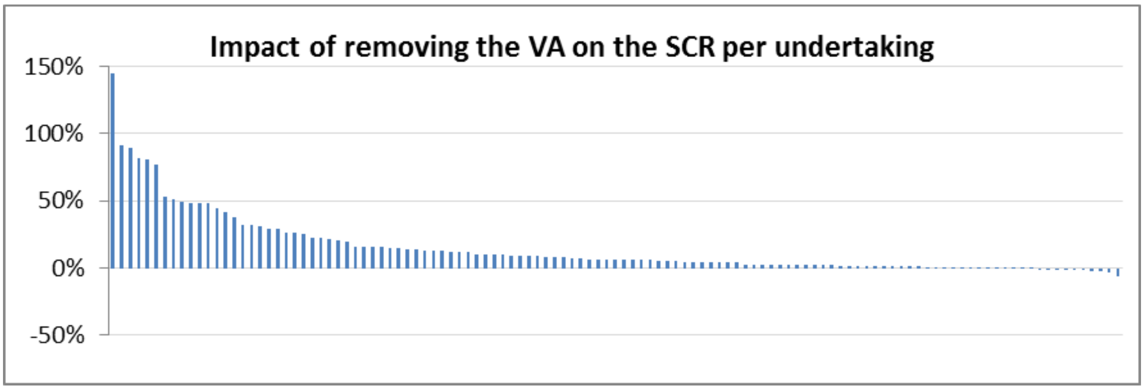

Average impact of the VA on the MCR ratio of undertakings using that measure
Ratio w/o VA
Ratio with VA
EEA
419%
491%
AT
558%
598%
BE
304%
420%
CZ
732%
736%
DE
528%
671%
DK
353%
551%
ES
417%
442%
FI
572%
636%
FR
359%
414%
GR
283%
396%
HU
503%
509%
IE
428%
456%
IT
524%
563%
LI
483%
499%
LU
445%
461%
NL
266%
358%
NO
536%
580%
PT
222%
299%
UK
461%
483%
0%
100%
200%
300%
400%
500%
600%
700%
800%



The following graphs show the impact of removing the VA on technical provisions, eligible own funds to cover the SCR and the SCR per undertaking. The impact is measured relative to the amount with the measures. Each bar corresponds to one undertaking. The bars are ordered by size in each graph. The graphs demonstrate that there is a wide disparity of the impact.



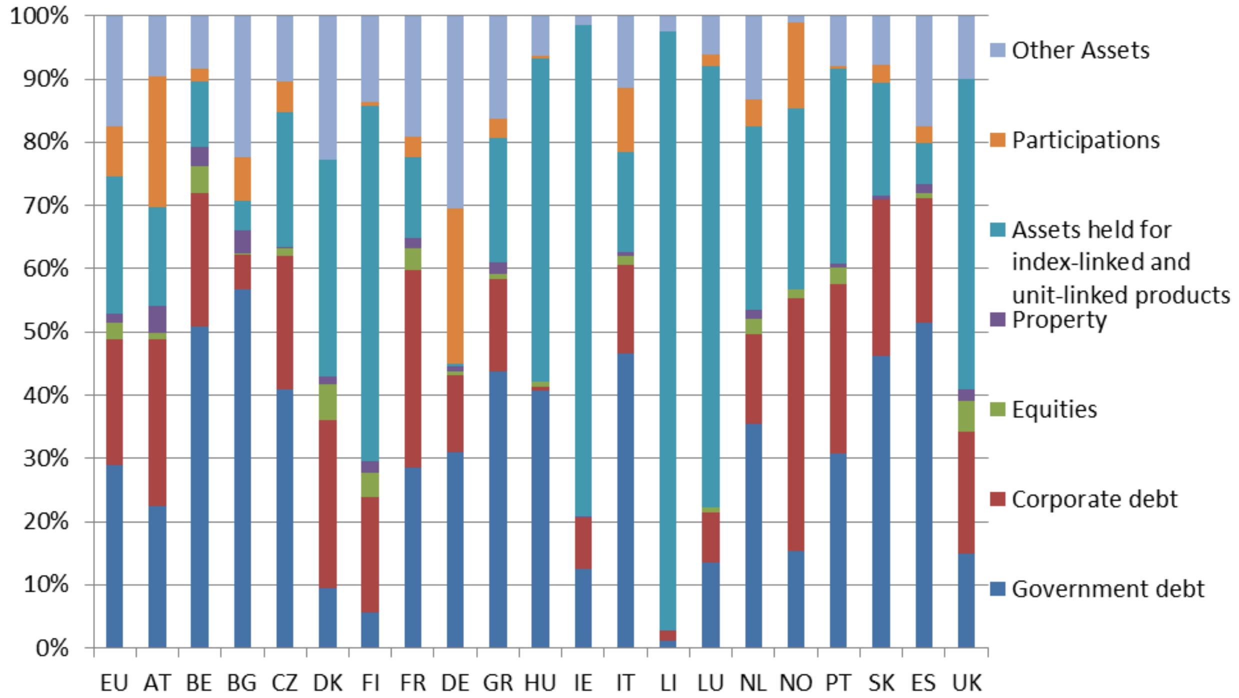

Impact of removing the VA on the eligible own funds to cover the SCR per undertaking
20%
0%
-20%
-40%
-60%


Impact of removing the VA on the SCR per undertaking
150%
100%
50%
0%
-50%

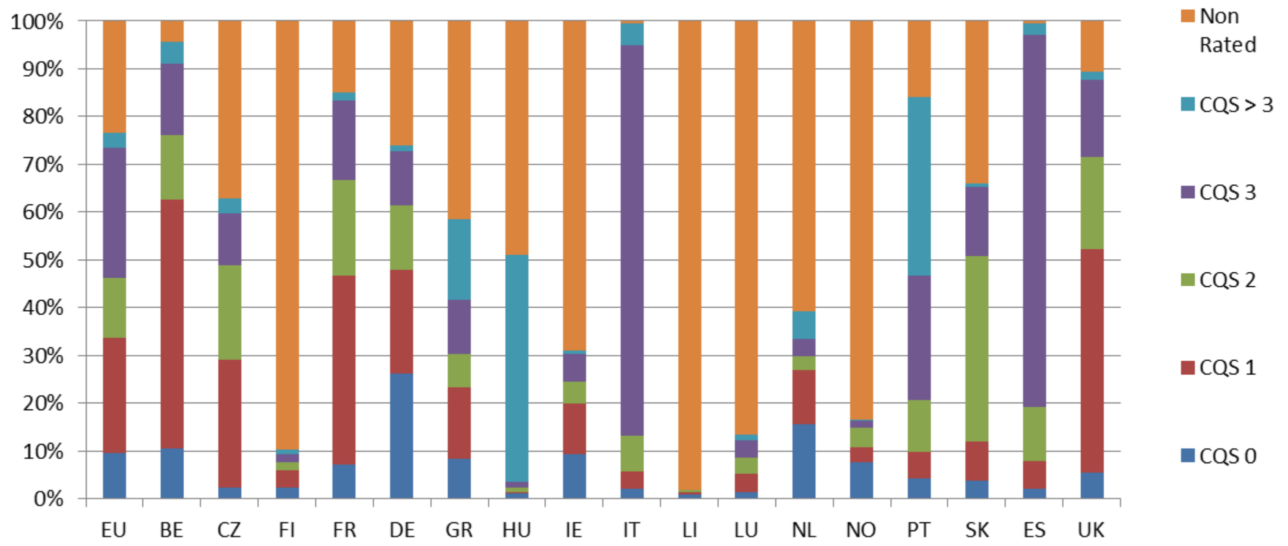
Impact on undertakings' investments

The following graphs compare the average asset portfolio of undertakings applying the VA. The first graph is based on the opening balance sheet for Solvency II on 1 January 2016[19]. The second graph is based on information from to the list of assets that undertakings reported to NSAs for the first quarter 2016. Both graphs show that the undertakings that use the VA have a different average asset portfolio, depending on their country.

Since there were less than 3 undertakings in Cyprus, Romania and Sweden applying the VA, these countries were excluded from the graphs in other to ensure the confidentiality of their undertakings' data. The second graph does not include information on Austria, Bulgaria and Denmark because for that market data on the credit quality and duration of undertakings applying the TTP were not available.



19 For a description of each asset classes used in the graphs please refer to Annex 3.



Impact on consumers and products

The following table sets out the share of gross written premiums of undertakings using the VA compared to the total gross premiums written by all undertakings in that country, for each line of business (columns 1 to 6) and for the total life insurance and life reinsurance business (column 7). The table is based on data reported by undertakings to NSAs at the end of the first quarter of 2016.

For instance, in Austria 78.6% of the total life insurance and life reinsurance premiums and 83.3% of health insurance premiums are written by undertakings applying the VA.

Country	1. Health insurance	2. Insurance with profit partici-pation	3. Index-linked and unit-linked insurance	4. Other life insurance	5. Health reinsurance	6. Life reinsurance	7. Total life insurance and reinsurance
AT	83,3%	80,1%	73,4%	55,9%	100,0%	94,0%	78,6%
BE	36,0%	92,1%	77,0%	62,4%	0,0%	100,0%	86,2%
BG	56,4%	79,6%	81,2%	85,3%	-	100,0%	82,5%
CY	(*)	(*)	(*)	(*)	(*)	(*)	(*)
CZ	47,5%	49,7%	68,5%	85,2%	0,0%	0,0%	62,3%
DK	64,0%	42,7%	79,0%	74,2%	100,0%	100,0%	68,7%
FI	100,0%	93,4%	89,4%	53,0%	-	100,0%	89,5%
FR	92,7%	68,4%	67,4%	70,8%	34,5%	74,1%	69,3%
DE	27,0%	78,8%	81,8%	88,8%	0,8%	6,8%	53,6%
GR	100,0%	99,8%	100,0%	100,0%	-	100,0%	99,9%
HU	81,6%	30,0%	59,4%	62,8%	0,0%	-	49,8%
IE	21,9%	0,9%	41,8%	21,8%	0,0%	5,0%	25,0%
IT	99,7%	99,3%	95,9%	97,2%	100,0%	89,6%	98,5%
LI	-	1,2%	12,8%	0,0%	-	-	9,1%
LU	38,6%	87,5%	85,0%	72,8%	0,0%	7,1%	73,4%
NL	95,7%	100,0%	96,5%	97,6%	-0,5%	29,0%	93,8%
NO	14,5%	42,3%	85,8%	92,3%	-	0,0%	57,6%

PT	0,0%	65,5%	70,7%	10,4%	-	85,1%	41,1%
RO	(*)	(*)	(*)	(*)	(*)	(*)	(*)
SK	71,8%	32,7%	53,0%	44,3%	0,0%	-	41,8%
ES	54,7%	91,2%	93,5%	82,6%	-	4,2%	84,4%
SE	(*)	(*)	(*)	(*)	(*)	(*)	(*)
UK	62,4%	21,5%	19,3%	43,3%	42,7%	18,2%	21,6%
EEA	**42,7%**	**77,8%**	**52,1%**	**62,7%**	**13,9%**	**21,0%**	**54,6%**

(*) Data from this country is not disclosed for confidentiality reasons because the number of undertakings applying the measure is lower than 3.

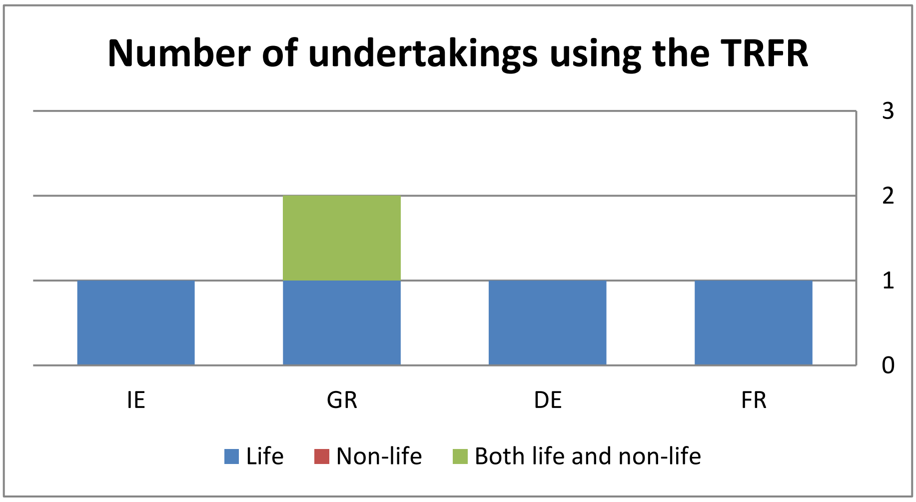
III.4 Transitional measure on the risk-free interest rates

For a period of 16 years after the start of Solvency II insurance and reinsurance undertakings may apply the transitional measure on the risk-free interest rate. Under the transitional measure undertakings apply a transitional adjustment to the risk-free interest rate for the valuation of insurance and reinsurance obligations. The transitional adjustment is based on the difference between the discount rates of Solvency I and the risk-free interest rates. At the beginning of Solvency II the transitional adjustment is 100% of that difference. Over the transitional period of 16 years the transitional adjustment is linearly reduced to zero. The transitional measure applies only to insurance and reinsurance obligations arising from contracts concluded before the start of Solvency II.

The use of the transitional measure is subject to supervisory approval.

Use of the transitional measure on the risk-free interest rates

5 undertakings in 4 countries are using the TRFR. All of them are life undertakings, except one Greek undertaking which pursues both life and non-life activity.



The market share in technical provisions of undertakings using the TRFR is negligible both at EEA level and national level except in Greece, where the aggregated market share of the two undertakings using the TRFR is approximately 10 per cent of the national market.

According to the Solvency II Directive it is possible to apply simultaneously TRFR and VA to the same liabilities. Among the 6 European undertakings applying the TRFR, 5 also apply the VA.

Impact on the financial position of undertakings

The impact results presented in this section are based on data from EIOPA's 2016 insurance stress tests. On the representativeness of the data see section II.2.

With respect to the TRFR, the information extracted from the stress test sample only contains data from undertakings in Ireland and Greece; therefore, the calculated average impact of the measures at EU level the may not be representative of all the undertakings applying the measure.

The impact of the TRFR on the SCR ratio for undertakings applying the measure is 52 percentage points. The average SCR ratio with the TRFR is 154% and 102% without the measure. That improvement of the SCR ratio is due to an average decrease of 7% in the SCR and an average increase of 29% in the eligible own funds.

The impact of the TRFR on the MCR ratio for undertakings applying the measure is 173 percentage points. The average MCR ratio with the TRFR is 521% and 348% without the measure.

The average impact of the TRFR on the technical provisions for undertakings applying the measure is a decrease of 9%.

At national level, the impact of the TRFR for undertakings using the measure both in Greece and Ireland are close to the above mentioned average impacts on technical provisions, SCR and MCR. Nevertheless, the impact of the measure on the eligible own funds is significantly higher in Greece than in Ireland due to a lower absolute amount of own funds for undertakings applying the TRFR in Greece; consequently the SCR ratio and MCR ratio in Greece are lower than the ratios in Ireland both with the TRFR and, in particular, without the TRFR.

Information on the phasing-in plans for the TRFR and the prospects for a reduced dependency on the measures can be found in section III.5.

Impact on undertakings' investments, consumers and products

As only five insurers are applying the TRFR, the data on the impact of this measure on investments of undertakings, consumers and products are currently limited and do not provide insight into the impact.

III.5 Transitional measure on technical provisions

For a period of 16 years after the start of Solvency II insurance and reinsurance undertakings may apply the transitional measure on technical provisions (TTP). Under the transitional measure undertakings apply a transitional deduction to the technical provisions for their insurance and reinsurance obligations.

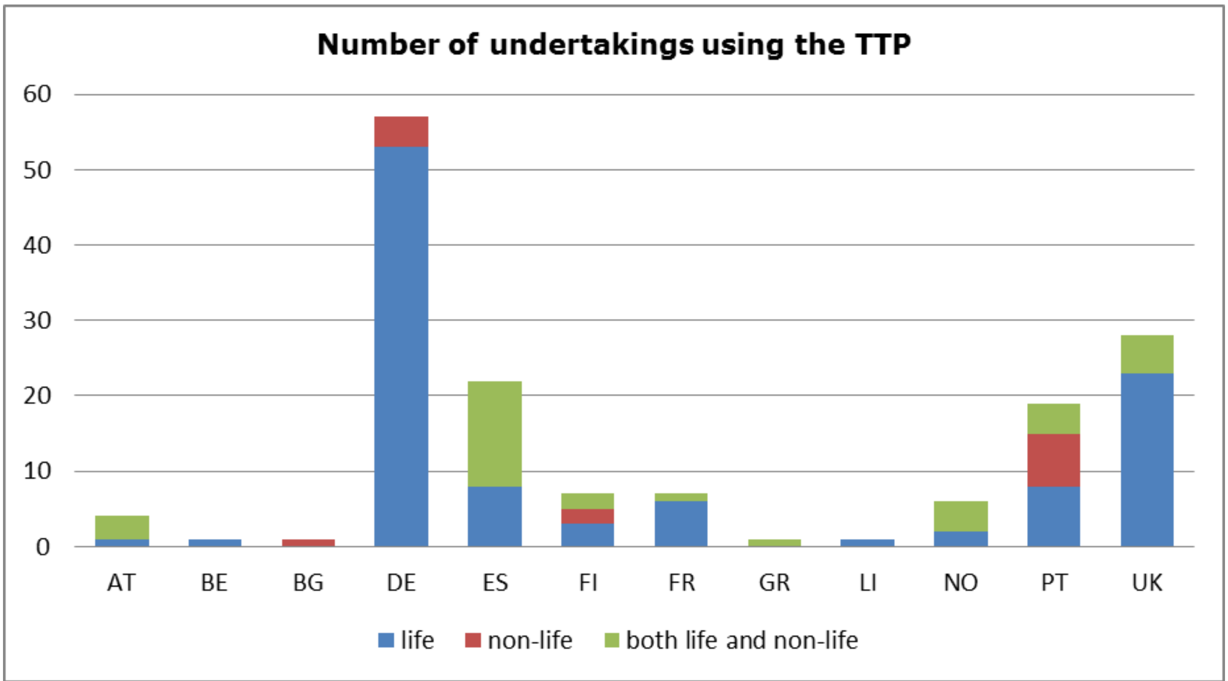
The transitional deduction is based on the difference between the technical provisions under Solvency I and the technical provisions under Solvency II. At the beginning of Solvency II the transitional adjustment is 100% of that difference, i.e. the technical provisions are equal to the technical provisions under Solvency I. Over the transitional period of 16 years the transitional deduction is reduced to zero. The transitional measure applies only to insurance and reinsurance obligations arising from contracts concluded before the start of Solvency II.

The use of the transitional measure is subject to supervisory approval.

Use of the transitional measure on technical provisions

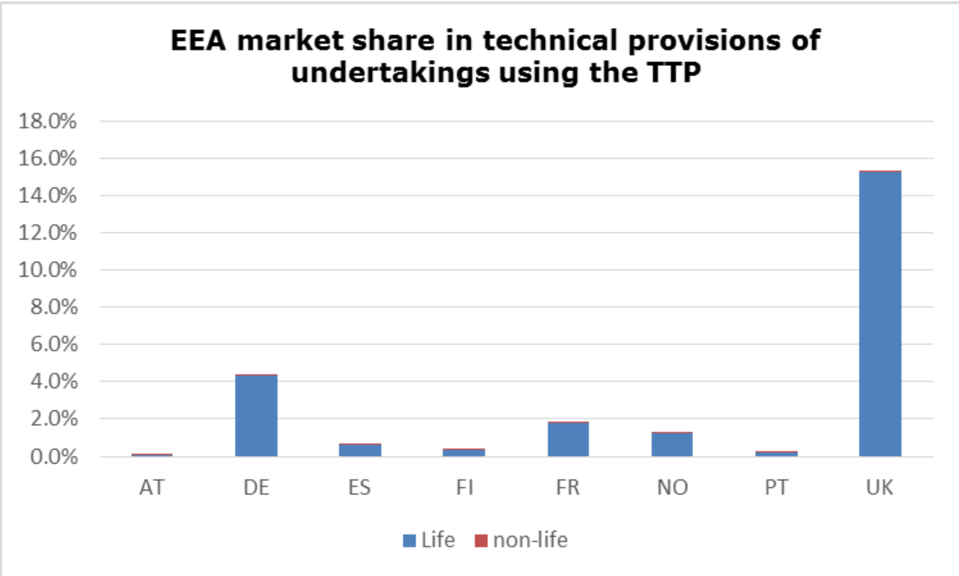
The TTP is applied by 154 undertakings from 12 countries (AT, BE, BG, DE, ES, FI, FR, GR, LI, NO, PT and UK).

The technical provisions of undertakings applying the TTP represent 24.1% of the total amount of technical provisions in the EEA. The technical provisions of undertakings applying the TTP in UK represent 15.3% and in Germany 4.3% of the overall technical provisions in the EEA.

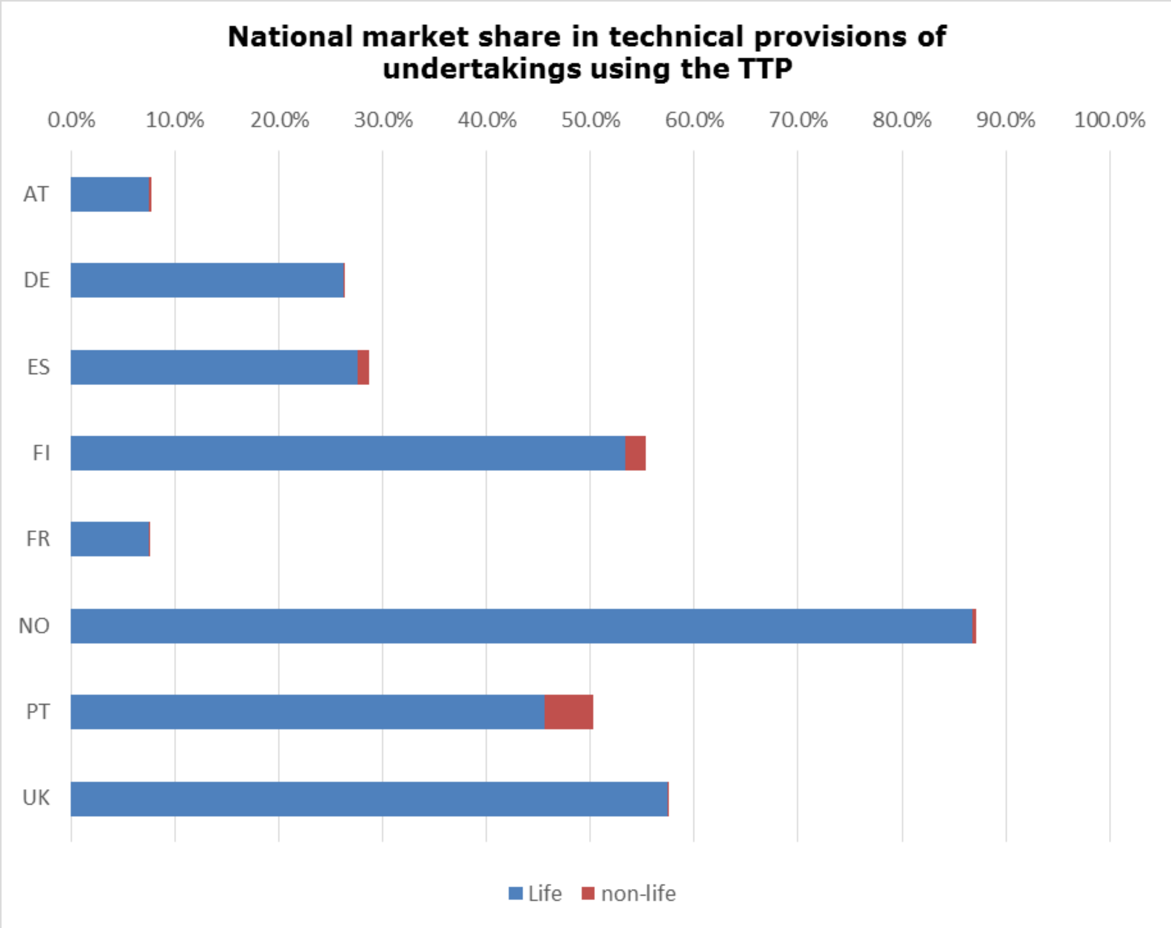


Number of undertakings using the TTP				
Country	both life and non-life	non-life	life	Total
AT	3	0	1	4
BE	0	0	1	1

BG	0	1	0	1
DE	0	4	53	57
ES	14	0	8	22
FI	2	2	3	7
FR	1	0	6	7
GR	1	0	0	1
LI	0	0	1	1
NO	4	0	2	6
PT	4	7	8	19
UK	5	0	23	28
EEA	**34**	**14**	**106**	**154**



The following graph displays the market share in terms of technical provisions at national level for undertakings using the TTP. In Norway, undertakings representing 87.2% or the national market are using the TTP. In the United Kingdom, Finland and Portugal, undertakings representing more than 50% of the national market are using the TTP.



According to the Solvency II Directive it is possible to apply simultaneously TTP and MA or VA to the same liabilities.

Undertakings applying simultaneously TTP and VA to the same liabilities			
Country	Number of undertakings	%TP of TP EU	%TP of national market
AT	2	(*)	(*)
FI	7	0.3%	55.4%
FR	7	1.8%	7.5%
DE	48	3.9%	23.8%
NO	3	0.7%	47.4%
PT	10	0.1%	19.5%
ES	19	0.6%	25.4%
UK	17	6.5%	24.4%
EEA	118	14.1%	-

(*) Data from Austria are not disclosed for confidentiality reasons because the number of undertakings concerned is lower than 3.

Undertakings applying simultaneously TTP and MA to the same liabilities			
Country	Number of undertakings	%TP EU	%TP national market
ES	8	0.4%	18.9%
UK	21	14.0%	52.6%
EEA	29	14.4%	-

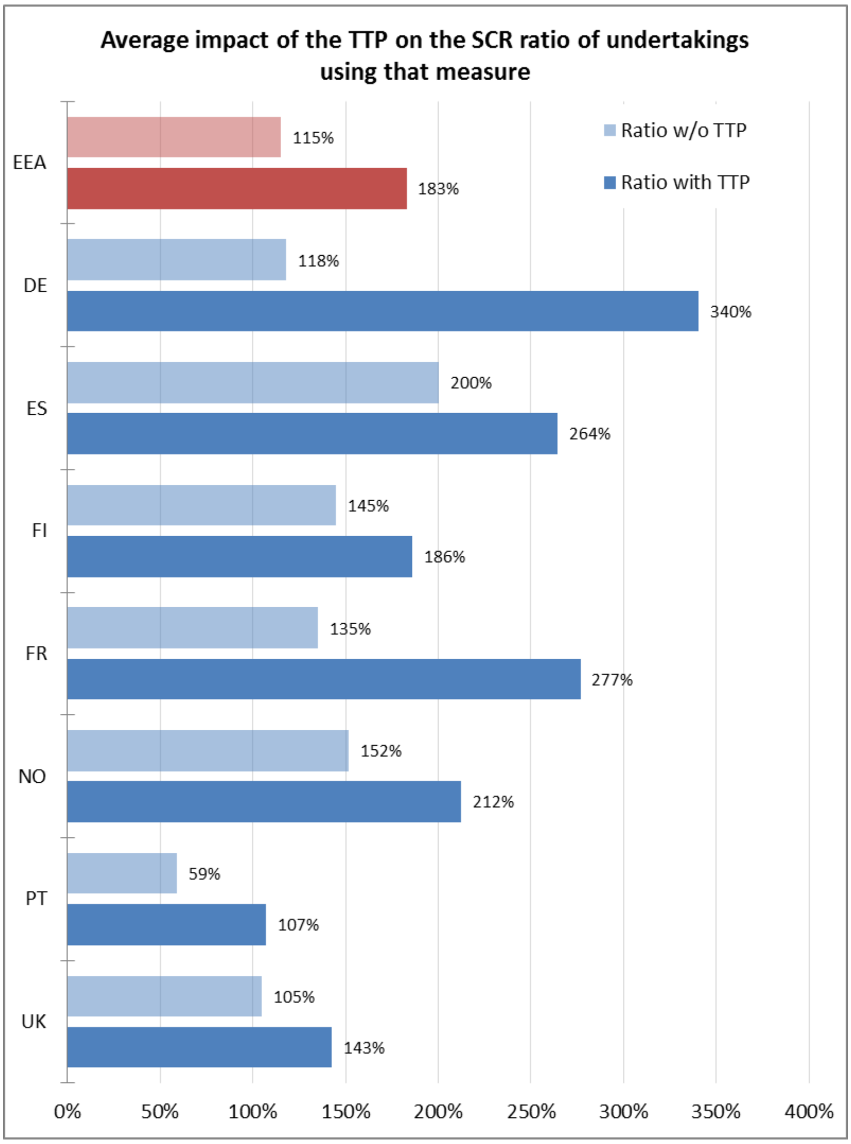
Impact on the financial position of undertakings

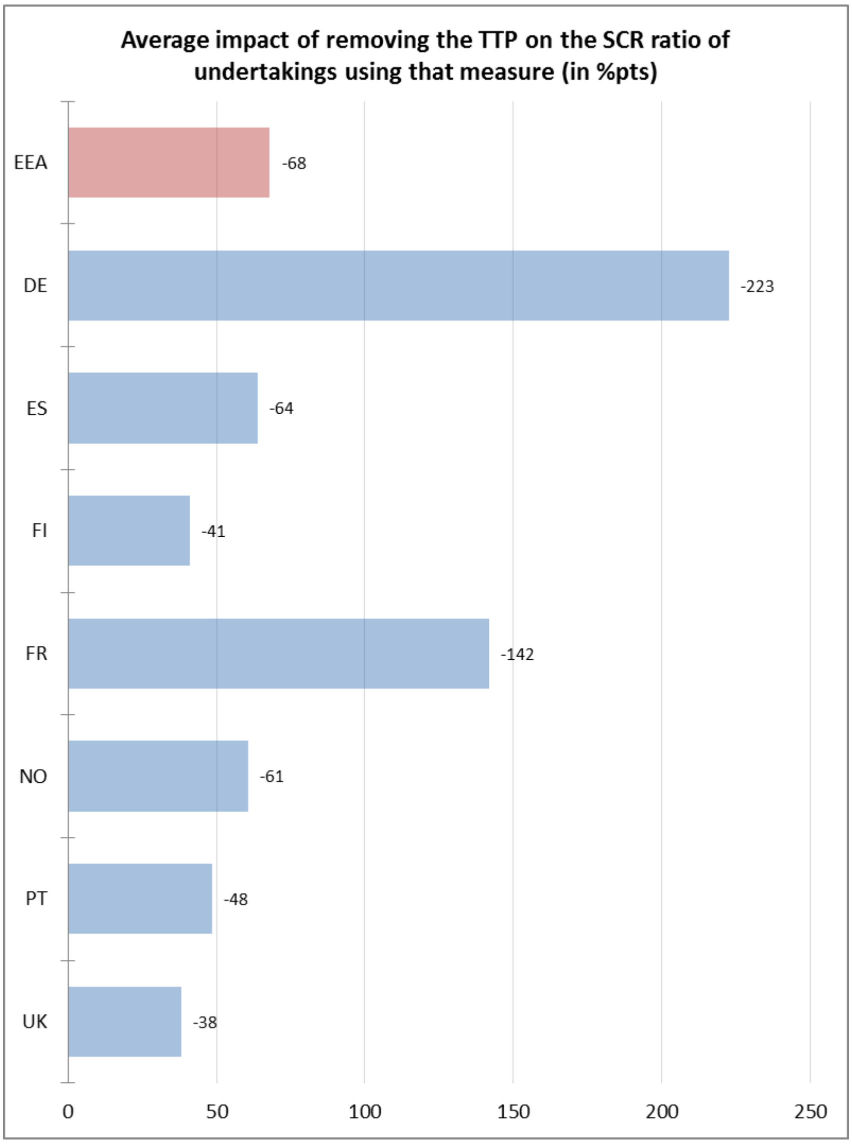
The impact results presented in this section are based on data from EIOPA's 2016 insurance stress tests. On the representativeness of the data see section II.2.

The following graphs show the overall quantitative impact of the use of the TTP. At EEA level, by removing the TTP the financial position of the insurance and reinsurance undertakings using that measure would show a decrease of the SCR ratio from 183% to 115%. Without the TTP the eligible amount of own funds to cover the SCR exceeding the regulatory requirements would decrease by 34% while SCR would increase by 5% upon recalculation of the SCR.

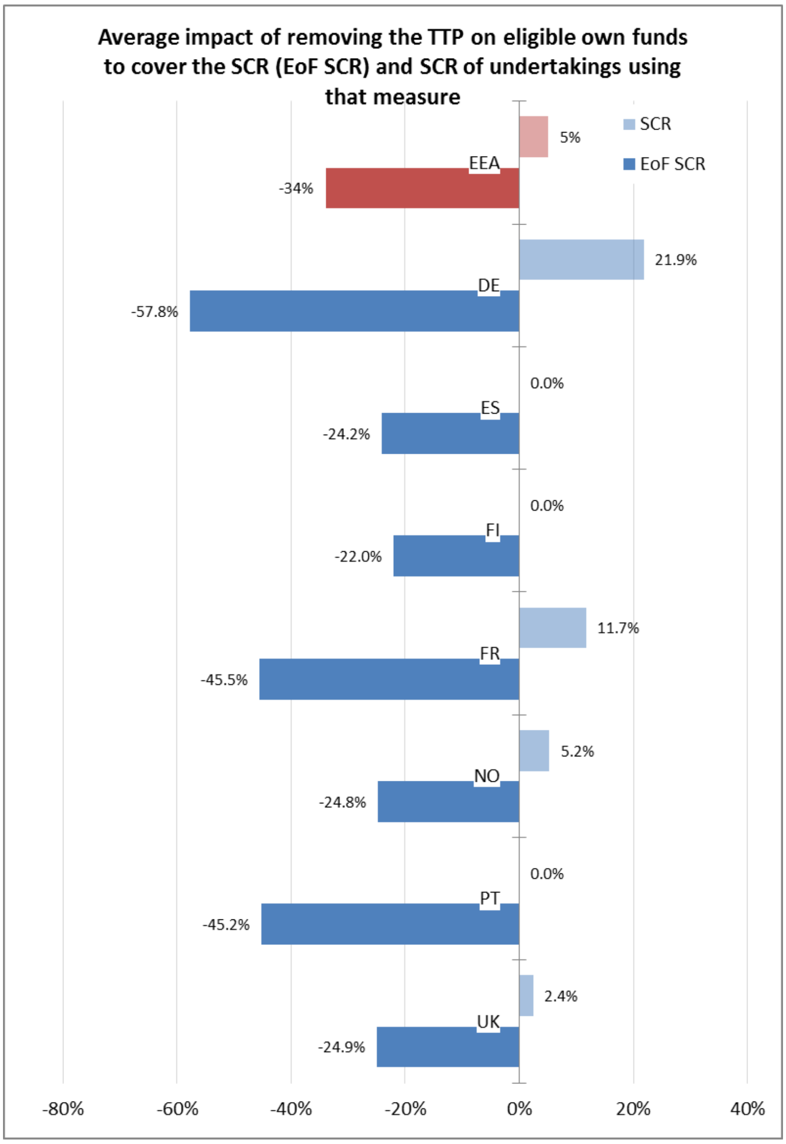
The average change in SCR ratios is the highest for undertakings in Germany, France, Belgium and Austria. Usually both components of the SCR ratio (SCR and eligible own funds) are affected by the use of the TTP, but in opposite direction. Typically eligible own funds decrease while the SCR increases when the TTP is removed. Germany had the largest decrease of eligible own funds, while Belgium accounts for the largest increase in the SCR.

No results at country level are shown for Austria, Belgium and Greece, due to confidentiality reasons; for Austria and Belgium the national average impact of the TTP is above the EEA average impact while for Greece the national average impact is slightly below the EEA average impact.

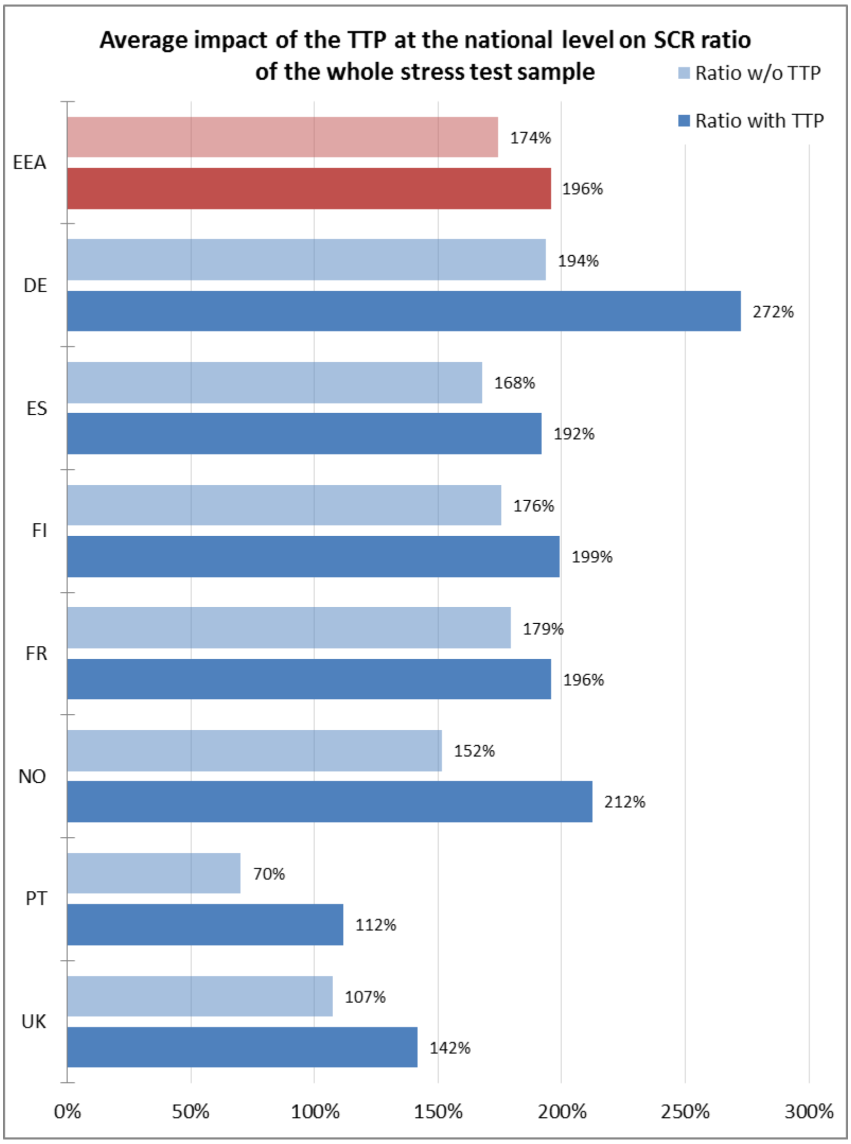

Average impact of the TTP on the SCR ratio of undertakings using that measure
Ratio w/o TTP
Ratio with TTP
EEA
115%
183%
DE
118%
340%
ES
200%
264%
FI
145%
186%
FR
135%
277%
NO
152%
212%
PT
59%
107%
UK
105%
143%
0%
50%
100%
150%
200%
250%
300%
350%
400%



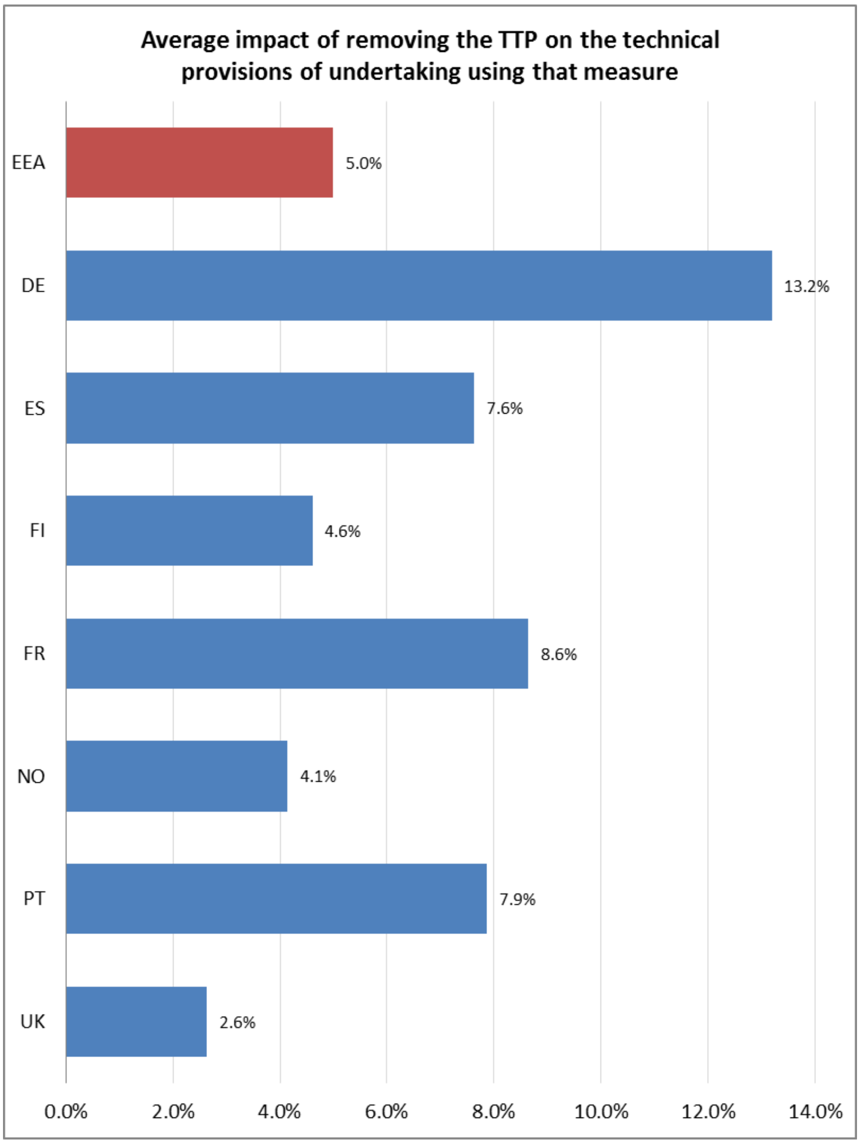
Average impact of removing the TTP on the SCR ratio of undertakings using that measure (in %pts)
EEA
DE
ES
FI
FR
NO
PT
UK
-68
-223
-64
-41
-142
-61
-48
-38
0
50
100
150
200
250


Average impact of removing the TTP on eligible own funds to cover the SCR (EoF SCR) and SCR of undertakings using that measure
SCR
EoF SCR
EEA
5%
-34%
DE
21.9%
-57.8%
ES
0.0%
-24.2%
FI
0.0%
-22.0%
FR
11.7%
-45.5%
NO
5.2%
-24.8%
PT
0.0%
-45.2%
UK
2.4%
-24.9%
-80%
-60%
-40%
-20%
0%
20%
40%

The following graph display the overall impact of the TTP on the SCR ratio for the whole stress test sample (including both undertakings using or not using the measure). At the EEA level, removing the TTP would result on average in a decrease of the SCR ratio by 22 percentage points.

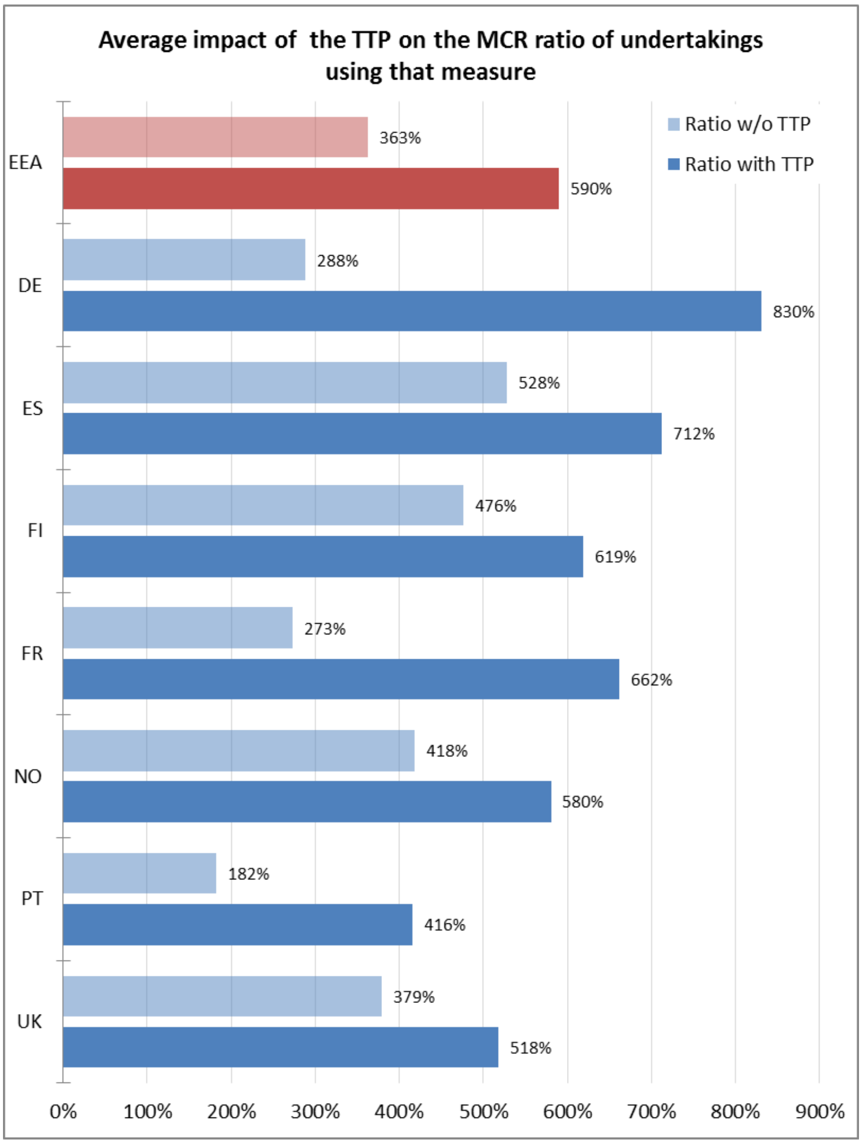


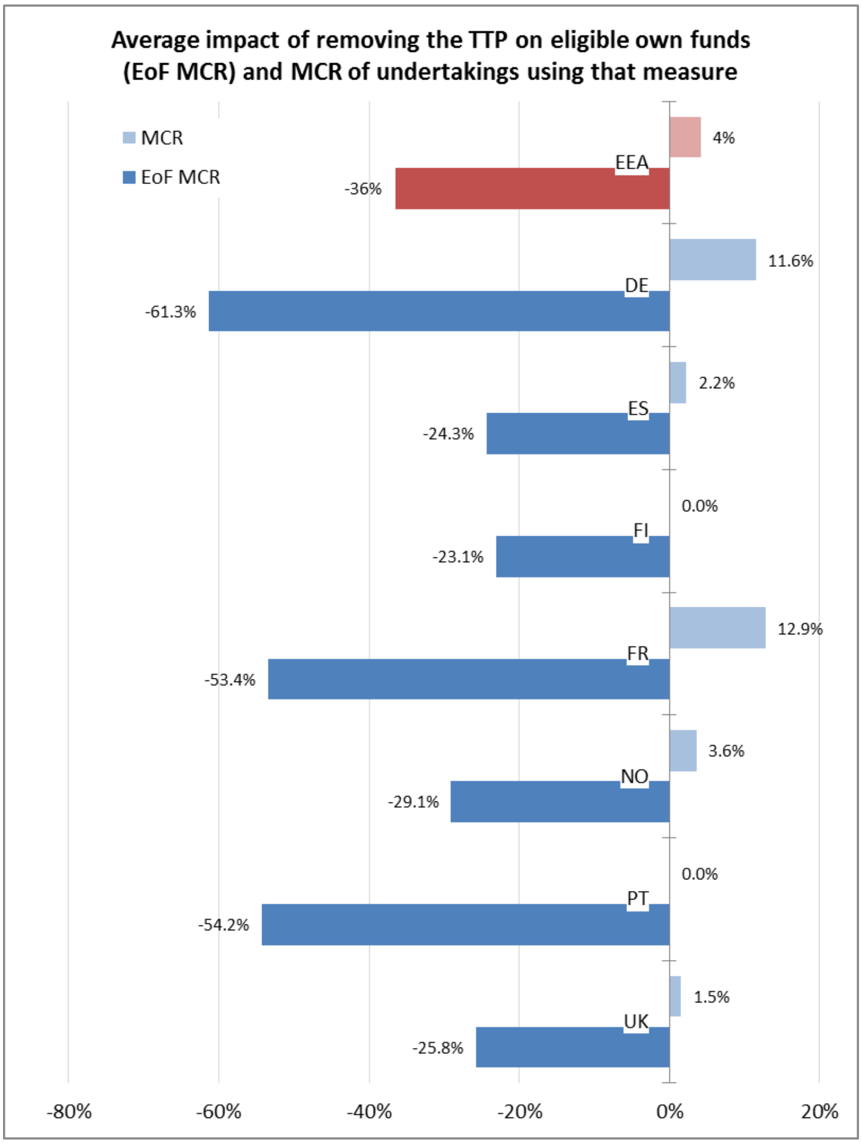
The average increase in technical provisions without the TTP would be around 5% at EEA level. At country level, undertakings from Germany would have the highest average increase due of the application of the TTP.


Average impact of removing the TTP on the technical provisions of undertaking using that measure
EEA
DE
ES
FI
FR
NO
PT
UK
5.0%
13.2%
7.6%
4.6%
8.6%
4.1%
7.9%
2.6%
0.0%
2.0%
4.0%
6.0%
8.0%
10.0%
12.0%
14.0%

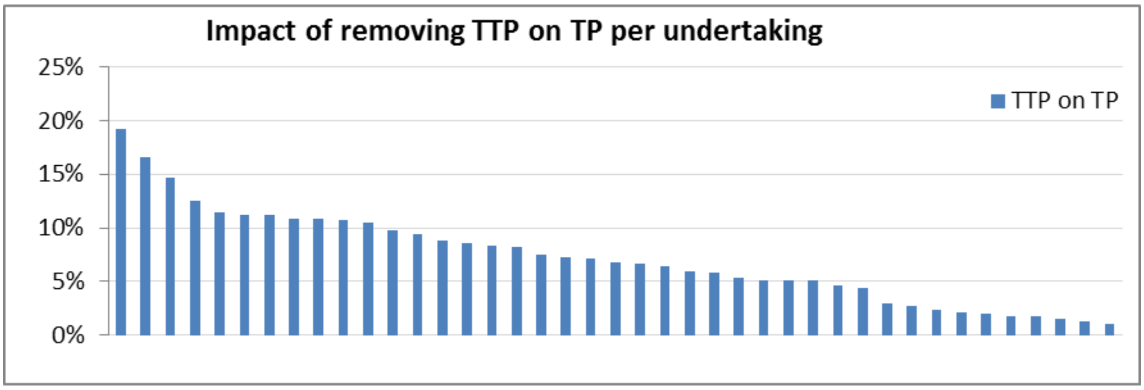
The following graph shows the impact of the TTP on the MCR ratio at country and at EEA level for undertakings using that measure. Without the TTP the MCR ratio decreases on average by 227 percentage points.

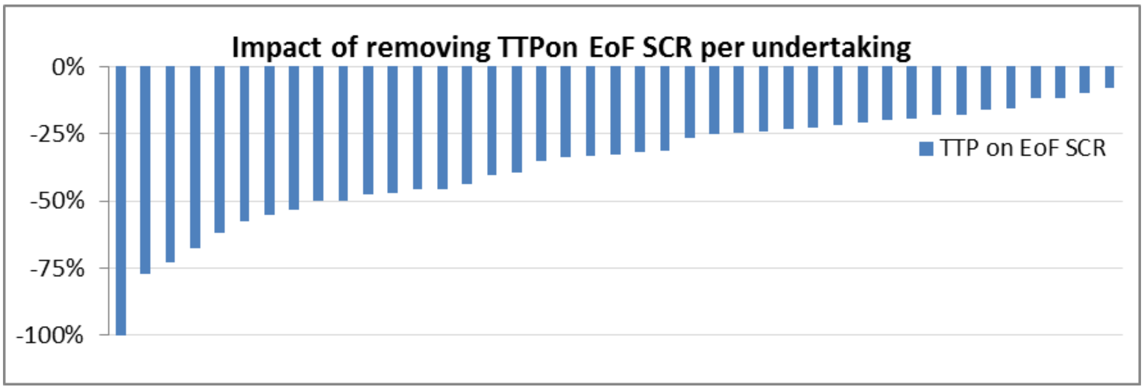
At country level, average MCR solvency ratios are not below 100% without applying the TTP. As for the effects noted on the SCR, similarly for MCR the analysis shows that for undertakings from Germany, France and Belgium have the highest average impact. On average, the impact on the MCR and the MCR ratio may be higher than shown in the graphs.

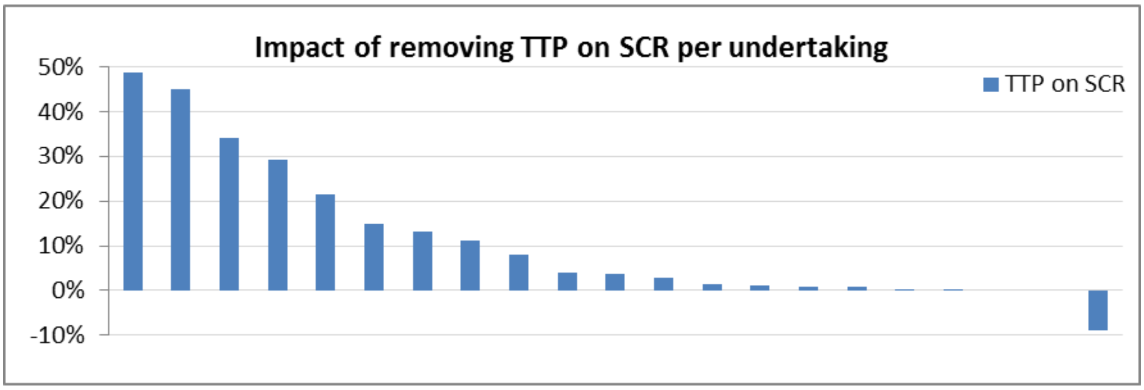



Average impact of removing the TTP on eligible own funds (EoF MCR) and MCR of undertakings using that measure
MCR
EoF MCR
EEA
4%
-36%
DE
11.6%
-61.3%
ES
2.2%
-24.3%
FI
0.0%
-23.1%
FR
12.9%
-53.4%
NO
3.6%
-29.1%
PT
0.0%
-54.2%
UK
1.5%
-25.8%
-80%
-60%
-40%
-20%
0%
20%

The following graphs show the impact of removing the TTP on technical provisions, eligible own funds to cover the SCR and the SCR per undertaking. The impact is measured relative to the amount with the measures. Each bar corresponds to one undertaking. The bars are ordered by size in each graph. The graphs demonstrate that there is a wide disparity of the impact.







Phasing-in plans

35 insurance and reinsurance undertakings from four countries were applying the TRFR or TTP and did not non-comply with the SCR without that transitional measure on 1 January 2016. The missing eligible own funds to comply with the SCR without the transitional measures amount for these undertakings to 5.26 billion euro.

All these undertakings have submitted to their NSA a phasing-in plan that sets out the planned measures to establish the level of eligible own funds covering the SCR or to reduce its risk profile to ensure compliance with the SCR at the end of the transitional period (see Article 308e of the Solvency II Directive). According to the submitted phasing-in plans undertakings plan to take different measures to remedy the situation, such as:

- raising of new capital,
- reduction of their risk profile through changes in the mix of invested assets, or through the reduction of insurance and reinsurance business with higher capital needs,
- change of the product design for new business written by lowering guaranteed rates or focusing on unit-linked products without guarantee or pure protection products, for instance
- reduction of their expenses,
- reduction of future discretionary benefits, and of the benefits to policyholders linked to in-force contracts,
- retention of profits or earnings,
- no payment of dividends.

NSAs reported that they validate and monitor closely the assumptions underlying the phasing-in plans. They also reported amendments to phasing-in planes for example when quantitative or qualitative terms of the phasing-in plans were insufficient, or when key underlying assumptions were not subject to sensitivity analysis.

NSAs need to revoke the approval of the application of the transitional measure where the compliance with the SCR at the end of the transitional period is unrealistic. No such case of revocation of the TRFR or the TTP has been reported by NSAs.

The following table provides an overview of the number of undertakings not complying with the SCR without the transitional measures on 1 January 2016 and the missing amount of eligible own funds to comply with the SCR without the transitional measures at that point in time.

Country	Undertakings not complying with the SCR without the transitional measures	Missing amount of eligible own funds to comply with the SCR without the transitional measures (billion euro)
DE	16	3.46
ES	4	0.14
GR	3	0.27
PT	12	1.39
Total	**35**	**5.26**

Prospects for a reduced dependency on the transitional measures

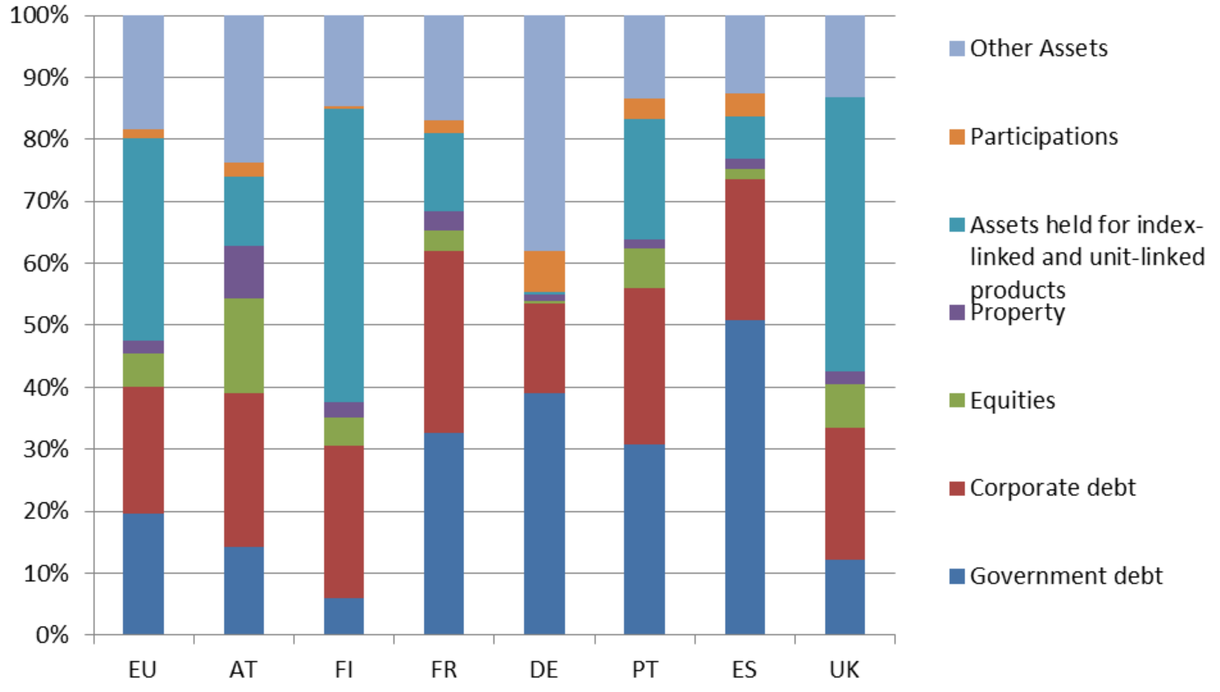
The NSAs of the jurisdictions where the TRFR and the TTP are applied generally expect that the dependency on these measures will gradually decrease provided that the phasing-in plans are fulfilled. This needs to be closely monitored by the NSAs. Nevertheless, persistence of low interest rates or future unexpected economic development could have an impact on this dependency and could require undertakings taking additional measures to reduce it.

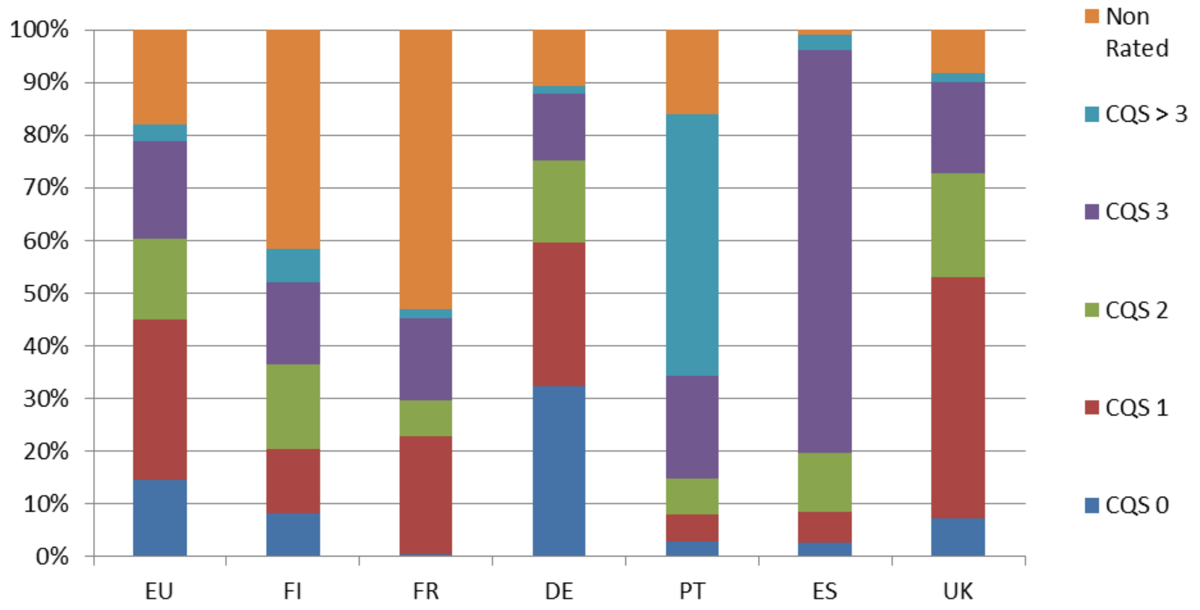
Undertakings applying the transitional measures are usually subject to an intensified supervision. Some NSAs require changes in asset allocation to reduce market risk, the adaptation of products to the low interest rate environment, or the reduction of dividend payments and of profit participation.

Impact on the undertakings' investments

The following graphs compare the average asset portfolio of undertakings applying the TTP. The first graph is based on the opening balance sheet for Solvency II on 1 January 2016. The second graph is based on information from to the list of assets that undertakings reported to NSAs for the first quarter 2016. Both graphs show that the undertakings that use the TTP have a different average asset portfolio, depending on their country.

Since there were less than 3 undertakings in Cyprus, Romania and Sweden applying the TTP, these countries were excluded from the graphs in other to ensure the confidentiality of their undertakings' data. The second graph does not include information on Austria because for that market data on the credit quality and duration of undertakings applying the TTP were not available.





Impact on consumers and products

The following table sets out the share of gross written premiums of undertakings using the TTP compared to the total gross premiums written by all undertakings in that country, for each line of business (columns 1 to 6) and for the total life insurance and life reinsurance business (column 7). The table is based on data reported by undertakings to NSAs at the end of the first quarter of 2016.

For instance, in Austria 6.7% of the total life insurance and life reinsurance premiums and that 9.1% of premiums for index-linked and unit-linked business are written by undertakings applying the TTP.

Country	1. Health insurance	2. Insurance with profit partici-pation	3. Index-linked and unit-linked insurance	4. Other life insurance	5. Health reinsurance	6. Life reinsurance	7. Total life insurance and reinsurance
AT	0,3%	8,7%	9,1%	7,6%	0,0%	0,0%	6,7%
BE	(*)	(*)	(*)	(*)	(*)	(*)	(*)
FI	72,7%	74,8%	53,2%	53,0%	-	100,0%	56,2%
FR	0,0%	5,8%	7,4%	2,7%	0,0%	34,9%	7,9%
DE	12,3%	37,3%	38,4%	17,3%	0,0%	0,6%	24,3%
GR	(*)	(*)	(*)	(*)	(*)	(*)	(*)
NO	8,2%	98,1%	87,0%	80,2%	-	0,0%	86,7%
PT	100,0%	61,5%	54,0%	85,1%	-	27,4%	70,8%
ES	0,0%	28,9%	35,6%	21,5%	-	0,0%	24,4%
UK	74,3%	99,3%	31,8%	72,6%	42,7%	94,5%	74,5%
EEA	**12,0%**	**15,9%**	**18,2%**	**32,7%**	**1,1%**	**78,4%**	**31,3%**

(*) Data from this country is not disclosed for confidentiality reasons because the number of undertakings applying the measure is lower than 3.

III.6 Duration-based equity risk sub-module

The standard formula for the SCR includes an equity risk sub-module that captures the risk stemming from changes in the level of equity market prices. The equity risk sub-module is based on risk scenarios that envisage a fall in equity market prices of 39% or 49%, depending on the type of equity.

Instead of that equity risk sub-module, undertakings can use a duration-based equity risk sub-module that is, with regard to certain equity investments, based on a risk scenario that envisages a fall in equity market prices of 22%. The duration-based equity risk sub-module can only be applied by life insurance undertakings that provide certain occupational retirement provisions or retirement benefits and meet further requirements, in particular that the average duration of the undertaking's liabilities exceeds an average of 12 years and that the undertaking is able to hold equity investments at least for 12 years.

The possibility to apply the DBER is a Member State option of the Solvency II Directive (Article 304(1)). The application of the DBER by an insurance undertaking is subject to supervisory approval.

Use of the duration-based equity risk sub-module

Only one undertaking in France was using the DBER as at 1 January 2016.

11 NSAs reported that the duration-based equity risk submodule is not implemented in their national legislation (CZ, DK, FI, DE, IS, LT, LV, NL, PL, SK and BG).

The NSAs of the other countries provided the following explanations why the DBER is not applied:

- The products in the national market do not meet the criteria of Article 304 of the Solvency II Directive;
- Undertakings are not or not very active in the pension market;
- There is no need or no interest for this sub-module;
- There is not yet an incentive to apply the DBER because the equity transitional of Article 308b(13) of the Solvency II Directive currently lowers the capital requirement for equity investments, but more applications may follow in the course of the phasing out of that transitional measure.

Impact on the financial position of undertakings

According to the equity transitional of Article 308b(13) of the Solvency II Directive the calculation of the equity risk sub-module on 1 January 2016 should be based on a risk scenario that envisages a fall in equity market prices of 22%. Therefore the DBER has no impact on the financial position of undertakings on 1 January 2016. The equity transitional will phase out during the first six years of Solvency II. An impact of the DBER is expected from 2017 onwards.

The insurance undertaking that applied the DBER as at 1 January 2016 did not participate in the 2016 insurance stress test. EIOPA has therefore currently no information about the impact of the DBER on the financial position without application of the equity transitional.

III.7 Symmetric adjustment to the equity risk charge

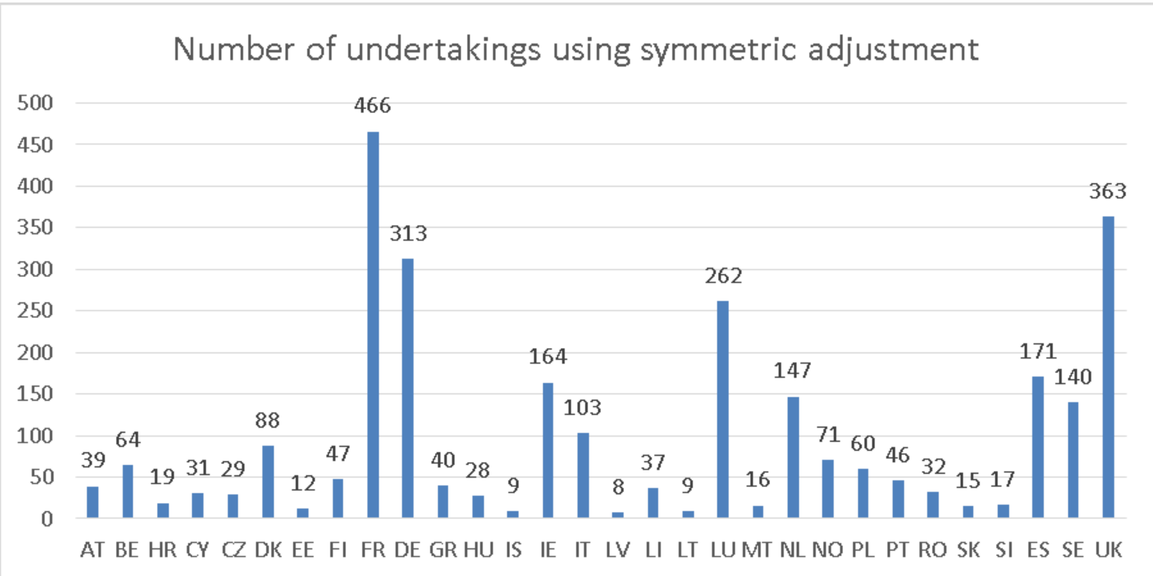
Introduction

Recital 61 of the Solvency II Directive states that in order to mitigate undue potential pro-cyclical effects of the financial system and avoid a situation in which insurance and reinsurance undertakings are unduly forced to raise additional capital or sell their investments as a result of unsustained adverse movements in financial markets, the market risk module of the standard formula for the SCR should include a symmetric adjustment mechanism with respect to changes in the level of equity prices.

The symmetric adjustment is expected to be positive (i.e. the capital requirement is higher) when markets have risen recently, and negative (i.e. the capital requirement is lower) when equity markets have dropped in the previous months. For more explanations on the symmetric adjustment see the thematic focus on the technical information on that adjustment calculated and published by EIOPA in section IV.3.

Use of the symmetric adjustment to the equity risk charge

The symmetric adjustment mechanism applies to all undertakings that use the standard formula to calculate the equity risk sub-module of the SCR, including all undertaking using a partial internal model not covering that submodule.



Impact on the financial position of undertakings

According to the equity transitional of Article 308b(13) of the Solvency II Directive the calculation of the equity risk sub-module on 1 January 2016 should be based on a risk scenario that envisages a fall in equity market prices of 22%, irrespective of the amount of the symmetric adjustment. Therefore removing the symmetric adjustment has no impact on the financial position of undertakings on 1 January 2016. The equity transitional will phase out during the first six years of Solvency II. An impact of the symmetric adjustment is expected from 2017 onwards.

III.8 Extension of the recovery period

Under Solvency II insurance and reinsurance undertakings are required to hold eligible own funds that cover their SCR. When an undertaking is not covering its SCR, the NSA shall require it to take the necessary measures to achieve, within six months from the observation of non-compliance with the SCR, the re-establishment of the level of eligible own funds covering the SCR or the reduction of its risk profile to ensure compliance with the SCR. The NSA may, if appropriate, extend that period by three months.[20]

Article 138(4) of the Solvency II Directive states that supervisory authorities may, under certain circumstances, further extend the recovery period for the re-establishment of compliance with the SCR as set out in Article 138(2) of that Directive by a maximum period of 7 years.

This power applies in the event of exceptional adverse situations affecting insurance and reinsurance undertakings that represent a significant share of the market or of the affected lines of business. The condition for an exceptional adverse situation are on or more of the following:

- A fall in financial markets which is unforeseen, sharp and steep;
- A persistent low interest rate environment;
- A high-impact catastrophic event.

This ERP can only be granted after EIOPA has declared the existence of an exceptional adverse situation. A necessary condition for the declaration is a request by an NSA. Article 288 of the Solvency II Delegated Regulation further states several factors and criteria that EIOPA shall take into account in assessing the existence of an exceptional adverse situation. Where appropriate EIOPA could consult the ESRB before deciding on the existence of an exceptional adverse situation.

Once EIOPA has declared the existence of an exceptional adverse situation, the NSAs can decide on an extension of the period and determine its length for individual insurance and reinsurance undertakings. For that purpose the NSAs shall take into account the factors and criteria set out in Article 289 of the Solvency II Delegated Regulation. To ensure a consistent approach in the ERP, EIOPA issued on 14 September 2015 Guidelines on the ERP in exceptional adverse situations.[21] The guidelines relate in particular to the decision to grant an extension, the duration of the extension and the withdrawal and revocation of the extension.

During the extended recovery period the undertakings affected are required to submit every three months a progress report to their NSA setting out the measures taken and the progress made to meet the SCR; in case of no significant progress, the ERP will be withdrawn.

During 2016, EIOPA has developed the process for declaring an exceptional adverse situation for the purposes of Article 138(4) of the Solvency II Directive, as part of the implementation of EIOPA's Crisis Management Handbook, which sets out the general framework to support the role of the Authority regarding crisis prevention and management in accordance to Article 18(1) and Article 31 of EIOPA's Regulation.

EIOPA's internal process for declaring an exceptional adverse situation covers the following aspects:

- the guiding principles to be considered in declaring such a situation, including timely action, proportionality, close cooperation between EIOPA and the NSAs

[20] See Articles 100 and 138(2) of the Solvency II Directive.

[21] See https://eiopa.europa.eu/publications/eiopa-guidelines/guidelines-on-the-extension-of-the-recovery-period.

concerned, consistency in deciding on exceptional adverse situation and transparency of the decision process;

- the description of the decision-making process, including the sequence of actions and the allocation of roles and responsibilities in the declaration and continuous assessment of such a situation;
- practical guidance on the condition, the factors and the criteria upon which EIOPA has to take the decision whether such a situation exists; and
- the template to be used by the concerned NSAs in order to make a request to EIOPA to declare such a situation.

To date EIOPA has not received a request to declare an exceptional adverse situation.

It should be noted that the transitional measure of Article 308b(14) of the Solvency II Directive may apply to cases of non-compliance with the SCR in 2016. According to that transitional provision, the recovery period for undertakings which comply with Solvency I capital requirements at the end of 2015 but do not comply with the SCR in the first year of application of Solvency II, may last until 31 December 2017.

Where an insurance or reinsurance undertaking is subject to the SCR transitional measure, it has to submit a progress report to its NSA every three months setting out the measures taken to re-establish the level of eligible own funds covering the SCR or to reduce the risk profile to ensure compliance with the SCR. The extension has to be withdrawn where that progress report shows that there was no significant progress in achieving that objective.

The following table shows the number of undertakings breaching the SCR (taking into account all LTG and equity measures applied) on 1 January 2016 and, among them, the number of undertakings subject to the transitional measure of Article 308b(14) of the Solvency II Directive.

Country	Undertakings breaching the SCR	Among them, undertakings under the SCR transitional
Belgium	2	2
Cyprus	2	1
France	7	5
Germany	3	3
Greece	1	1
Ireland	4	4
Italy	8	1
Liechtenstein	1	1
Luxembourg	16	6
Malta	3	3
Netherlands	1	0
Norway	1	0
Poland	2	0

Portugal	6	6
Romania	7	0
Spain	4	4
UK	6	4
Total	**74**	**41**

The number of undertakings breaching the SCR on 1 January 2016 but not subject to the transitional measure of Article 308b(14) of the Solvency II Directive refers mainly to undertakings which have already reached compliance with the SCR during the first months of 2016 (in particular through raising capital, through de-risking, for example by means of reinsurance arrangements, or through being merged with another undertaking) within the ordinary recovery period of 6 to 9 months provided for in Article 138(2) of the Solvency II Directive. Additionally, some undertakings are subject to reorganisation measures or winding-up proceedings, including from before the entry into application of Solvency II.

IV. Thematic foci

VI.1 Approval processes

For this report, EIOPA has undertaken a review of the approval processes associated with the LTG measures and the measures on equity risk. The review should show how widely each of the measures is used and how NSAs approve the measures.

Of the eight LTG measures and measures on equity risk, the Solvency II Directive requires a supervisory approval process for four of them (MA, TTP, TRFR and DBE) and it also gives Member States the option to have a supervisory approval process for the VA. In the following the NSAs responses to an EIOPA questionnaire on those approval processes are set out. The questionnaire is included in Annex 6. It should be noted that the questionnaire referred to approval processes with respect to applications received before 1 January 2016. The number of approvals granted differs in some countries from the number of undertakings using the measures shown in sections II and III of this report due to further developments between 1 January 2016 and the date of submission of opening information to NSAs.

Volatility adjustment (VA)

Article 77d of the Solvency II Directive allows Member States to have an approval process in order for undertakings to use the VA to calculate their technical provision and SCR. 10 countries impose such an approval process (DE, DK, EE, HR, IE, PL, PT, RO, SI, UK).

The table below summarises the number of applications, approvals, rejections, withdrawals and on-going approval processes on 1 January 2016 for these 10 countries. Germany had the highest number of applications and approvals, followed by the United Kingdom and Denmark.

In one country four applications to use the VA were rejected. The key reason for rejection was that the business was of short term nature which was considered not to be consistent with the long term objective of the VA. The reasons for withdrawals were that use of the VA was not necessary anymore since the use of the MA had been approved, or that the applicants' assessment of the need of the measure or of the ability to fulfill the approval criteria changed.

As at 1 January 2016	Application received	Granted	Rejected	Withdrawn	Ongoing
DE	80	79	0	0	1
DK	20	15	0	0	5
EE	1	0	0	1	0
IE	10	5	4	0	1
PT	14	0	0	0	14
UK	31	23	0	5	3
Total	**156**	**122**	**4**	**6**	**24**

The criteria to approve the VA application differ from one country to another. NSAs reported the use of one or several of the following criteria for approving the VA:

- The undertakings' investments are sufficiently similar to the representative portfolio of assets[22] that is used in the calculation of the VA.
- The undertaking is able to fulfill the prudent person principle for investments[23] when it applies the VA.
- The undertaking is able to manage the risks that are introduced or affected by the VA, in particular liquidity risk.
- The undertaking is able to earn on its investments an interest that is at least as high as the risk-free interest rate plus the VA.
- The use of the VA does not result in or incentivise procyclical investment behaviour of the undertaking.
- The use of the VA prevents procyclical investment behaviour of the undertaking.
- The risk profile of the undertaking is in line with the assumptions underlying the VA.

Matching adjustment

Article 77b of the Solvency II Directive stipulates that the use of the MA is subject to approval by the NSA. On 1 January 2016 two countries had insurance and reinsurance undertakings applying for the use of the MA: Spain and the United Kingdom.

The table below summarises the number of applications, approvals, rejections, withdrawals and on-going approval processes on 1 January 2016 for these two countries[24]. One application was rejected because the undertaking did not meet the fixed cash-flow criterion for assets required under Article 77b(h) of the Solvency II Directive. The withdrawals of applications were due to changes in scope of the applications in order to ensure that the portfolio meets the legal requirements for the use of the MA.

As at 1 January 2016	Application received	Granted	Rejected	Withdrawn	Ongoing
ES	17	16	0	1	0
UK	24	20	1	2	1
Total	**41**	**36**	**1**	**3**	**1**

EIOPA requested the NSAs to explain how they assess whether there is material mismatch between the asset and liability cash-flows of the business subject to the MA.[25] For that purpose the UK developed a suite of principle-based matching tests and associated thresholds. These tests are not the only tests that firms can use to demonstrate matching and are not hard tests (i.e. failure of one or more of the tests does not automatically mean a firm is mismatched and therefore breaching MA

[22] On the representative portfolio see Article 77d of the Solvency II Directive.

[23] On the prudent person principle see Article 132 of the Solvency II Directive.

[24] In Spain, the 16 approvals granted relate to 15 undertakings since one undertaking received the MA approval for two different portfolios.

[25] Article 77b(1)(c) of the Solvency II Directive requires that the mismatch between asset and liability cash-flows is immaterial.

requirements). Instead they are used to assess the quality of undertakings' matching consistently across the industry. The tests consider the extent to which firms are materially under- or over-matched.

The Spanish NSA applies a criterion with regard to negative balances of cash-flows, i.e. expected liability cash-flows that are higher than the expected asset cash-flows at any future month. In case there is a negative balance, it should not exceed the total payments for that month and the two previous months. Also any negative balance at the end of a year may not exceed 12.5 per cent of the total payments of that year.

EIOPA also asked whether insurance and reinsurance undertakings had any difficulty in meeting any of the legal requirements for the MA. The NSA from the United Kingdom mentioned that the fixed cash-flow criterion for assets was the most difficult for undertakings to meet as the assets that were considered to be good-fit for annuities under Solvency I do not meet this criteria. Spain did not highlight any issues.

The NSAs of the two countries where the MA is used have provided guidance or additional specifications on the legal requirements for the use of that measure. Both NSAs did not believe there is a need for additional regulation in order to ensure harmonisation in their markets. Two other NSAs highlighted that further clarification in the regulation is required in order to achieve consistent application.

Transitional on the risk-free interest rates

According to Article 308c of the Solvency II Directive the use of the transitional measure on the risk-free interest rates requires supervisory approval. On 1 January 2016 six NSAs had insurance undertakings applying for that transitional measure.

The table below summarises the number of applications, approvals, rejections, withdrawals and on-going approval processes on 1 January 2016 for the six countries. One application was rejected by an NSA because the undertaking did not require the measure and the approval would have allowed it to take unreasonably high investment risks. One application was withdrawn as the undertaking applied for the measure incorrectly.

As at 1 January 2016	Application received	Granted	Rejected	Withdrawn	Ongoing
DE	1	1	0	0	0
FI	1	0	1	0	0
FR	1	0	0	0	1
GR	2	2	0	0	0
IE	1	1	0	0	0
UK	1	0	0	1	0
Total	**7**	**4**	**1**	**1**	**1**

As part of the review, EIOPA also requested whether NSAs had additional criteria to approve the application. Most countries did not develop additional criteria. Seven countries did consider additional criteria. In Finland, Slovakia, France and Germany focus is put on the correct application of the transitional measures and detailed description of the calculation are required. In Finland, France and Slovakia NSAs further ask undertakings for information on the impact of the calculation of the transitional measure. The NSAs of Finland and Germany reported that they also put emphasis on the calculation of the transitional risk-free interest rates during the transitional period. Finland also requires additional analysis of results (sensitivity on interest rate assumptions, sensitivity on decrease of values of risky investments, sensitivity on longevity risk).

EIOPA also requested whether NSA would allow undertakings to start using the transitional measure at a later date than 1 January 2016, whether they would allow undertakings to exit from the transitional measure before 2032 and whether they would allow undertaking to reapply for the transitional after exiting. Of the NSAs that had responded, eight agreed that they would allow undertakings to apply at a later date, while four would not allow that. Most NSAs agreed that they would allow undertakings to exit the transitional measure earlier than 2032. Several NSAs also agreed that they would allow undertakings to reapply after exiting.

Transitional on the technical provision

Article 308d of the Solvency II Directive requires NSAs to approve the use of the transitional measure on technical provisions. On 1 January 2016 thirteen NSAs had insurance and reinsurance undertakings applying for the transitional measure on the technical provisions.

The table below summarises the number of applications, approvals, rejections, withdrawals and on-going approval processes on 1 January 2016 for the 13 countries[26]. The key reason for withdrawal of the application was due to undertakings reconsidering their strategy.

As at 1 January 2016	Application received	Granted	Rejected	Withdrawn	Ongoing
AT	4	4	0	0	0
BE	1	0	0	0	1
DE	62	60	0	0	2
ES	32	23	0	4	5
FI	9	7	0	0	2
FR	11	8	0	0	3
GR	1	1	0	0	0
IE	1	1	0	0	0
LI	1	1	0	0	0
LU	2	0	0	1	1
NO	8	8	0	0	0
PT	16	0	0	0	16
UK	27	26	0	1	0
Total	**175**	**139**	**0**	**6**	**30**

[26] One undertaking in Ireland and two undertakings in Norway are not using the TTP in practice although they applied for, and received, approval to use the measure.

EIOPA inquired whether the NSAs had additional criteria to approve the measure. 11 NSAs reported additional criteria. The Spanish NSA requires a written policy in relation to the transitional measure on technical provisions and a future plan on solvency and financial position during transitional period. The NSAs of Finland and Belgium require undertakings to carry out a number of sensitivity testing. Most other NSAs require the undertakings to provide detailed documentation on the impact of the measure on solvency position, capital management plans and details of the scope of the application.

According to Article 308d(3) of the Solvency II Directive the transitional deduction of the transitional measure on technical provisions may be recalculated upon approval by the NSA or on its own initiative every 24 months, or more frequently where the risk profile of the undertaking has materially changed. In that context EIOPA also asked the NSAs how often they allow or require undertakings to recalculate the transitional deduction to their technical provisions. Some NSAs reported no specific policy on the recalculation of the transitional deduction. Other NSAs generally allow or require that recalculation every 24 months or on a quarterly basis. One NSA suggested that they do not require recalculation unless the risk-profile had material changed.

According to Article 308d(1) of the Solvency II Directive the transitional measure on technical provisions may be applied at the level of homogeneous risk groups. A homogenous risk group is a part of the undertaking's insurance and reinsurance obligations which are homogeneous with respect to their risk profile. EIOPA asked NSAs about the application of this provision and in particular the undertaking's motivation to apply the transitional measure at the level of homogeneous risk groups rather than to all technical provisions. According to the responses the transitional measure is usually applied at the level of homogeneous risk groups. Only one NSA reported that the transitional measure is commonly applied to all technical provisions. The main reasons mentioned for the application at homogeneous risk groups were:

- The transitional measure is only applied where it decreases technical provisions or only where it is most effective, for example to long-term business or to business with higher guaranteed interest rates.
- Application at the level of homogeneous risk groups facilitates the management of the transitional measure and reduces the complexity of the calculation of technical provisions.

As for the transitional measure on the risk-free interest rates EIOPA also asked whether NSA would allow undertakings to start using the transitional measure at a later date than 1 January 2016, whether they would allow undertakings to exit from the transitional measure before 2032 and whether they would allow undertaking reapply for the transitional after exiting. Of the NSAs that had responded, eight agreed that they would allow undertakings to apply at a later date, while four would not allow that. Most NSAs agreed that they would allow undertakings to exit the transitional measure earlier than 2032. Several NSAs also agreed that they would allow undertakings to reapply after exiting.

Duration-based equity risk sub-module

Article 304 of the Solvency II Directive gives Member States the option to introduce the DBE as a measure in their national market. Nine countries allow for the use of the DBE in their national market: Spain, Slovenia, Austria, Cyprus, France, Belgium, Portugal, Italy and Liechtenstein. Others have not transposed the DBE into national law.

On 1 January 2016, three NSAs have actually received applications: Spain two applications, France two applications, and Belgium one application. The Belgian approval processes are still ongoing, the Spanish applications were withdrawn and one French application was withdrawn and one granted.

As part of the review, EIOPA had inquired whether the NSAs have specific criteria to test if the assets and liabilities are ring-fenced. Three NSAs responded as follows:

Spain requires information on the composition of the ring-fenced asset portfolio, the investment policy on the portfolio assigned, the decisions taken by the management board on the portfolio, the description of the liabilities affected by this measure, the proof of the fulfillment of the requirements thereof, and the proof that all assets and liabilities corresponding to the business are ring-fenced.

Slovenia has adopted a by-law which sets criteria for recognition of ring-fenced funds. Among other, this regulates some specific pension products by imposing their recognition as ring-fenced funds

France defines ring-fenced funds as specific insurance policies of which assets and liabilities are managed and organised separately from the other activities of the undertakings. This relies on the recital 39 of the Delegated Regulation on Solvency II. The main implication is that the use of the assets and revenues of the ring-fenced fund for the benefit of the activities outside of the ring-fenced fund is not allowed, unless there are equivalent compensations for the benefit of the ring-fenced fund.

Furthermore, to be eligible under Article 304 of the Solvency II Directive the policy must include a tax deduction for policyholders or beneficiaries. As a consequence, Article 304 of the Solvency II Directive may apply to institutions for occupational retirement provision that fall under Article 4 of Directive 2003/41/EC, to other ring-fenced funds carrying out retirement activities which are explicitly identified by the French law, and to contractual ring-fenced funds, provided that they comply with the requirements set out in that Article 304.

EIOPA also inquired about the criteria NSAs used to assess the solvency and liquidity position, the strategies, process and reporting procedures of the undertakings to ensure that it is able to hold equity investments for a period which is consistent with the typical holding period of equity investments for the undertaking concerned (12 years). Only three NSAs responded as follows:

The Spanish NSA analyses the following in order to asset the goodness of the solvency and liquidity positions, and the possibility to hold equity on a long term horizon:

- Calculation of Own Funds, SCR an MCR for two cases: supposing the approval of the duration equity approach and other measures requested and without the approval thereof;
- Report on the sufficiency of the own funds for the last three years;
- Projection of the cash in-flows and out-flows of the portfolio under normal and stressed conditions in order to demonstrate that cash in-flows are sufficient to cover the cash out-flows without relying on equity incomes.

The French NSA requests several types of evidence as part of the approval process, in particular:

- the investment policy relating to the eligible portfolios,
- where investments operations are outsourced to an asset manager, the asset management mandate,
- investments decisions taken over the last 12 months by the competent body of the undertaking,

- for the last five financial years, the amount of written premiums, claims paid, expenses, investment returns, matured bonds, equity sales, and other cash inflows and outflows,
- an assessment of the liquidity risk under stressed conditions.

The NSA of Liechtenstein asks for several scenarios to demonstrate the ability of the undertaking to fulfil these criteria. Evidence on how long the undertaking has held equity investments in the past is also asked.

IV.2 Technical information on the risk-free interest rates calculated and published by EIOPA

Under Solvency II, the assessment of the financial situation of insurance and reinsurance undertakings is based on harmonised principles and methodologies for the valuation of their assets and liabilities. In particular, insurance and reinsurance liabilities are discounted with risk-free interest rates.

According to Article 77e(1) of the Solvency II Directive, EIOPA is required to derive and publish technical information on the risk-free interest rates at least on a quarterly basis. That technical information consists of the following items:

- relevant risk-free interest rate term structures without any matching adjustment or volatility adjustment;
- fundamental spreads for the calculation of the matching adjustments;
- volatility adjustments to the relevant risk-free interest rate term structures.

In order to ensure uniform conditions for the valuation of insurance and reinsurance liabilities, the European Commission can make technical information on the risk-free interest rates binding by setting it out in implementing acts in accordance with Article 77e(2) of the Solvency II Directive. The implementing acts shall to make use of the technical information published by EIOPA.

During 2014 EIOPA developed a methodology to calculate the technical information on the basis of the Solvency II Directive and Delegated Regulation. EIOPA publicly consulted on the methodology at the end of 2014[27] and decided on it in February 2015. Since March 2015 EIOPA has been publishing the technical information on a monthly basis.[28] The period from March to December 2015 was used as a preparatory phase for the calculation and publication of the technical information.[29] During that period the information was provided to support the preparation of insurance and reinsurance undertakings and supervisory authorities in view of the start of Solvency II at the beginning of 2016. The preparatory phase included an external review of EIOPA's calculation process for the technical information and of the source code used in the calculation. Independent from the review, EIOPA carried out a crowdsourcing on the source code with the aim to identify and remove any programming mistakes.

The publication of the technical information takes place on the fifth working day of the month. The process of calculation and publication of the information includes the following steps:

- download of input data from data providers, in particular swap rates, government bond rates and corporate bond rates,
- automated calculation of the technical information,
- validation of input data and calculation results,
- internal approval and information of EIOPA's Board of Supervisors about the results,
- publication of the results.

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[27] For the consultation report, see https://eiopa.europa.eu/Pages/Consultations/CP-14-042-Consultation-paper-on-a-Technical-document-regarding-the-risk-free-interest-rate-term-structure.aspx.

[28] The technical information is published on EIOPA's website, see https://eiopa.europa.eu/regulation-supervision/insurance/solvency-ii-technical-information/risk-free-interest-rate-term-structures for the publications since January 2016 and see: https://eiopa.europa.eu/regulation-supervision/insurance/solvency-ii-technical-information/solvency-ii-preparatory-phase-risk-free-interest-rate-term-structures for the publications during the preparatory phase.

[29] For the technical information and background documents published during the preparatory phase, see: https://eiopa.europa.eu/regulation-supervision/insurance/solvency-ii-technical-information/solvency-ii-preparatory-phase-risk-free-interest-rate-term-structures

The European Commission adopted implementing acts setting out the technical information published by EIOPA for end of December 2015, March 2016, June 2016 and September 2016.[30] The implementing acts made the use of the information binding for the reporting of insurance and reinsurance undertakings during the following three months.

Transparency

The need for a transparent calculation of the technical information is stated in recital 29 of the Omnibus II Directive and specified in recital 23 of the Solvency II Delegated Regulation. EIOPA aims at ensuring the replicability of its monthly calculation of technical information. To this end, the calculation methodology is set out in a technical documentation and the source code for the calculation is public.[31] Replicability of the calculations allows stakeholders to simulate how EIOPA's technical information will change when the input data change and thereby in particular supports the risk-management of insurance and reinsurance undertakings. Moreover, undertakings that need to report timely about their solvency situation, for example to investors, can anticipate the results of EIOPA's calculations before their publication. In addition to the technical information set out in Article 77e(1) of the Solvency II Directive, EIOPA publishes intermediate results in order to promote the transparency of the calculation.

Data limitations

In carrying out the task to derive the technical information, the availability of input data has been a major challenge. Data are in particular scarce where financial markets are not sufficiently developed. This issue relates in particular to the following data needs:

- yields for corporate bond denoted in currencies of less developed markets – these yields are required to calculate volatility adjustments and the fundamental spreads for those currencies;
- rates from government bond markets with limited issuances – these government bond rates are needed to calculate volatility adjustments and the fundamental spreads for those government bonds;
- overnight indexed swap rates to derive the credit risk adjustment to interest rate swaps

To overcome these data limitations, proxies based on data from more developed markets are used in the calculation of the technical information.

[30] Commission Implementing Regulation (EU) 2016/165 of 5 February 2016 laying down technical information for the calculation of technical provisions and basic own funds for reporting with reference dates from 1 January until 30 March 2016 in accordance with Directive 2009/138/EC of the European Parliament and of the Council (Solvency II), OJ L 32, 9.2.2016, Commission Implementing Regulation (EU) 2016/869 of 27 May 2016 laying down technical information for the calculation of technical provisions and basic own funds for reporting with reference dates from 31 March until 29 June 2016 in accordance with Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance, OJ L 147, 3.6.2016, Commission Implementing Regulation 2016/1376 of 8 August 2016 laying down technical information for the calculation of technical provisions and basic own funds for reporting with reference dates from 30 June until 29 September 2016 in accordance with Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance, OJ L 224, 18.8.2016, Commission Implementing Regulation 2016/1976 of 10 November 2016 laying down technical information for the calculation of technical provisions and basic own funds for reporting with reference dates from 30 September until 30 December 2016 in accordance with Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance, OJ L 309, 16.11.2016.

[31] The technical documentation and the source code are published on EIOPA's website: https://eiopa.europa.eu/regulation-supervision/insurance/solvency-ii-technical-information/risk-free-interest-rate-term-structures.

Data limitations also exist with regard to the assessment whether interest rate swap markets, government bond markets and general bond markets are deep and liquid. That assessment is needed to determine the relevant financial instruments for the derivation of the risk-free interest rates. With regard to the swap market, the data availability is expected to significantly improve in 2017 through the Commission Regulation (EU) No 648/2012 on OTC derivatives, central counterparties and trade repositories (EMIR).

Risk-free interest rate term structures

EIOPA is currently publishing technical information on 33 relevant currencies including all currencies of EEA countries. The relevance of the currencies was determined with regard to the amount of insurance and reinsurance liabilities of EEA insurance and reinsurance undertakings and insurance groups that are denoted in those currencies.

The risk-free interest rates are derived from the rates of interest rate swaps or government bonds, both adjusted for credit risk. For maturities where financial markets for interest rate swaps and bonds are not deep, liquid or transparent anymore the risk-free interest rates are extrapolated towards an ultimate forward rate.

According to Article 77a of the Solvency II Directive the risk-free interest rates should make use of, and be consistent with, information derived from relevant financial instruments. Article 44 of the Solvency II Delegated Regulation specifies that the relevant financial instruments are interest rate swaps, provided they are available from deep, liquid and transparent financial markets. Otherwise government bonds from deep, liquid and transparent financial markets should be used. The following table sets out the type of relevant financial instrument used by EIOPA to derive the risk-free interest rates of the relevant currencies.

Relevant financial instruments	
Interest rate swaps used for …	Government bonds used for …
Euro	Croatian kuna
Bulgarian lev	Hungarian forint
Czech Koruna	Polish zloty
Danish krone	Romanian leu
Pound sterling	Icelandic króna
Swedish krona	Brazilian real
Norwegian krone	Indian rupee
Swiss franc	Mexican peso
Australian dollar	Taiwan new dollar
Canadian dollar	
Chilean peso	
Colombian peso	
Hong Kong dollar	
Malaysian ringgit	
New Zealand dollar	
Renminbi-yuan	

Russian rouble Singapore dollar South African rand South Korean won Thai baht Turkish lira US dollar Yen	

For maturities where financial markets for interest rate swaps and bonds are not deep, liquid or transparent anymore the risk-free interest rates are extrapolated. The following table sets out for each relevant currency the last maturity where those markets are still deep, liquid and transparent (last liquid point).

Last liquid point	Currencies
50 years	Pound sterling, US dollar
30 years	Australian dollar, yen
25 years	Swiss franc, Canadian dollar[32]
20 years	Euro, Bulgarian lev, Danish krone, South Korean won, Malaysian ringgit, Mexican peso, New Zealand dollar, Singapore dollar
15 years	Czech koruna, Hungarian forint, Hong Kong dollar, Thai baht, rand
10 years	Croatian kuna, Polish zloty, Romanian leu, Swedish krona, Icelandic króna, Norwegian krone, Brazilian real, Chilean peso, renminbi-yuan, Colombian peso, Indian rupee, Russian rouble, Turkish lira, new Taiwan dollar

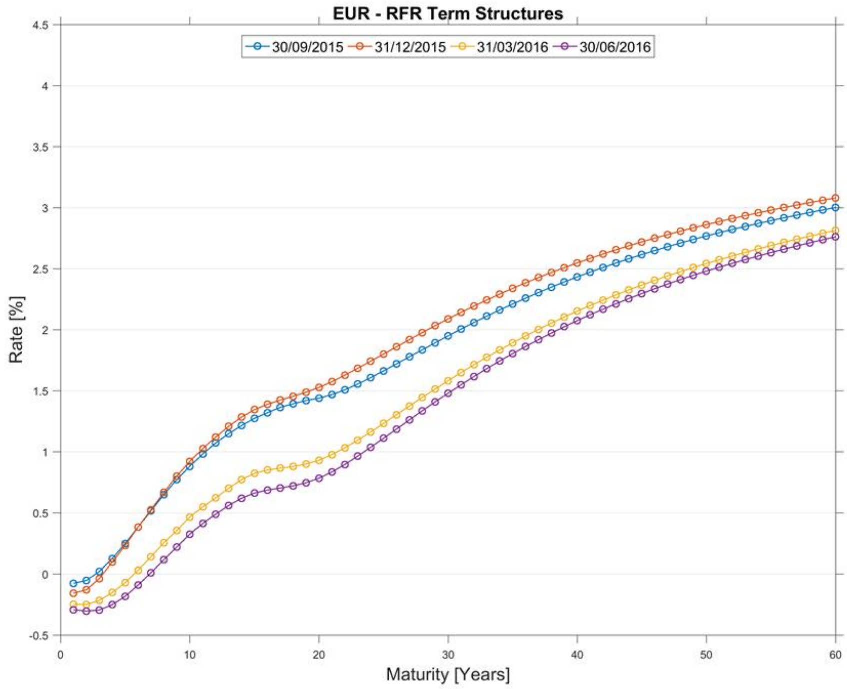
According to Article 77a of the Solvency II Directive the risk-free interest rates are extrapolated towards an ultimate forward rate. The extrapolation is currently based on an ultimate forward rate of 4.2% for most countries including the euro. For the Swiss franc and the yen a UFR of 3.2% and for the Brazilian real, the Indian rupee, the Mexican peso, the Turkish lira and the South African rand a UFR of 5.2% is used. These ultimate forward rates were derived in 2010 and used for quantitative impact studies during the development of Solvency II. In line with Article 47(1) of the Delegated Regulation EIOPA is currently working on a methodology to derive the

[32] For the Canadian dollar the last liquid point will change to 30 years on 31 December 2016.

ultimate forward rates on an ongoing basis in line with Article 47 of the Delegated Regulation.[33]

The following graph shows the risk-free interest rate term structures for the euro for end of December 2015, March 2016, June 2016 and September 2016. The interest rates do not include a matching or volatility adjustment. The rates up to maturity 20 years are derived from interest rate swaps, the remaining rates are determined by means of extrapolation towards an ultimate forward rate of 4.2%.

The graph shows the risk-free interest rates for integer maturities from 1 to 60 years Small circles indicate the risk-free interest rates. The small circles are connected to improve readability.



Annex 4 includes graphs with term structures for all 33 currencies for which EIOPA currently produces technical information.

Fundamental spreads

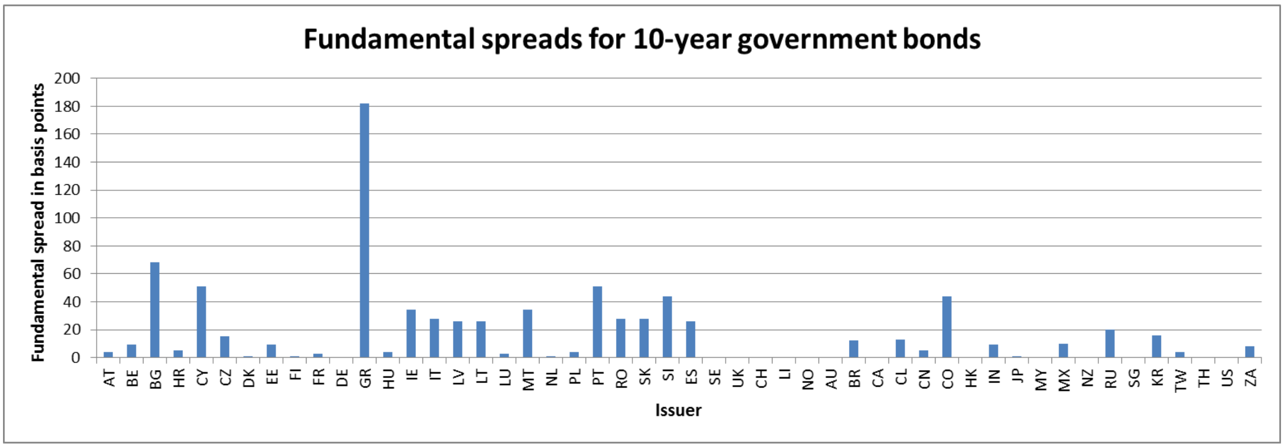
Fundamental spreads are used by insurance and reinsurance undertakings to calculate their portfolio-specific matching adjustment to the risk-free interest rates, where the use of the matching adjustment was approved by the supervisory authority. The fundamental spread is also used as the risk correction for the calculation of the volatility adjustment, see below.

The fundamental spread should reflect the risk of default of the assets and the risk of the loss resulting from downgrading of the assets. The fundamental spreads are stable over time. They are derived from long-term average spreads of the assets and, for corporate bonds, from long-term default and downgrade statistics.

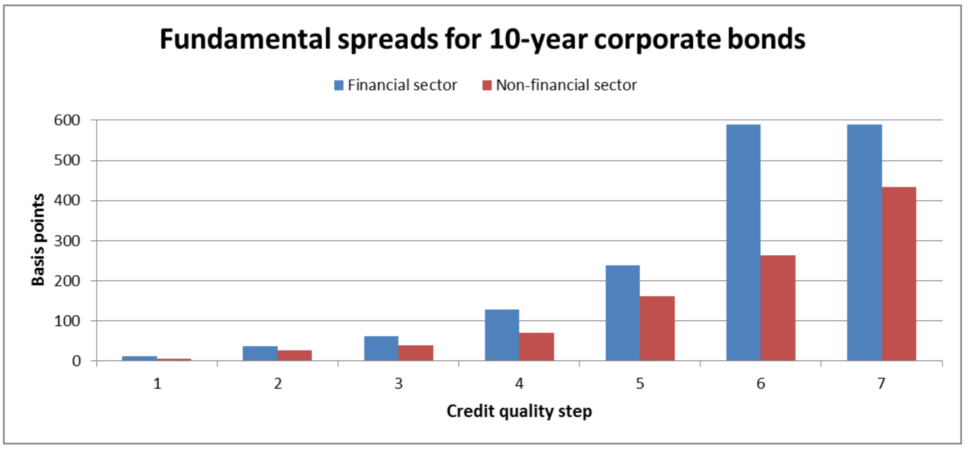
[33] For EIOPA's consultation proposal on the methodology to derive the ultimate forward rates and its implementation see https://eiopa.europa.eu/Pages/Consultations/EIOPA-CP-16-003-Consultation-Paper-on-the-methodology-to-derive-the-UFR-and-its-implementation-.aspx.

EIOPA provides fundamental spreads for government bonds per issuer and maturity and for corporate bonds per sector of issuer (financial/non-financial), credit quality step and maturity.

The following graph shows the fundamental spreads for government bonds of maturity 10 years at the end of September 2016. The fundamental spread is zero for Germany, Sweden, the United Kingdom, Liechtenstein, Norway, Australia, Canada, Hong-Kong, Malaysia, New Zealand, Switzerland, Singapore, Thailand and the United States.



The following graph sets out the fundamental spread for euro corporate bonds of maturity 10 years at end of September 2016.



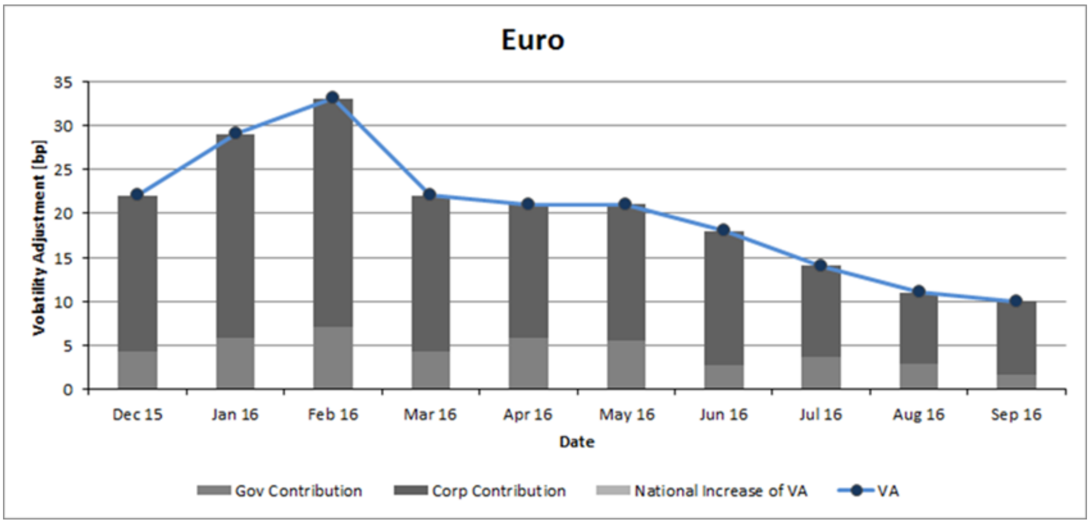
Volatility adjustments

The volatility adjustment is 65% of the spread between the interest rate that could be earned from assets of a reference portfolio and the risk-free interest rates. The spread is corrected for risk on the basis of the fundamental spread. The reference portfolio is representative of the assets which insurance and reinsurance undertakings are invested in.

The following graph sets out the volatility adjustments at the end of September 2016.

Country	Volatility adjustment
Euro	10
Bulgarian lev	8
Croatian kuna	10
Czech koruna	2
Danish krone	56
Hungarian forint	20
Polish zloty	15
Pound sterling	28
Romanian leu	-2
Swedish krona	3
Icelandic króna	15
Norwegian krone	26
Swiss franc	4
Australian dollar	9
Canadian dollar	5
Japanese yen	2
US dollar	59

The following graph shows the development of the volatility adjustment for the euro from end of December 2015 to end of September 2016. The graph also shows the decomposition of the volatility adjustment into a government bond component and a corporate bond component in accordance with Article 50 of the Delegated Regulation.



The volatility adjustments shown in the graph are relevant for all euro area markets except Greece. The volatility adjustment for Greece included until 29 September 2016 a national increase according to Article 77d(4) of the Solvency II Directive. Since 30 September 2016 the calculation of the volatility adjustment did not give rise anymore to a national increase for Greece.

Graphs with the development of the volatility adjustment for Greece and currencies other than the euro are set out in Annex 5.

IV.3 Technical information on the symmetric adjustment to the equity risk sub-module calculated and published by EIOPA

Insurance and reinsurance undertakings are requested to hold solvency capital that can compensate for possible losses in the value of their equity investments. The standard formula to calculate the SCR includes as part of the market risk module an equity risk sub-module to quantify the risk of losses on equity investments. In the equity risk sub-module the capital requirement is derived from the impact of a stress scenario. The stress is a decrease in the value of equity investments which is calculated as a percentage of the market value of those investments.

Recital 61 of the Solvency II Directive states that "in order to mitigate undue potential pro-cyclical effects of the financial system and avoid a situation in which insurance and reinsurance undertakings are unduly forced to raise additional capital or sell their investments as a result of unsustained adverse movements in financial markets, the market risk module of the standard formula for the Solvency Capital Requirement should include a symmetric adjustment mechanism with respect to changes in the level of equity prices".

In order to prevent pro-cyclical behaviour of undertakings with regard to their equities exposures, for example "fire sales" in a crash of the equity market, the stress scenario of the equity risk sub-module is subject to an adjustment. The adjustment behaves symmetrically. It is expected to be positive (i.e. the capital requirement is higher) when markets have risen recently, and negative (i.e. the capital requirement is lower) when equity markets have dropped in the previous months.

The legal requirements on the determination of the symmetric adjustment are set out in Article 106 of the Solvency II Directive, Article 172 of the Solvency II Delegated Regulation and the Commission Implementing Regulation laying down the implementing technical standards with regard to the equity index for the symmetric adjustment of the standard equity capital charge[34].

The symmetric adjustment mechanism is based on a comparison of the current level of an appropriate equity index and an average level of that index.[35] The average is calculated over a period of 36 months.[36] The symmetric adjustment increases the equity stress if the current level of the equity index is more than 8% above of the average level of the index. When the current level of the equity index is below of the average level of the index, the adjustment decreases the equity stress.

In any case, the symmetric adjustment is never lower than -10% or higher than 10%.[37]

The equity stress scenario before applying the symmetric adjustment is a decrease of equity prices by 39% for non-strategic equity investments listed in regulated markets in the countries of the EEA or the OECD (type 1 equity). For other non-strategic equity investments (type 2 equity) a decrease of prices by 49% is assumed.[38] After application of the symmetric adjustment the decrease of equity prices is between 29% and 49% for type 1 equity and between 39% and 59% for type 2 equity, depending on the current and past level of the equity index.

In order to ensure that the equity index measures the market price of a diversified portfolio of equities which is representative of the nature of equities typically held by

[34] Commission Implementing Regulation (EU) 2015/2016 of 11 November 2015 laying down the implementing technical standards with regard to the equity index for the symmetric adjustment of the standard equity capital charge in accordance with Directive 2009/138/EC of the European Parliament and of the Council, OJ L 295, 12.11.2015

[35] See Article 106(2) of the Directive.

[36] See Article 172(2) of the Delegated Regulation.

[37] See Article 172(2) and (4) of the Delegated Regulation.

[38] See Article 169 of the Delegated Regulation.

insurance and reinsurance undertakings,[39] EIOPA has developed an equity index specifically for the purposes of the symmetric adjustment mechanism. The equity index is composed of 11 indices for the national equity markets of France, Germany, Italy, the Netherlands, Poland, Spain, Sweden, the United Kingdom, Japan, Switzerland and the United States. The indices and their relative weight in the construction of the equity index of the symmetric adjustment mechanism are set out in the following table.

Indices for national equity markets	Weight in the equity index for the symmetric adjustment
AEX	14 %
CAC 40	14 %
DAX	14 %
FTSE All-Share Index	14 %
FTSE MIB Index	8 %
IBEX 35	8 %
Nikkei 225	2 %
OMX Stockholm 30 Index	8 %
S&P 500	8 %
SMI	2 %
WIG30	8 %

The calculation of the index is set out in an Implementing Regulation.

According to Article 109a(3) of the Directive EIOPA shall publish technical information on the symmetric adjustment at least on a quarterly basis. In order to support insurance and reinsurance undertakings in their calculation of the equity risk sub-module and to contribute to the consistent application of the symmetric adjustment mechanism, EIOPA is publishing the level of the equity index and the symmetric adjustment on a monthly basis. The publication is done on the 5th working day of the month and includes the daily levels of the equity index and the symmetric adjustment during the last month.

EIOPA already began the monthly publication of the symmetric adjustment in 2015 to help the insurance and reinsurance undertakings to prepare for the implementation of Solvency II. On 8th January 2016, EIOPA released the first official monthly publication.

The calculation of the symmetric adjustment follows a specified process which is subject to validations. Two market data providers are used to receive the daily values of the indices of the national equity markets, one as a primary source and the other one to validate the primary source data.

The following charts show the performance of the equity index during the 36 months until the end of October 2016.

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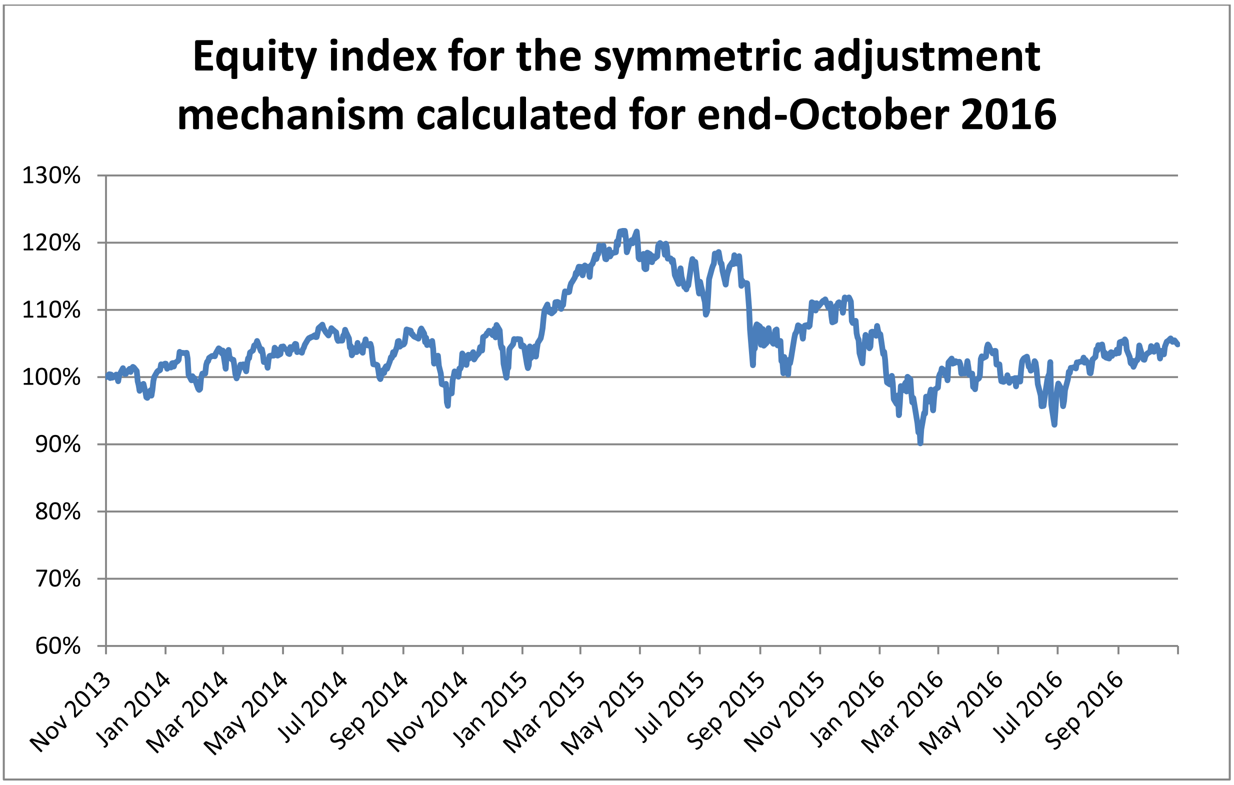
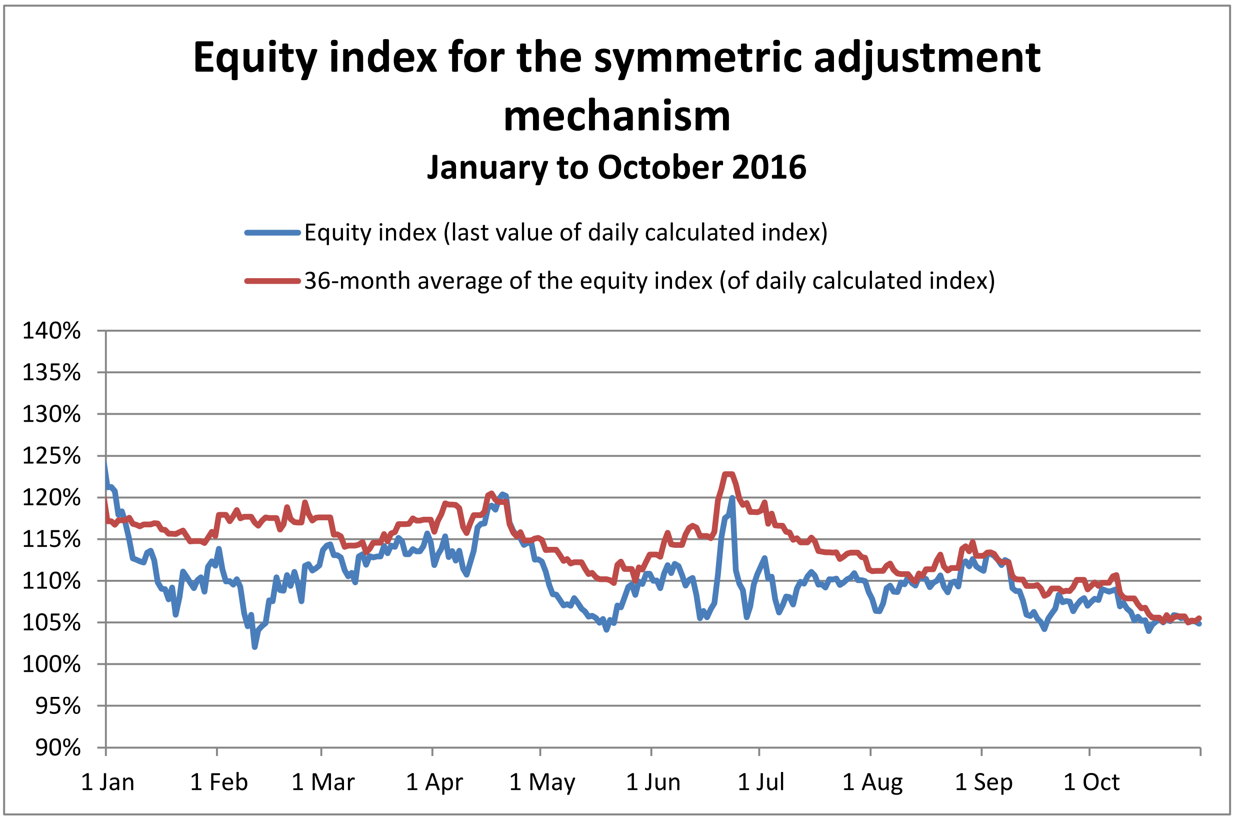
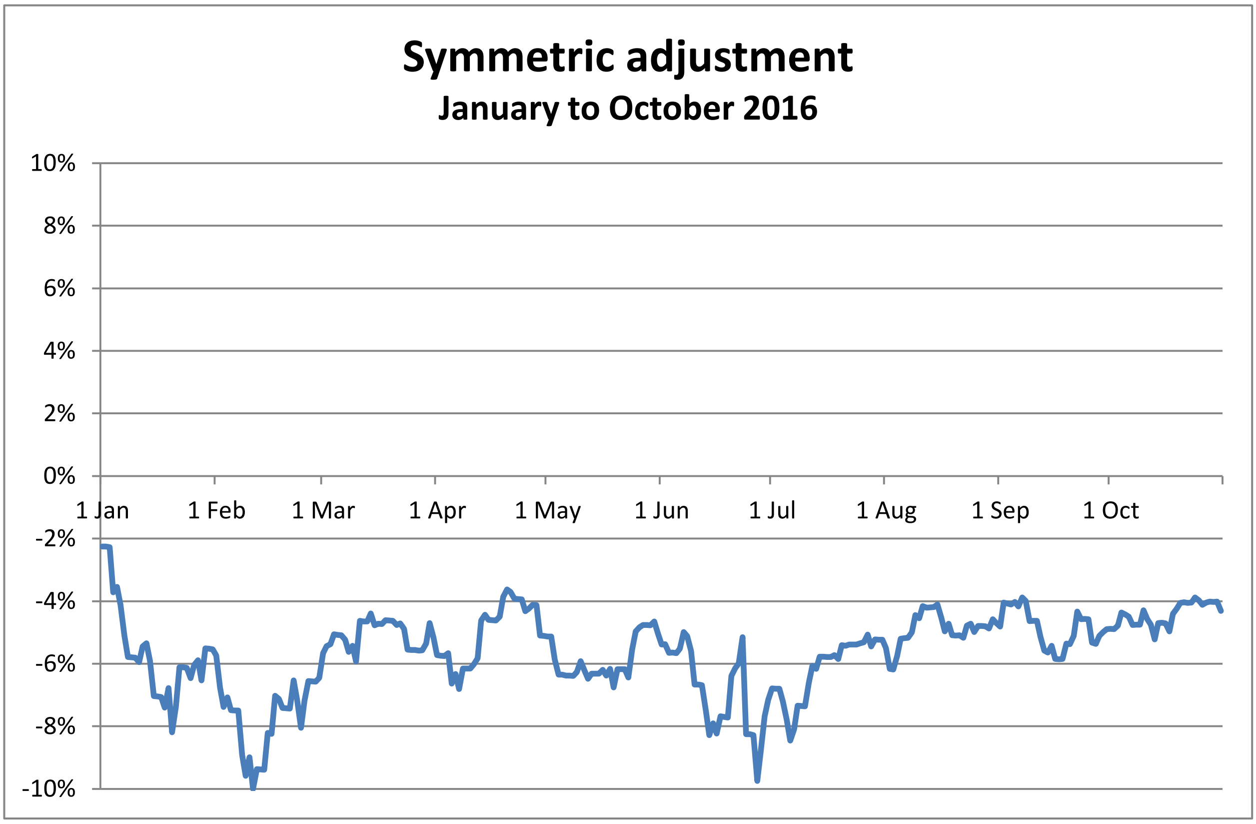
[39] See Article 172 of the Delegated Regulation.



The following chart shows the performance of the equity index during 2016 in comparison with its 36-month average of the index.



The symmetric adjustments derived from the equity index and the 36-months average is shown in the following chart. The adjustment is always negative, hence reducing the equity stress because the level of the equity index is never 8% higher than its 36-month average.



In 2016 the symmetric adjustment was between -2.2% and -10%. The minimum value of -10% occurred on 11 February 2016 after most equity markets had significantly fallen during the first days of February. The symmetric adjustment increased again after that day in line with the recovery of equity prices. Another downward spike in the symmetric adjustment can be observed after 23 June 2016, the day of the referendum in the United Kingdom on leaving the European Union. The symmetric adjustment went down to -9.7% (27 June 2016) but increased again afterwards.

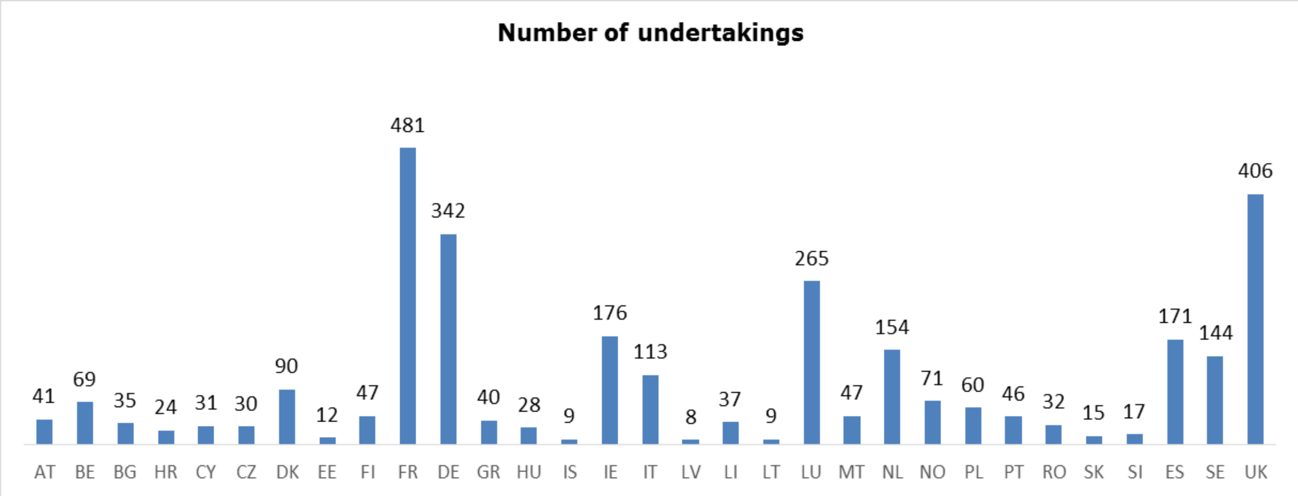
An example of the calculation of the equity index and the symmetric adjustment can be found on EIOPA's website.[40]

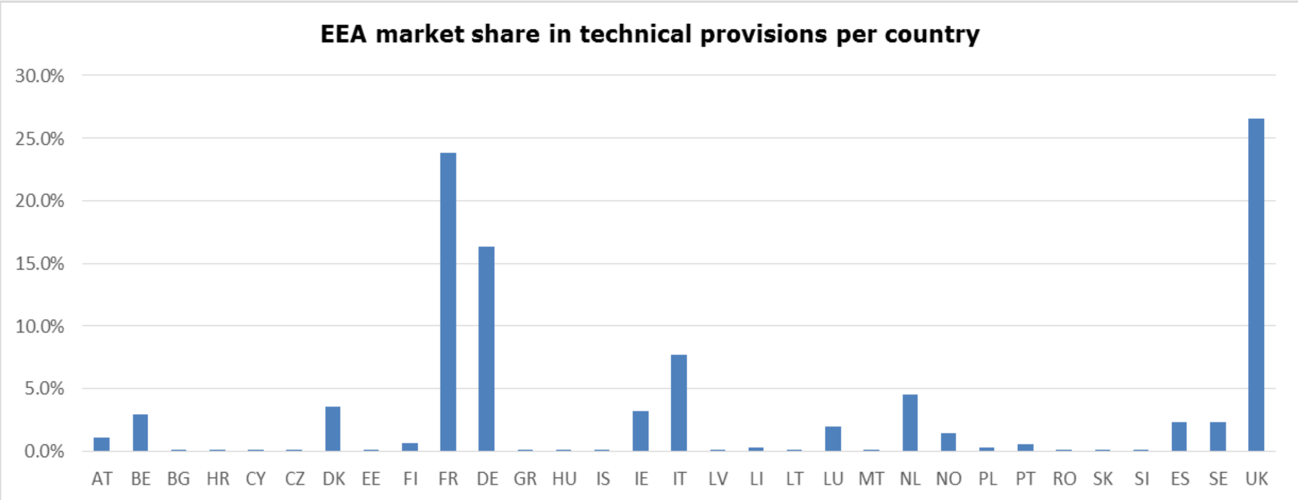
[40] See any of the monthly publication files, tab "Example" at https://eiopa.europa.eu/regulation-supervision/insurance/solvency-ii-technical-information/symmetric-adjustment-of-the-equity-capital-charge.

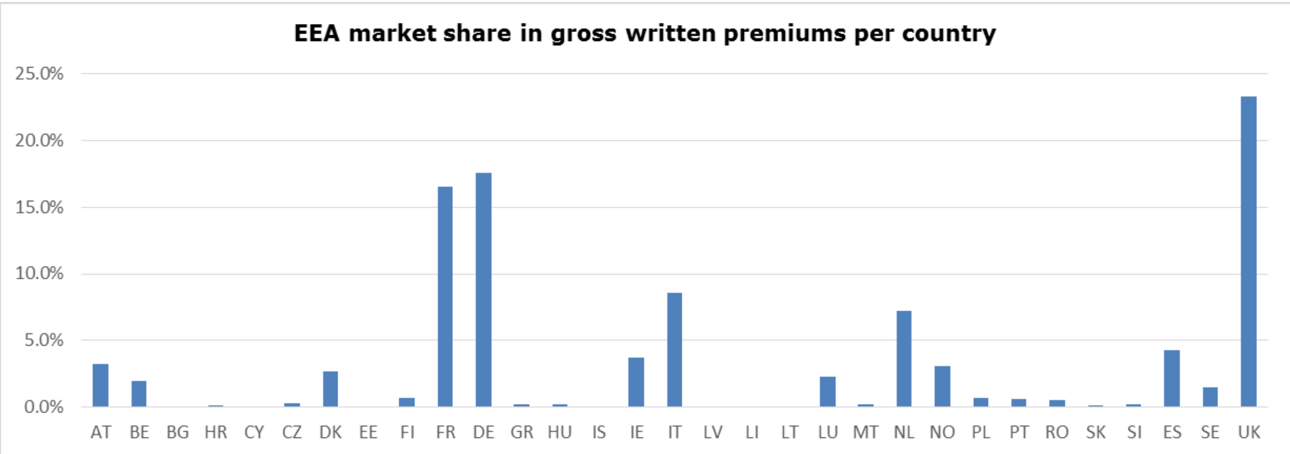
Annexes

Annex 1 – Overview of the European insurance market

The following charts show for each EEA country the number of insurance and reinsurance undertakings and their share of the European insurance market measures in technical provisions and in gross written premiums.







Annex 2 – Impact on consumers and products

Life insurance and reinsurance business of undertakings using the measures MA, VA, TRFR and TTP

In order to indicate which type of products are mainly affected by the application of the different LTG measures, the table below shows the EEA market share per line of business of the insurance and reinsurance undertakings that apply the measures MA, VA, TRFR and TTP. The market share is measured in gross written premiums. The table is based on data that insurance and reinsurance to NSAs with regard to the first quarter of 2016. The lines of business for annuities stemming from non-life insurance are not included in the table because usually no premiums are accounted for them.

In particular, the table shows the following:

- 54.6% of the life insurance and reinsurance premiums in the EEA are written by undertakings applying the VA. The use of the VA is most common for insurance with profit participation.
- Insurers that use the TTP account for 31.3% of the life insurance and reinsurance premiums.
- 23.8% of the life insurance and reinsurance premiums are written by undertakings applying the MA,. The most affected lines of business are life reinsurance and “other life insurance”;
- The TRFR is applied to life insurance and reinsurance business representing 0.2% of written premiums.

	Undertakings applying MA	Undertakings applying VA	Undertakings applying TRFR	Undertakings applying TTP
Health insurance	2.2%	42.7%	0.4%	12.0%
Insurance with profit participation	4.2%	77.8%	0.3%	15.9%
Index-linked and unit-linked insurance	7.9%	52.1%	0.3%	18.2%
Other life insurance	36.8%	62.7%	0.0%	32.7%
Health reinsurance	0.0%	13.9%	0.0%	1.1%
Life reinsurance	76.2%	21.0%	0.2%	78.4%
Total life gross written premiums	**23.8%**	**54.6%**	**0.2%**	**31.3%**

The figures in a row may not sum up to 100% because the premiums of undertakings that do not use any of the measures MA, VA, TRFR or TTP are not included in the table. It is possible that the sum of the figures in a row exceeds 100% where undertakings apply more than one measure.

As background information the following table shows the distribution of gross written premiums for life insurance and reinsurance obligations per lines of business, for all EEA insurance and reinsurance undertakings, irrespectively of their use of the LTG measures.

Distribution of gross written premiums to lines of business	
Health insurance	7.0%
Insurance with profit participation	35.9%
Index-linked and unit-linked insurance	24.3%
Other life insurance	9.7%
Annuities stemming from non-life insurance contracts and relating to health insurance obligations	0.2%
Annuities stemming from non-life insurance contracts and relating to insurance obligations other than health insurance obligations	0.0%
Health reinsurance	1.0%
Life-reinsurance	21.8%
Total life insurance and reinsurance	**100%**

Annex 3 - Asset classes

The statistics on investments of insurance and reinsurance undertakings presented in this report are based on the following asset classification. The asset classes are specified in terms of the items of the Solvency II balance sheet used for supervisory reporting (template S.02.01.02).

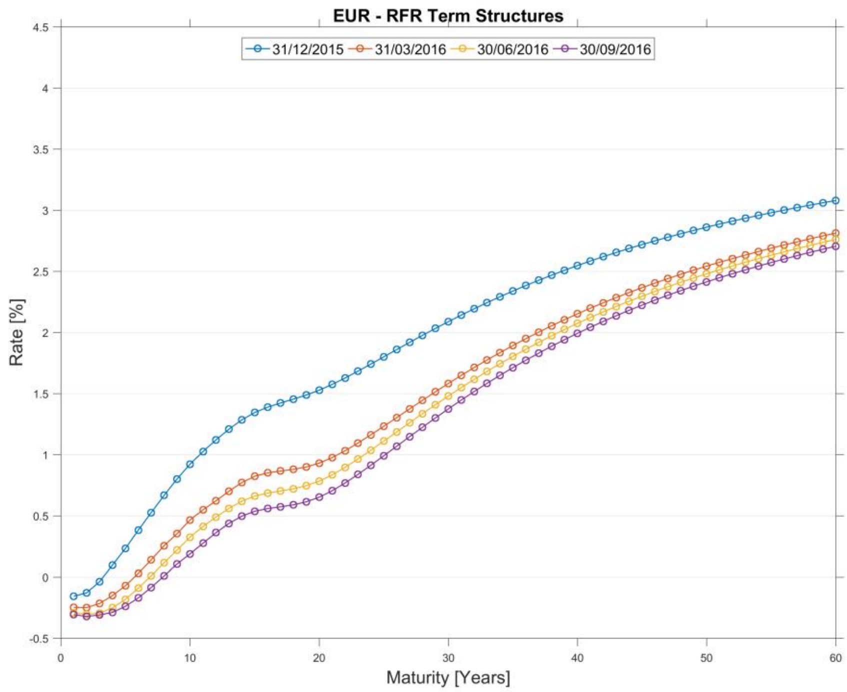
Asset Class	Row of the balance sheet template
Government debt	R0140
Corporate debt	R0150, R0170
Equities	R0110, R0120
Property	R0080
Assets held for index-linked and unit-linked products	R0220
Participations	R0090
Other Assets	R0160, R0180, R0190, R0200, R0210, R0410

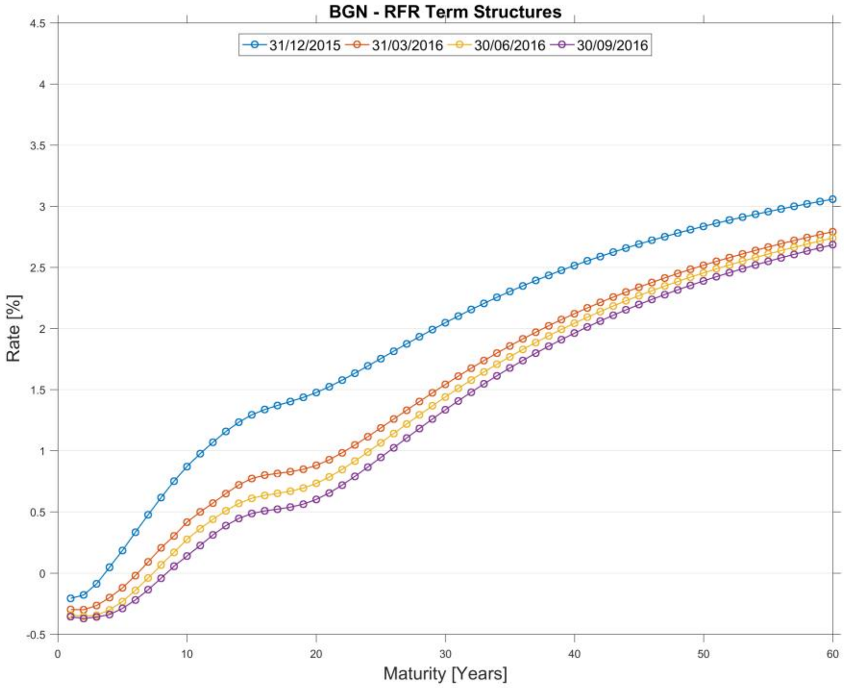
Annex 4 - Technical information – Risk-free interest rate term structures

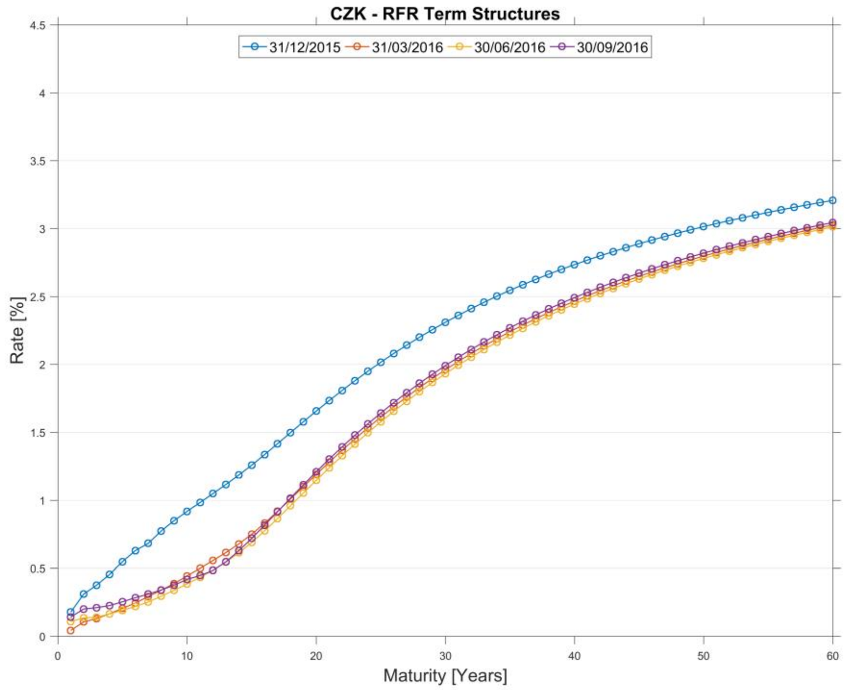
This annex sets out graphs on the risk-free interest rate term structures for the relevant currencies. For each currency the term structures for end of December 2015, March 2016, June 2016 and September 2016 are shown.

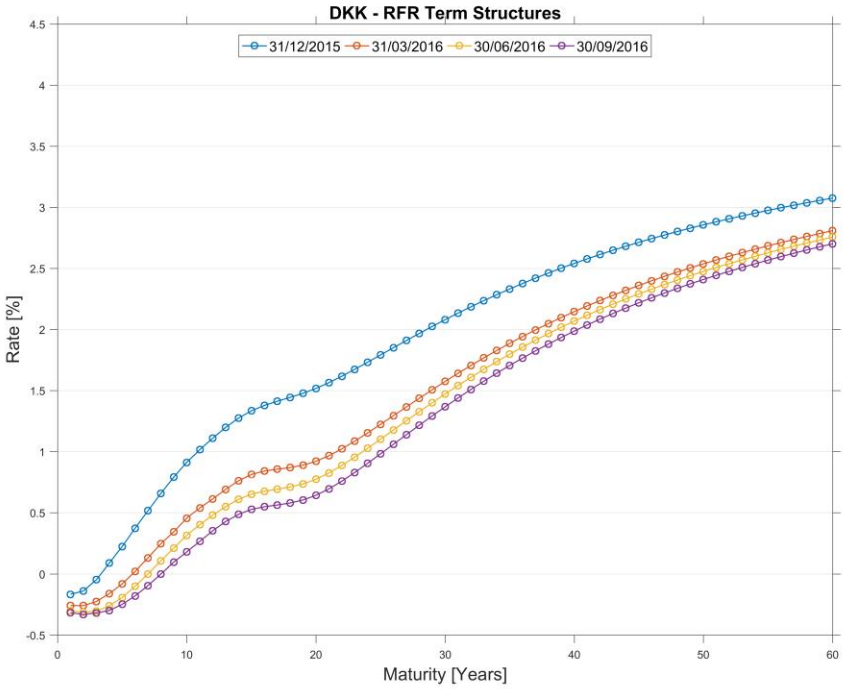
The interest rates do not include a matching or volatility adjustment.

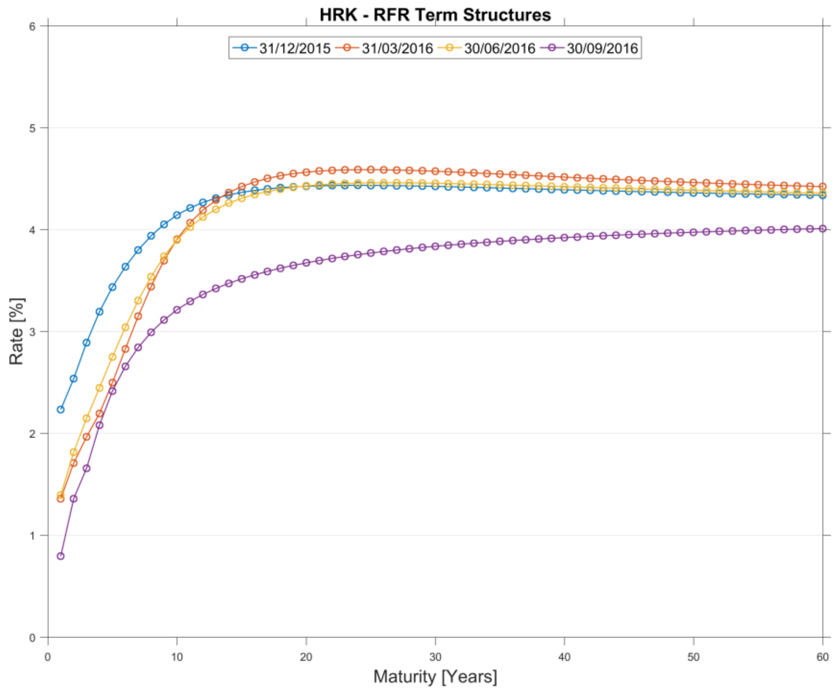
The graph shows the risk-free interest rates for integer maturities from 1 to 60 years (small circles). Small circles are connected to improve readability.

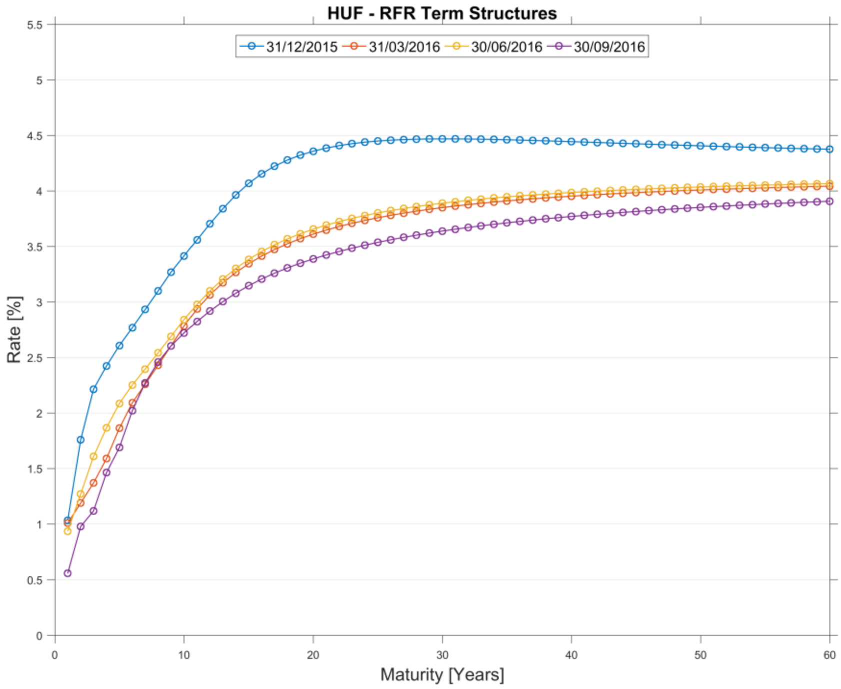


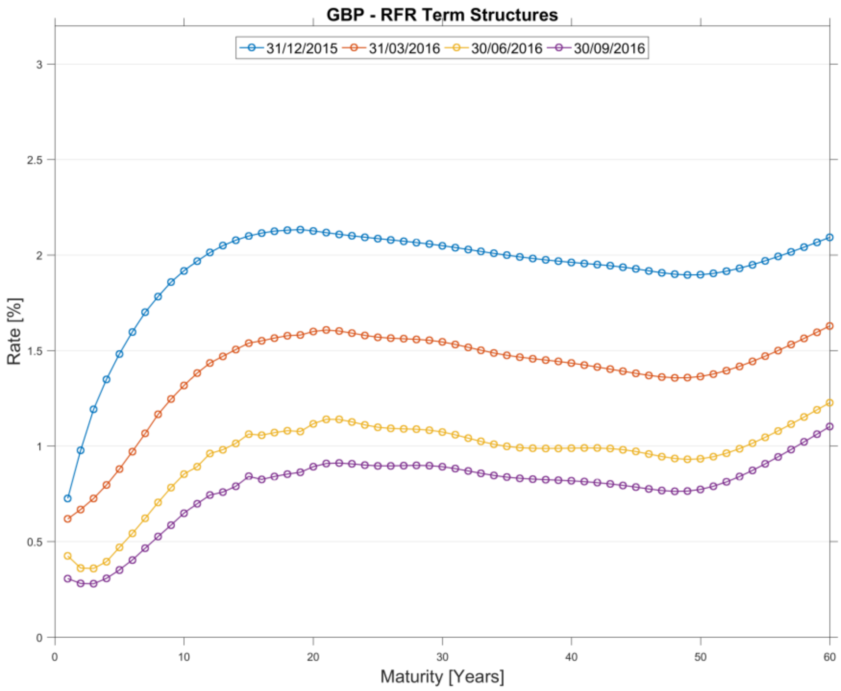

BGN - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

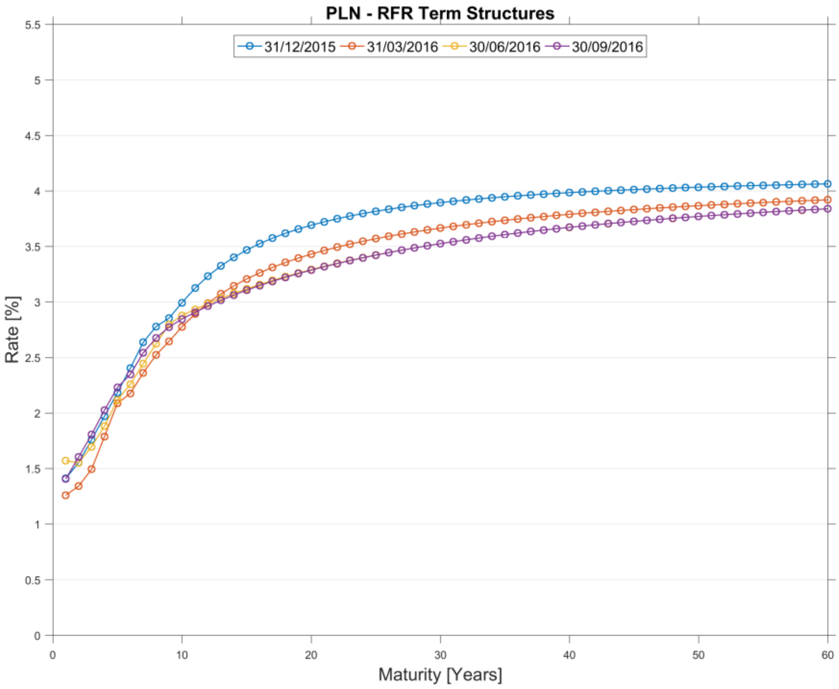

CZK - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

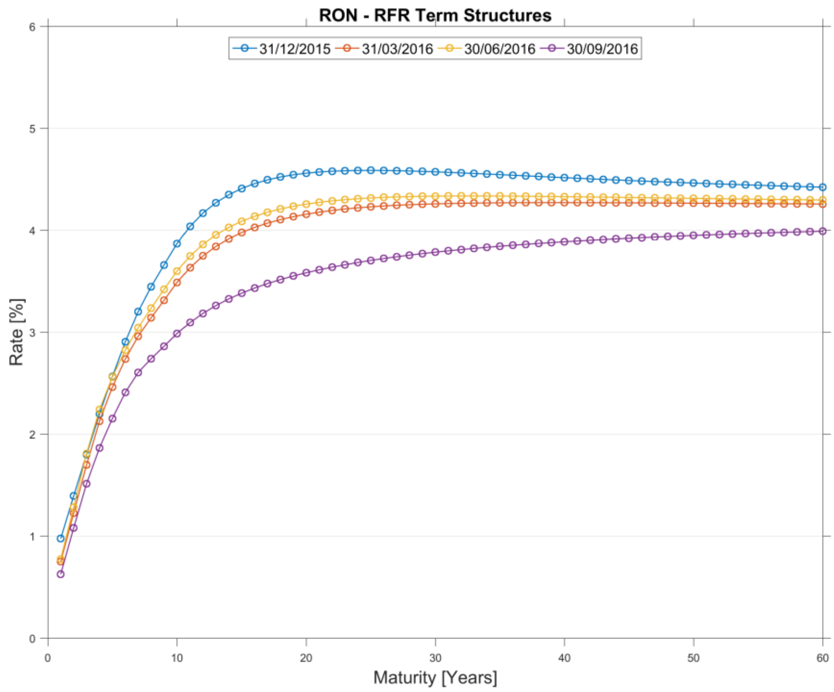

DKK - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

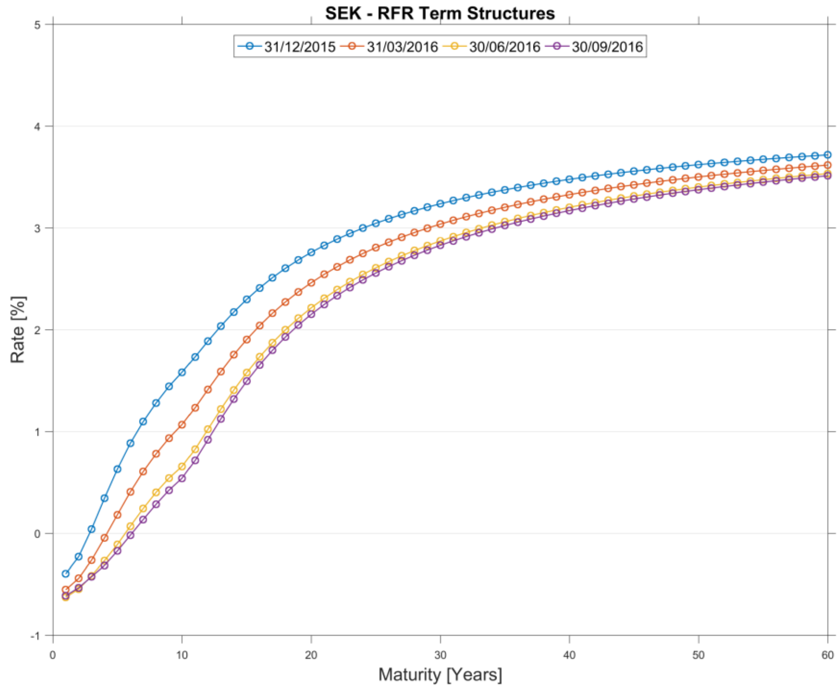

HRK - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

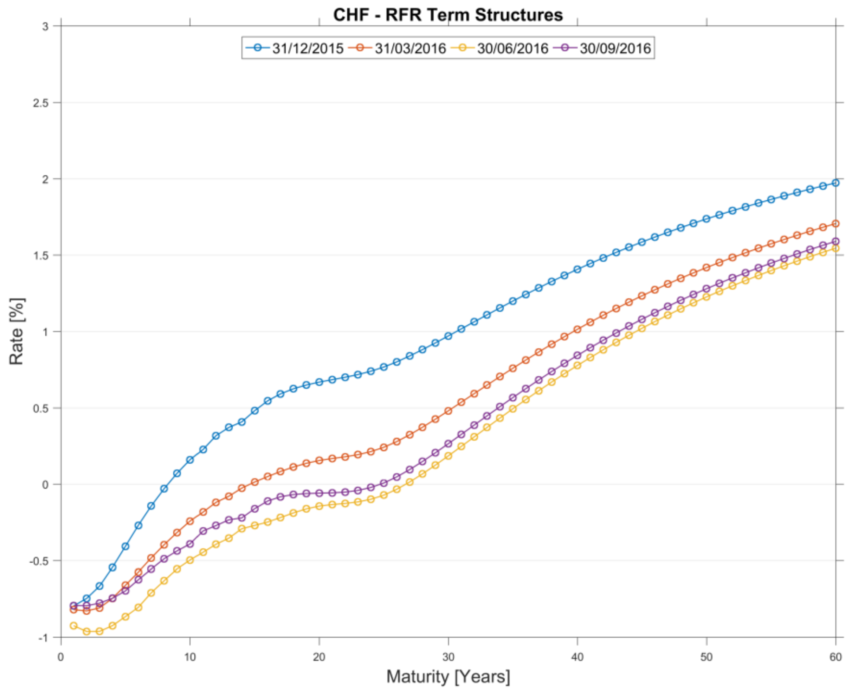

HUF - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

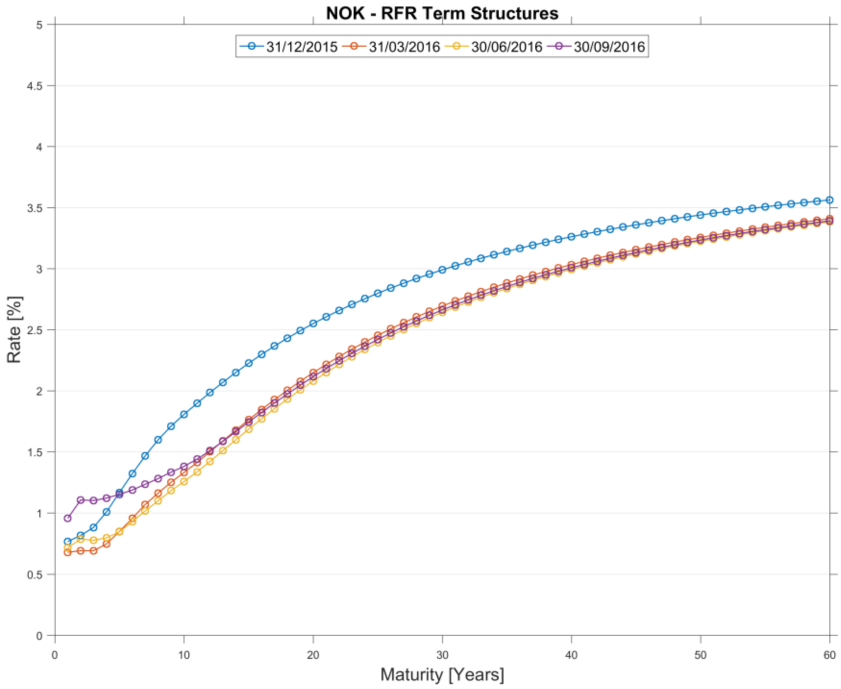

GBP - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

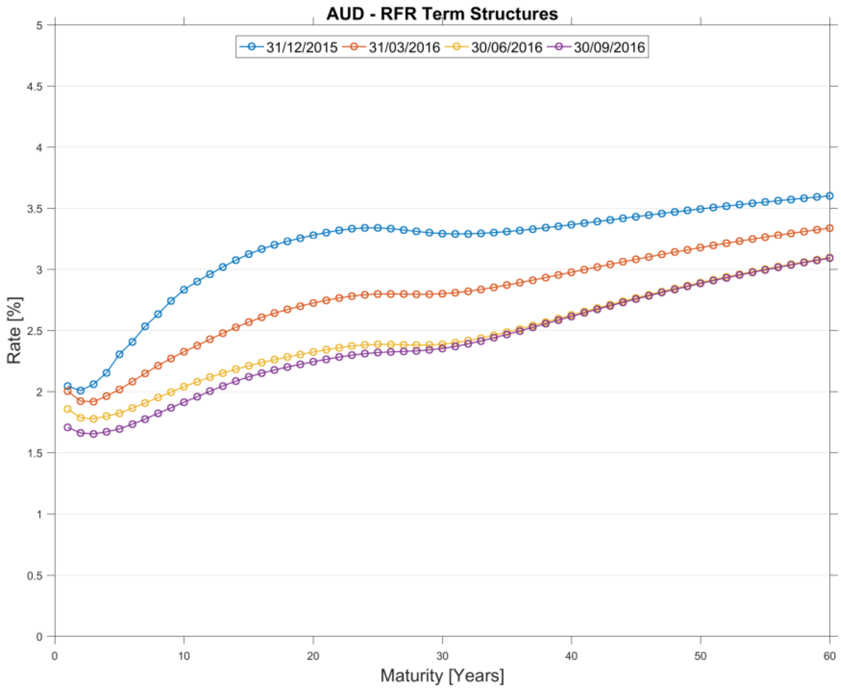

PLN - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

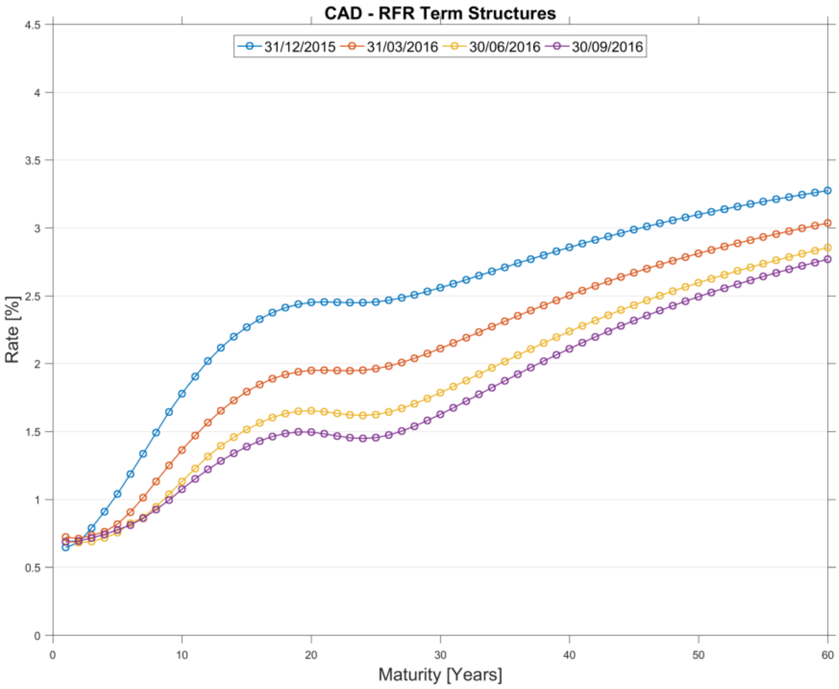

RON - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

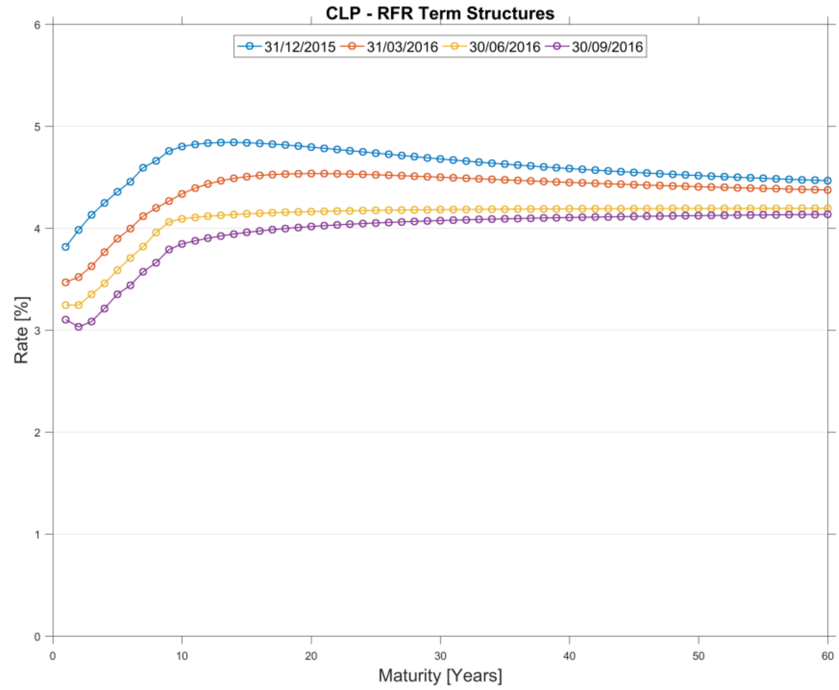

SEK - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]


CHF - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]


NOK - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
0
10
20
30
40
50
60


AUD - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
0
10
20
30
40
50
60


CAD - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]


CLP - RFR Term Structures
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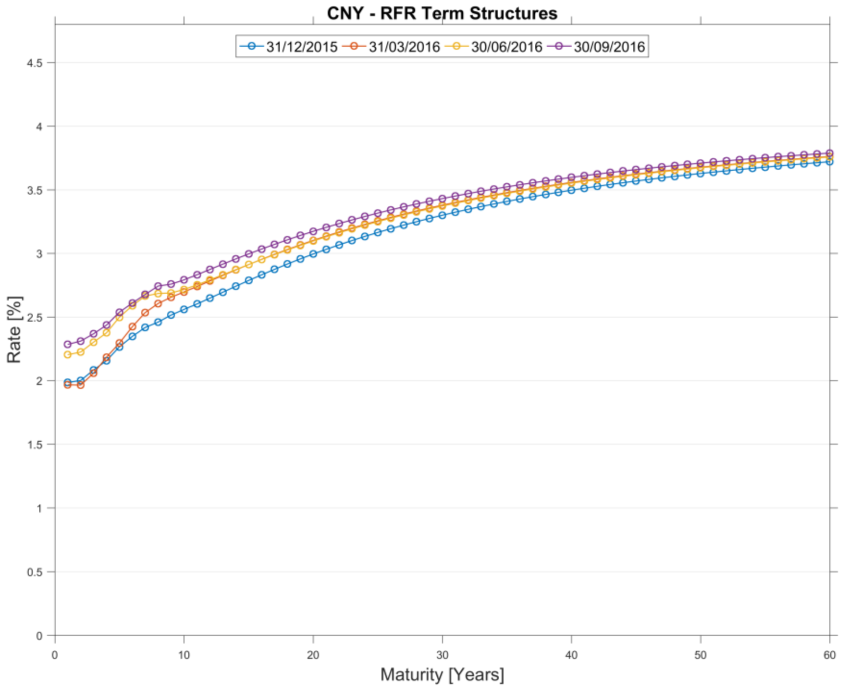
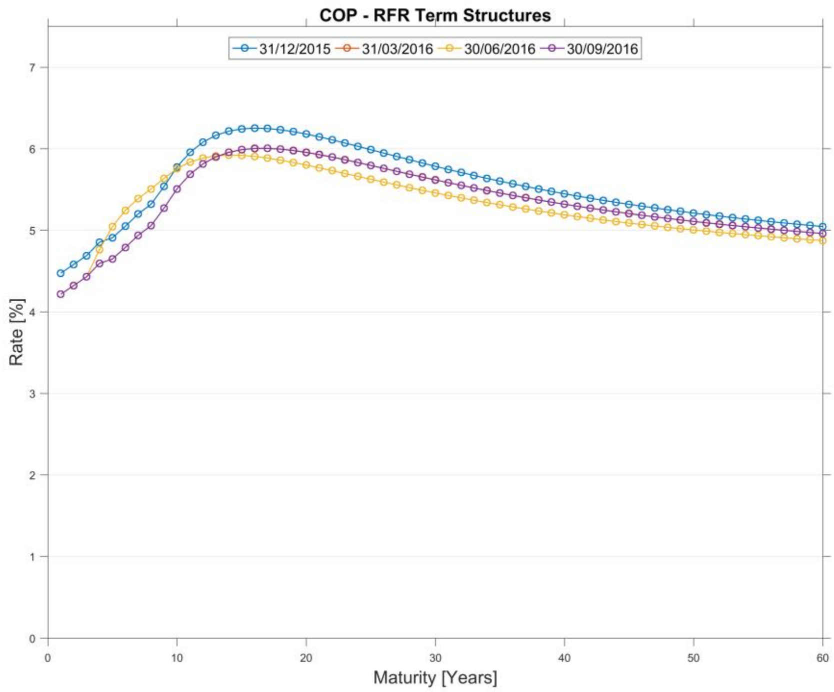
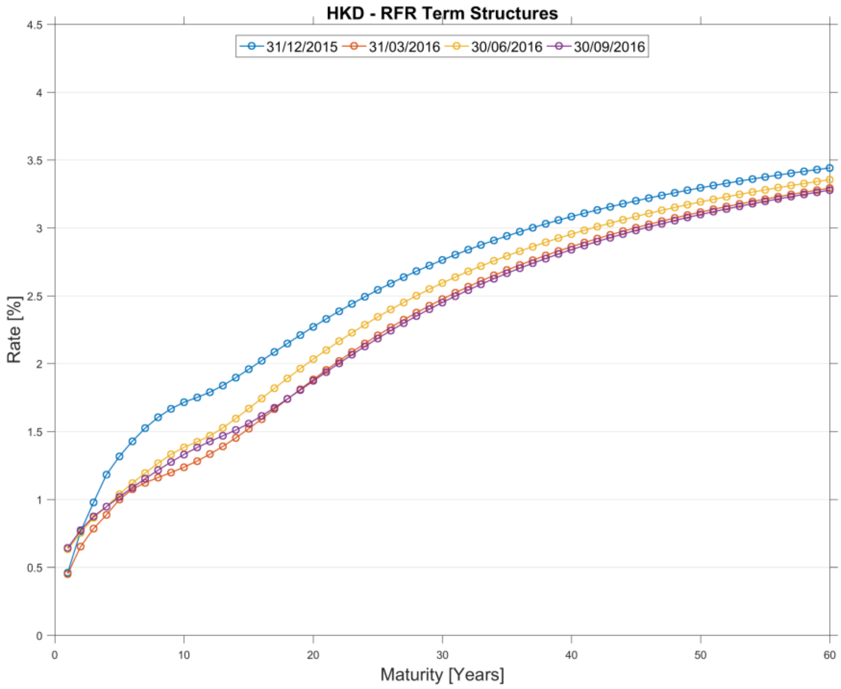
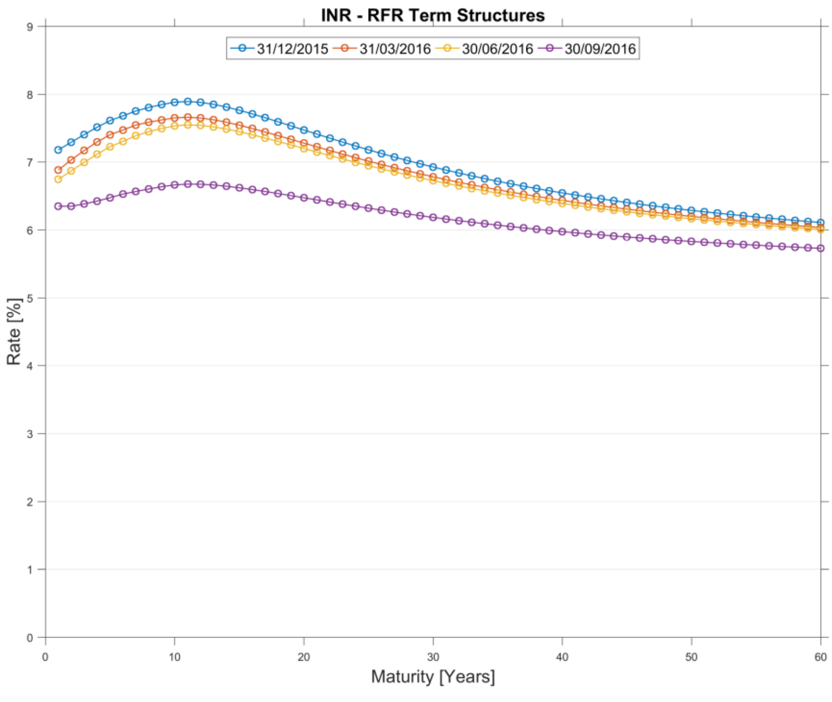
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]


CNY - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
10
20
30
40
50
60

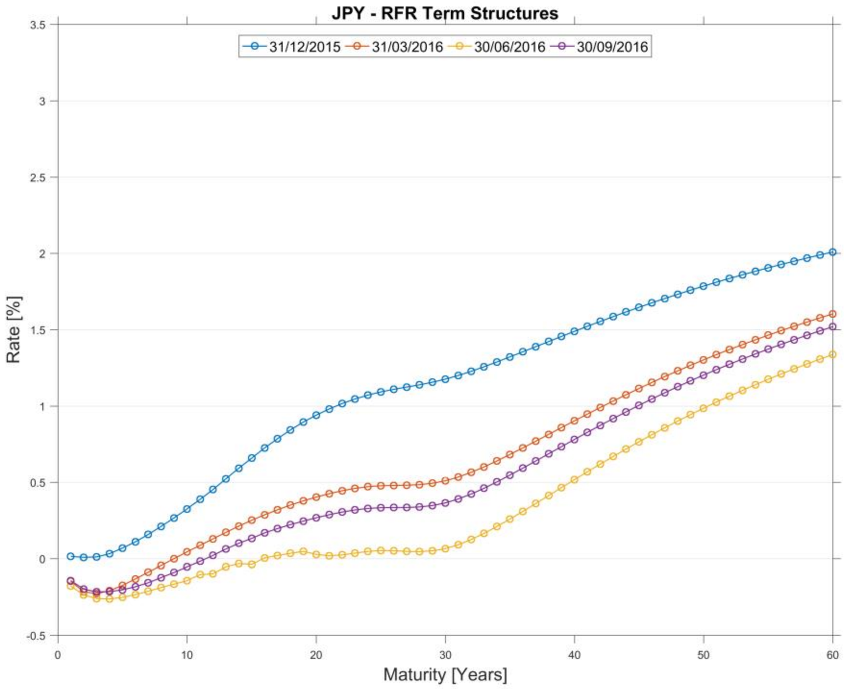

COP - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]
0
1
2
3
4
5
6
7
10
20
30
40
50
60



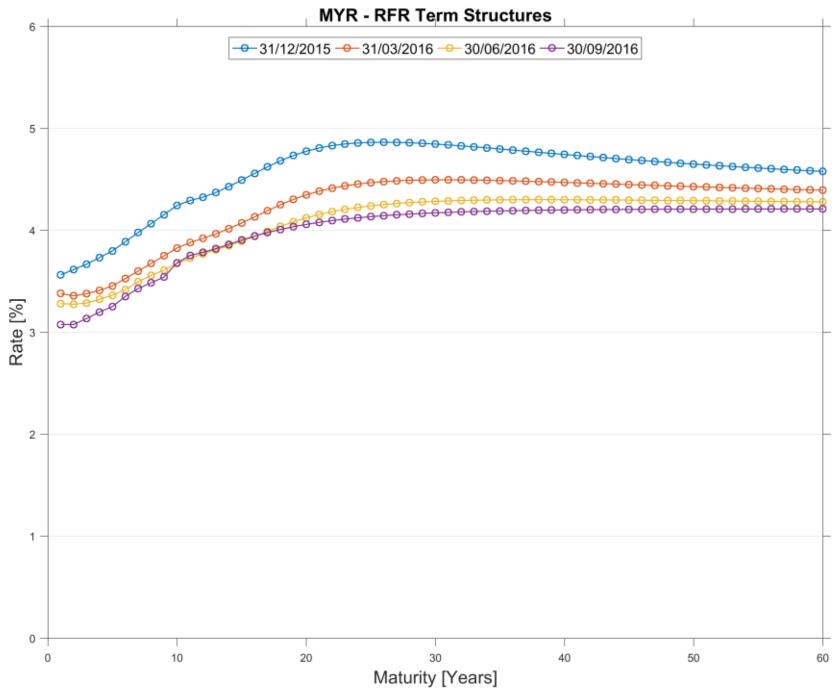
HKD - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]



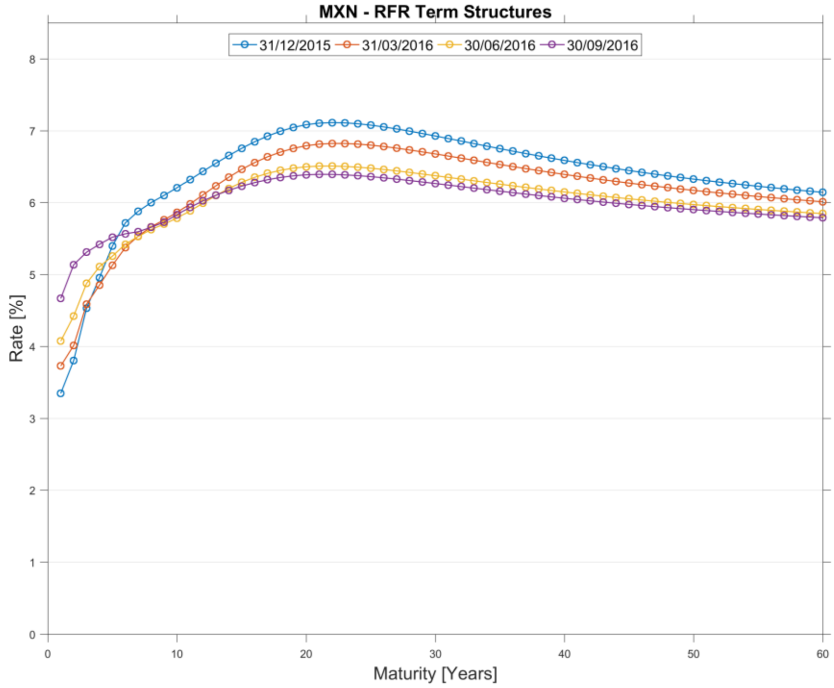
INR - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

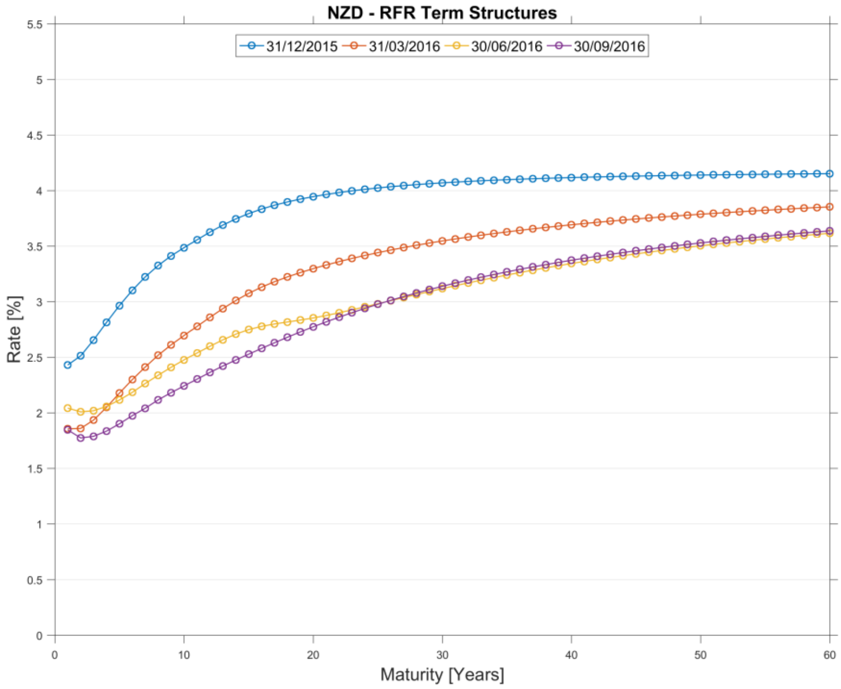


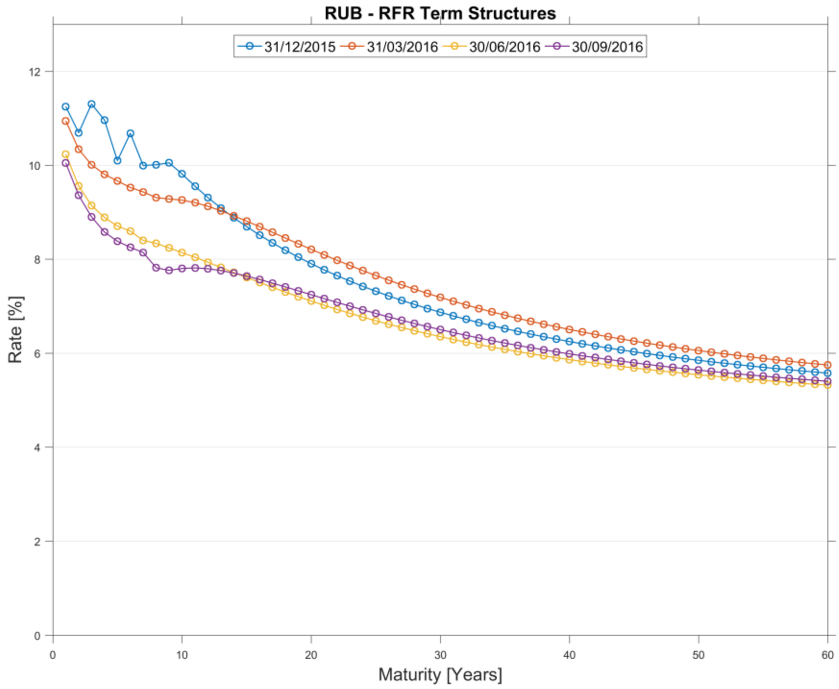
JPY - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

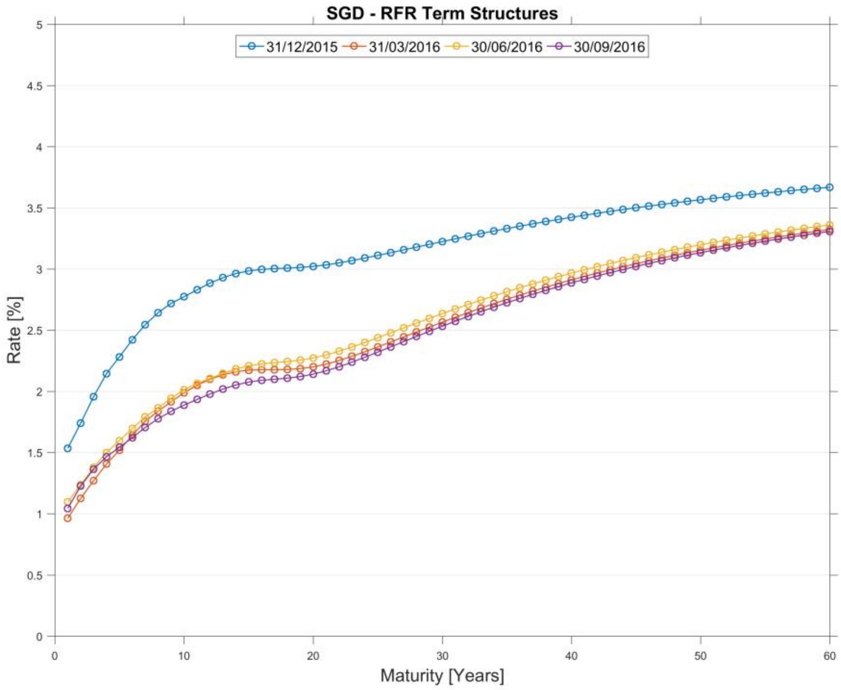


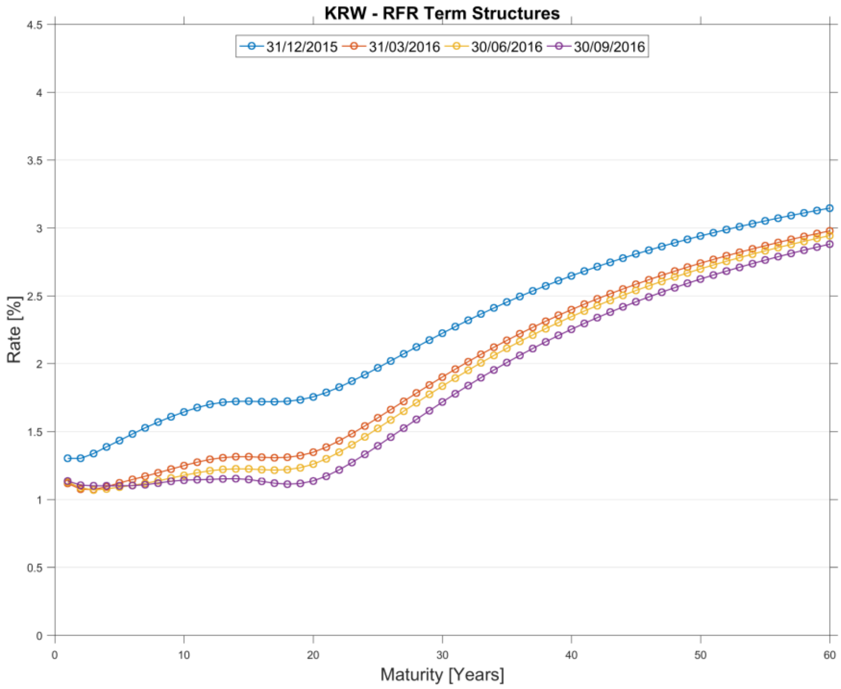
MYR - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

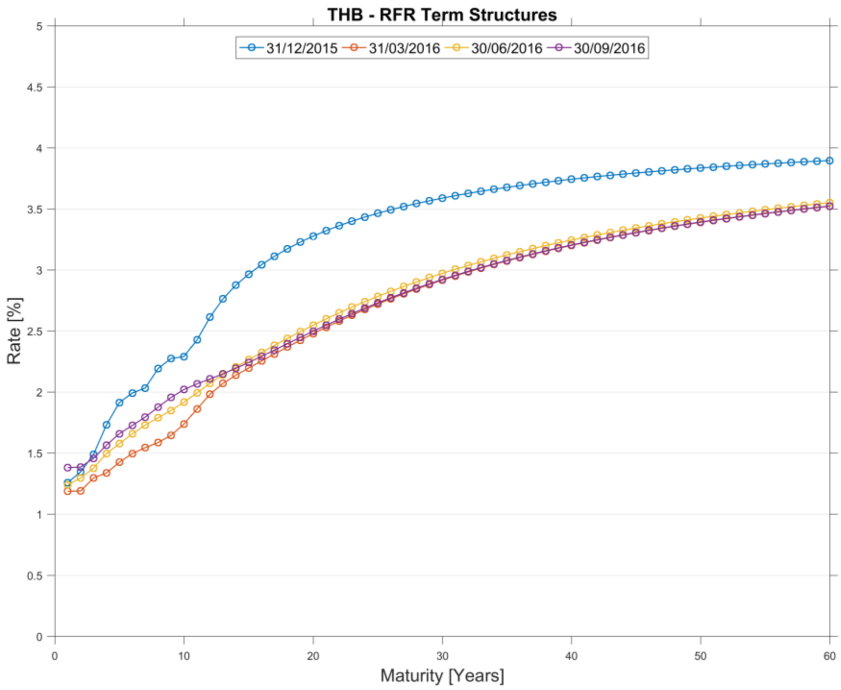

MXN - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

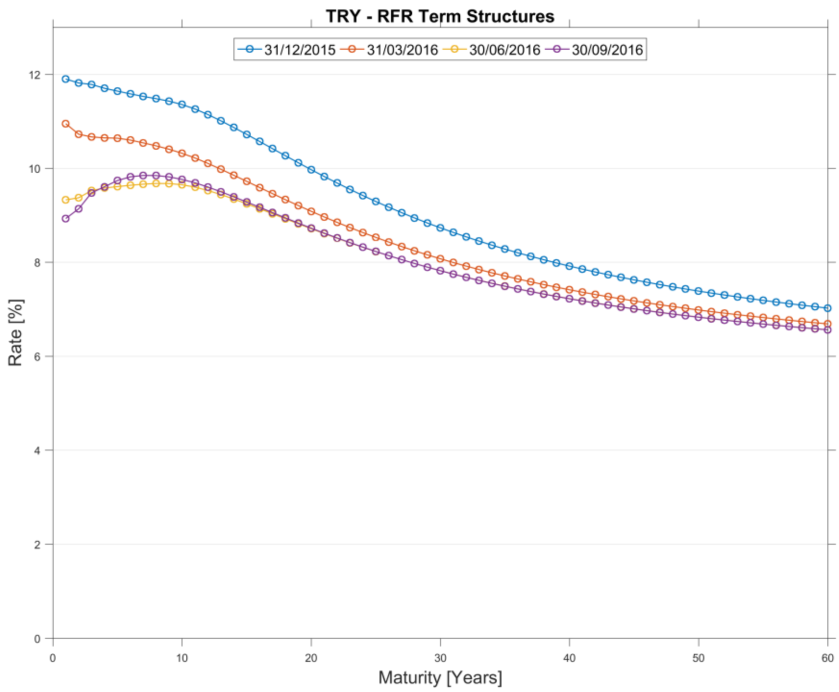

NZD - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

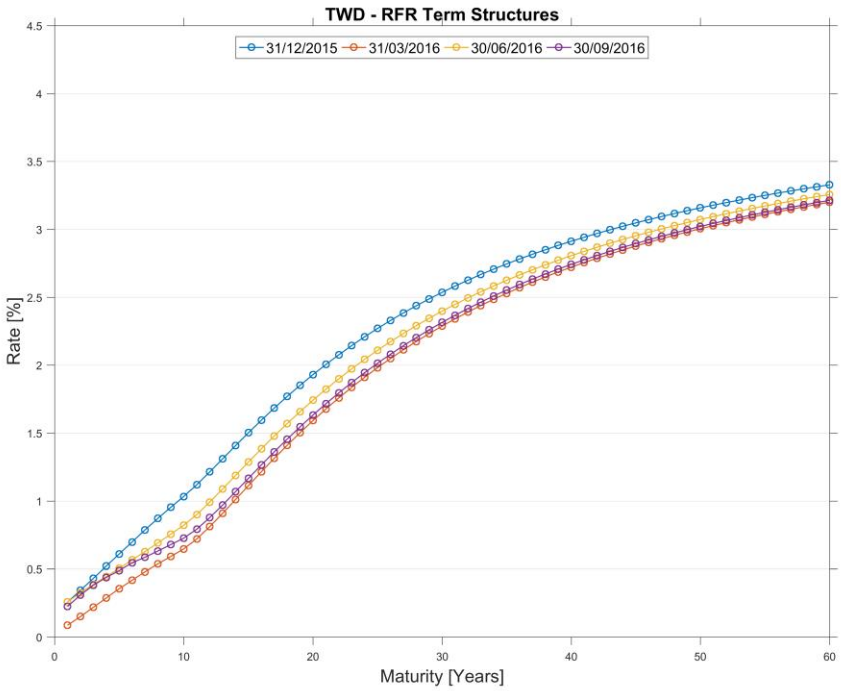

RUB - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

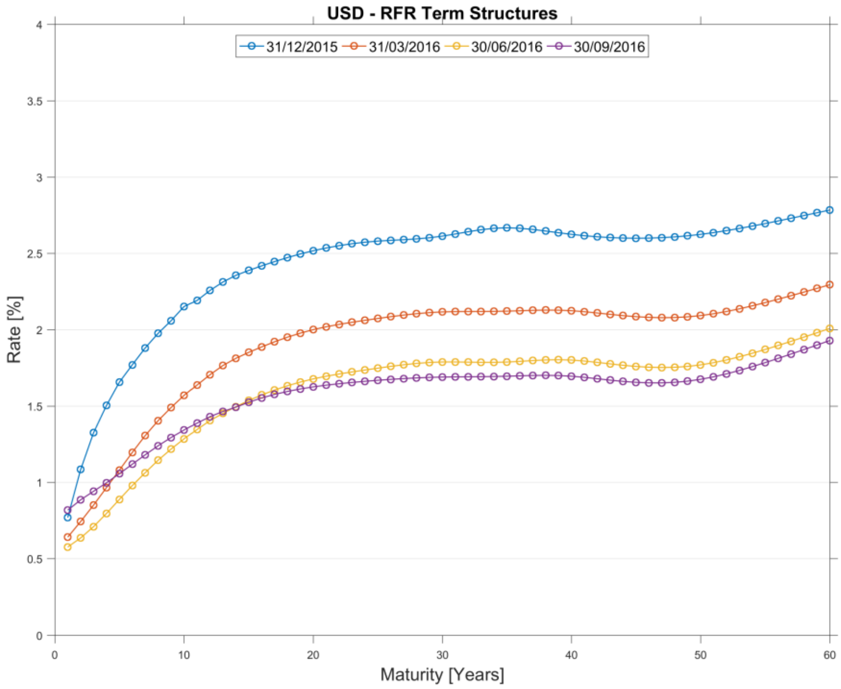

SGD - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

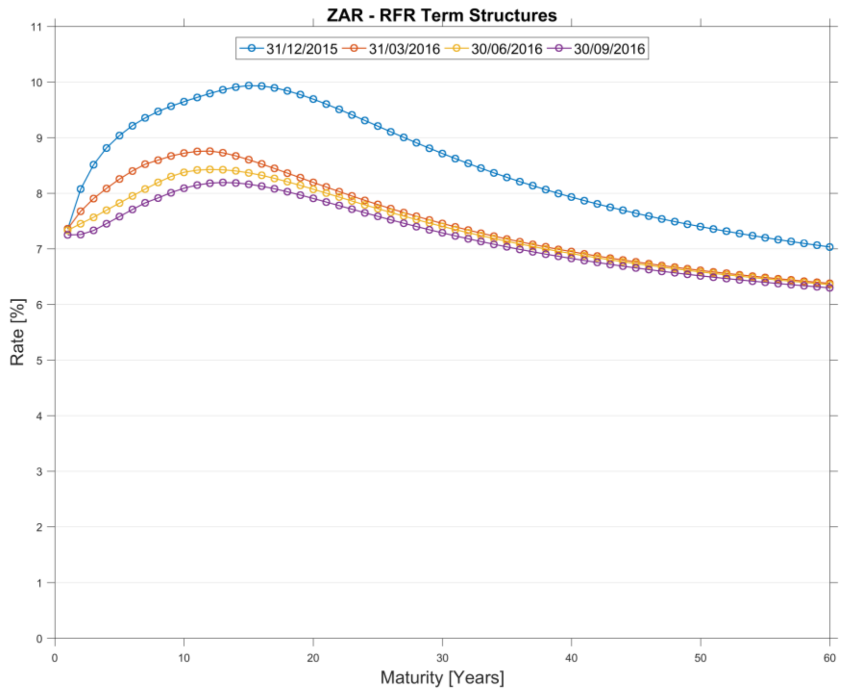

KRW - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]


THB - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]


TRY - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

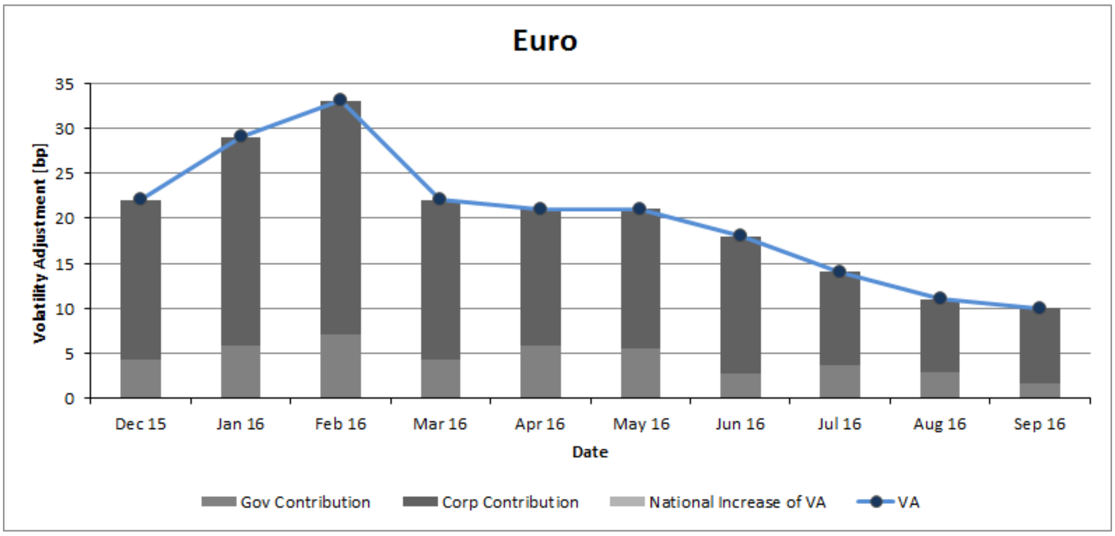

TWD - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]

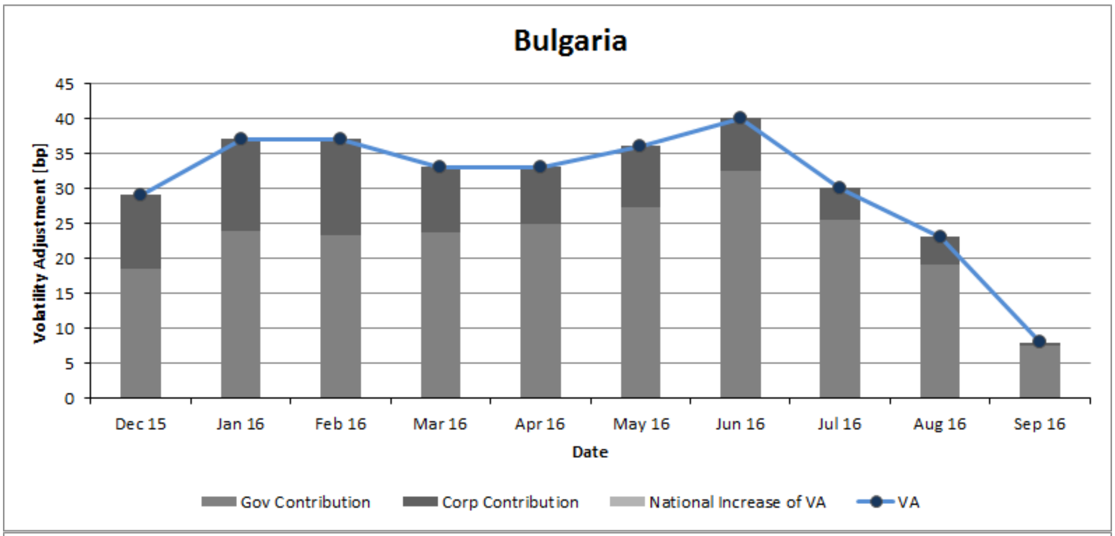

USD - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]
0
0.5
1
1.5
2
2.5
3
3.5
4
0
10
20
30
40
50
60

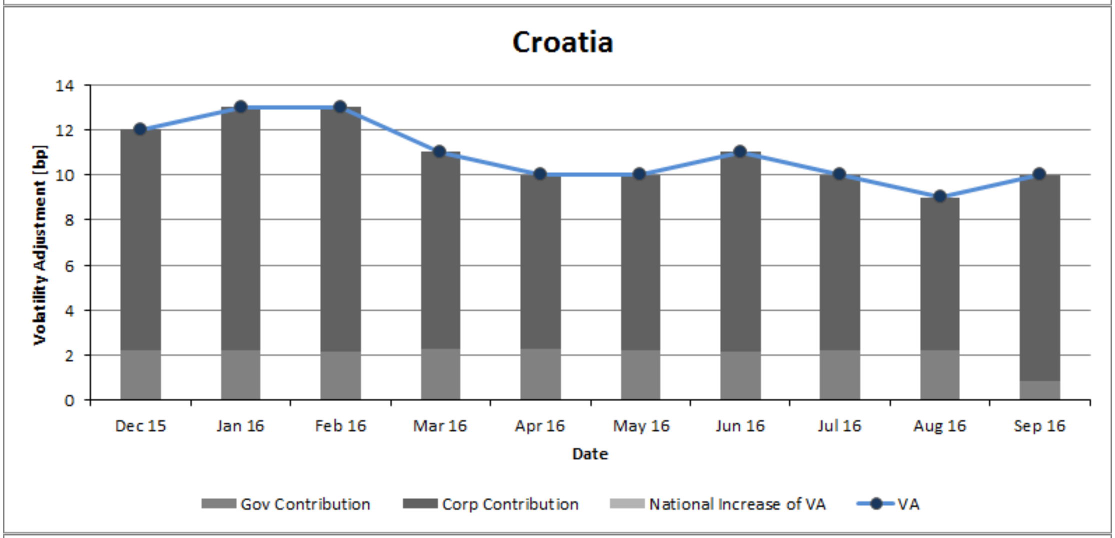

ZAR - RFR Term Structures
31/12/2015
31/03/2016
30/06/2016
30/09/2016
Rate [%]
Maturity [Years]
0
1
2
3
4
5
6
7
8
9
10
11
0
10
20
30
40
50
60

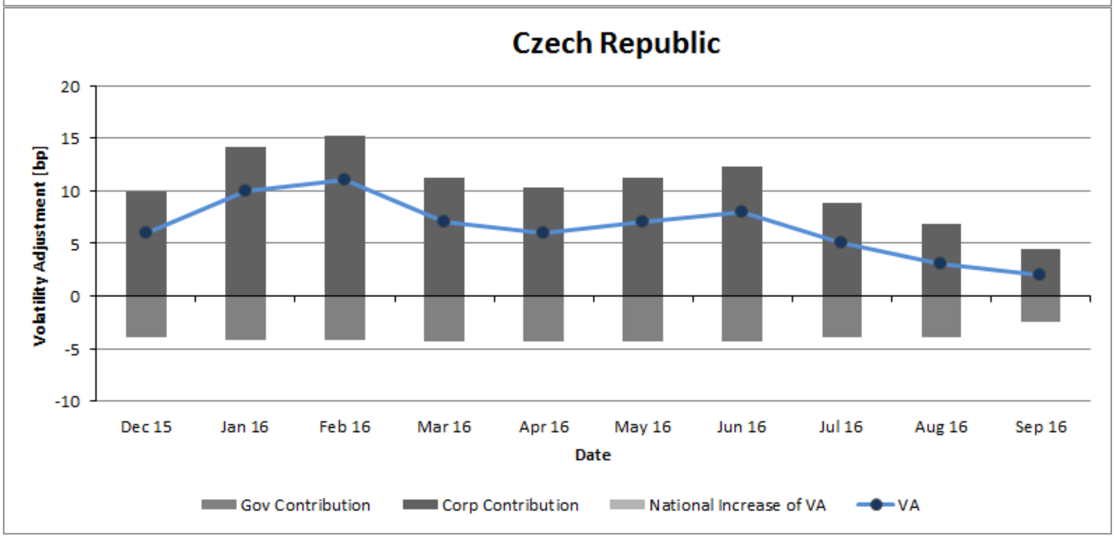
Annex 5 - Technical information – Volatility adjustments

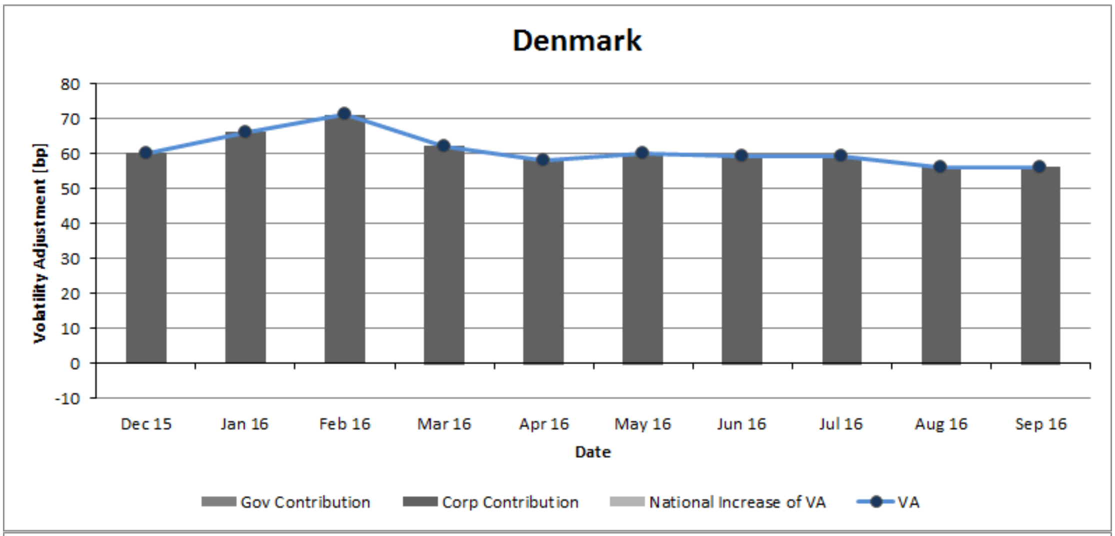
This annex sets out graphs on the development of the volatility adjustment for all relevant currencies from end of December 2015 to end of September 2016 (blue curve, values between months interpolated). The graphs also show the decomposition of the volatility adjustment into a government bond component (light grey) and a corporate bond component (dark grey) in accordance with Article 50 of the Delegated Regulation.

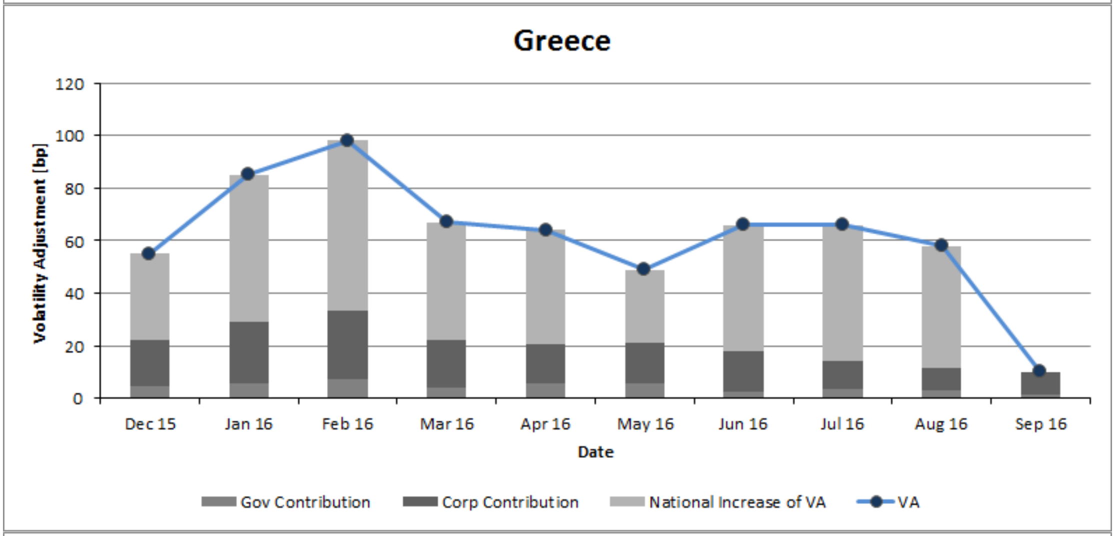


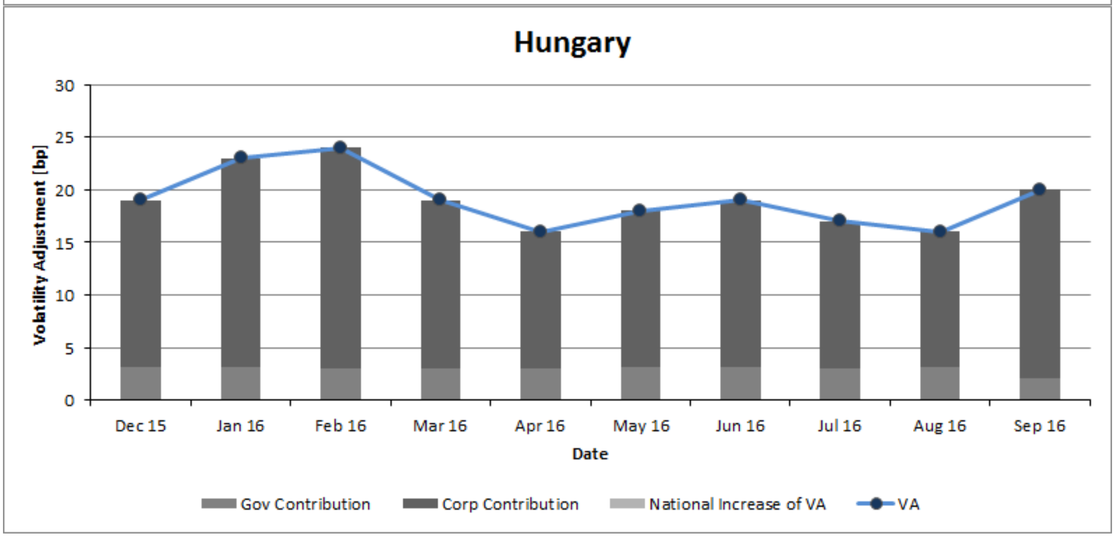

Bulgaria
45
40
35
30
25
20
15
10
5
0
Volatility Adjustment [bp]
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA

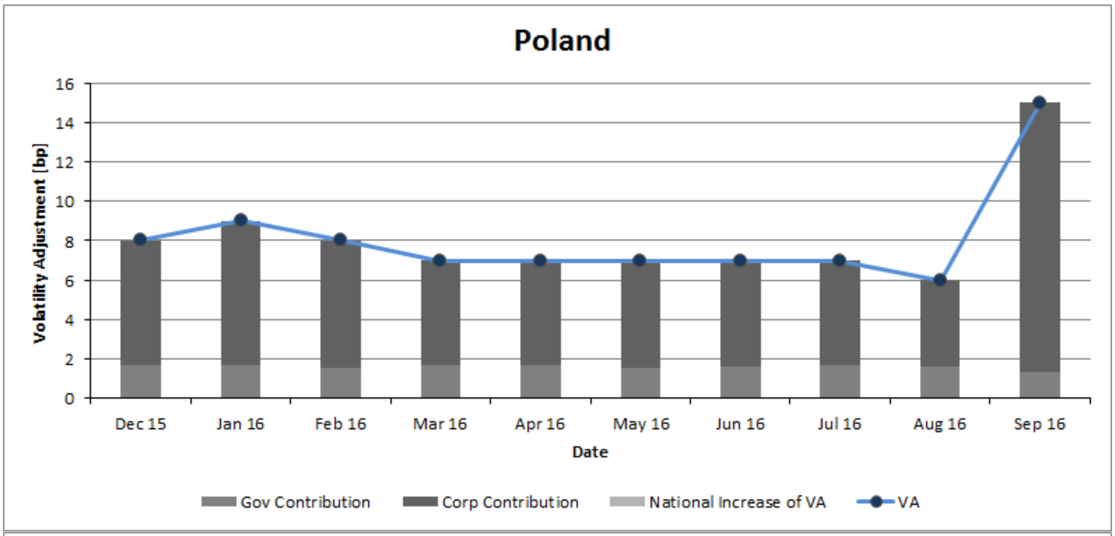

Croatia
14
12
10
8
6
4
2
0
Volatility Adjustment [bp]
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA

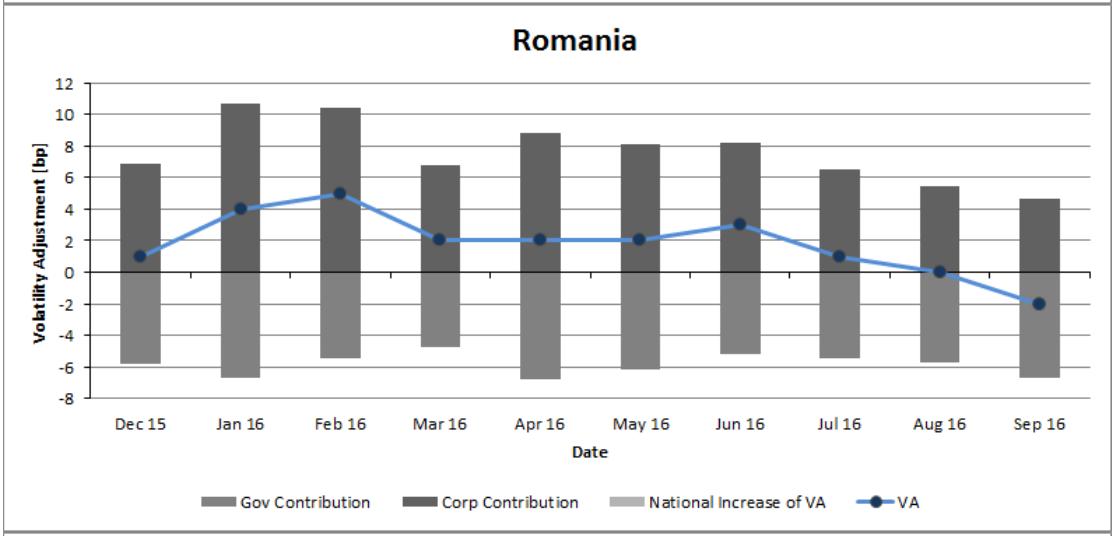

Czech Republic
20
15
10
5
0
-5
-10
Volatility Adjustment [bp]
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA

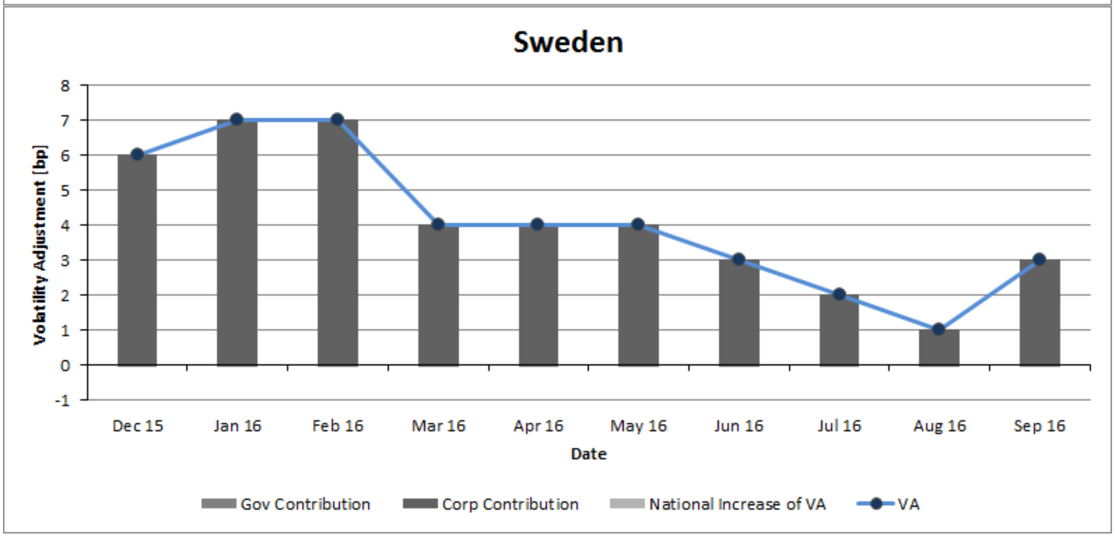

Denmark
Volatility Adjustment [bp]
80
70
60
50
40
30
20
10
0
-10
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA

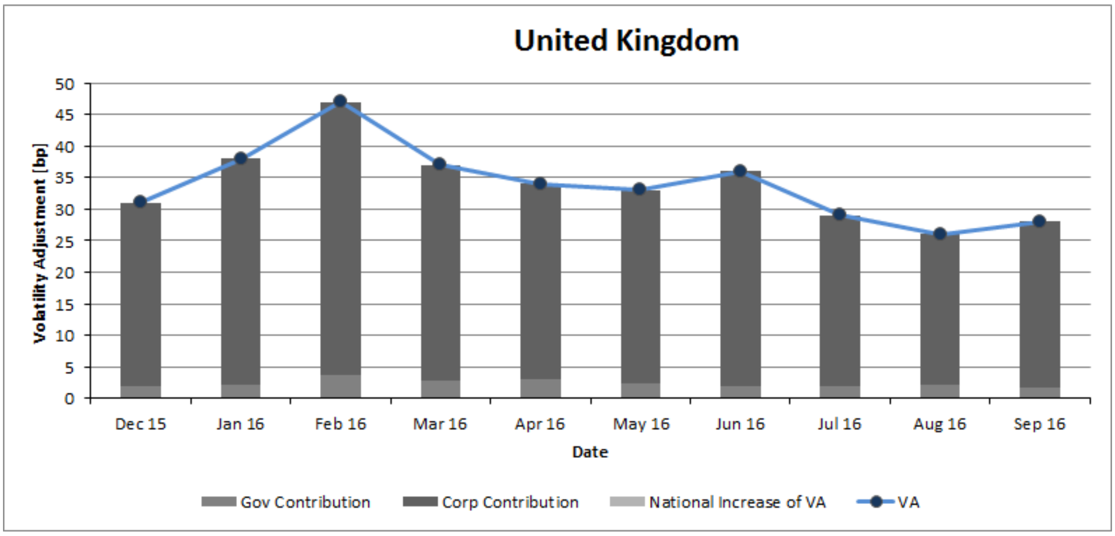

Greece
Volatility Adjustment [bp]
120
100
80
60
40
20
0
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA

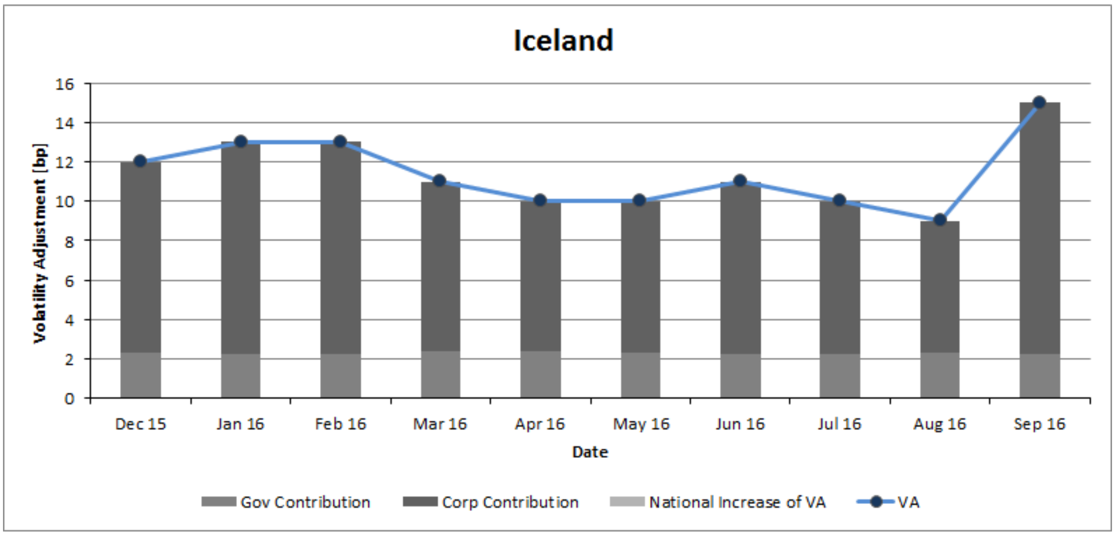

Hungary
Volatility Adjustment [bp]
30
25
20
15
10
5
0
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA

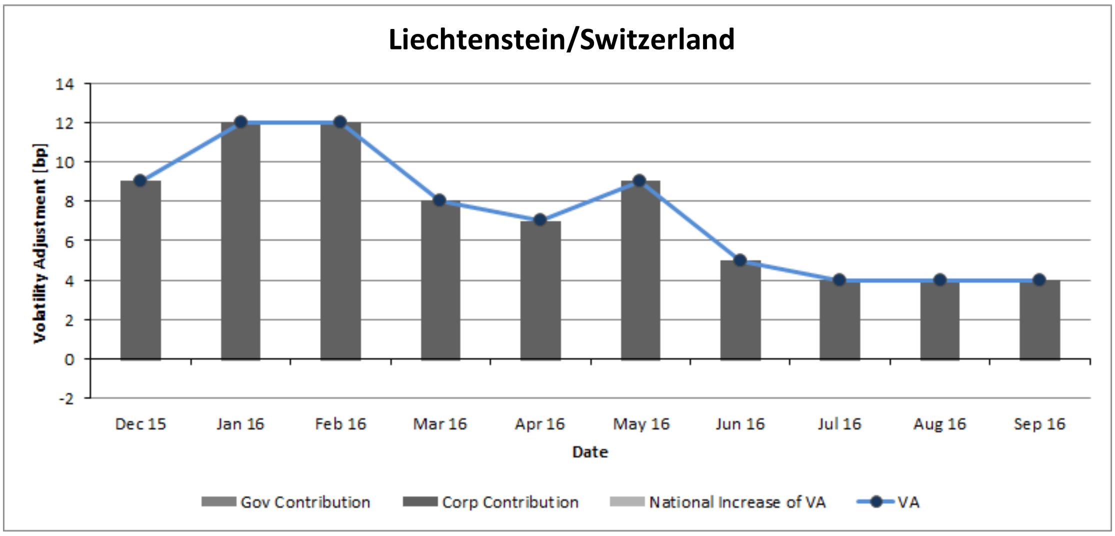

Poland
Volatility Adjustment [bp]
Date
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Gov Contribution
Corp Contribution
National Increase of VA
VA

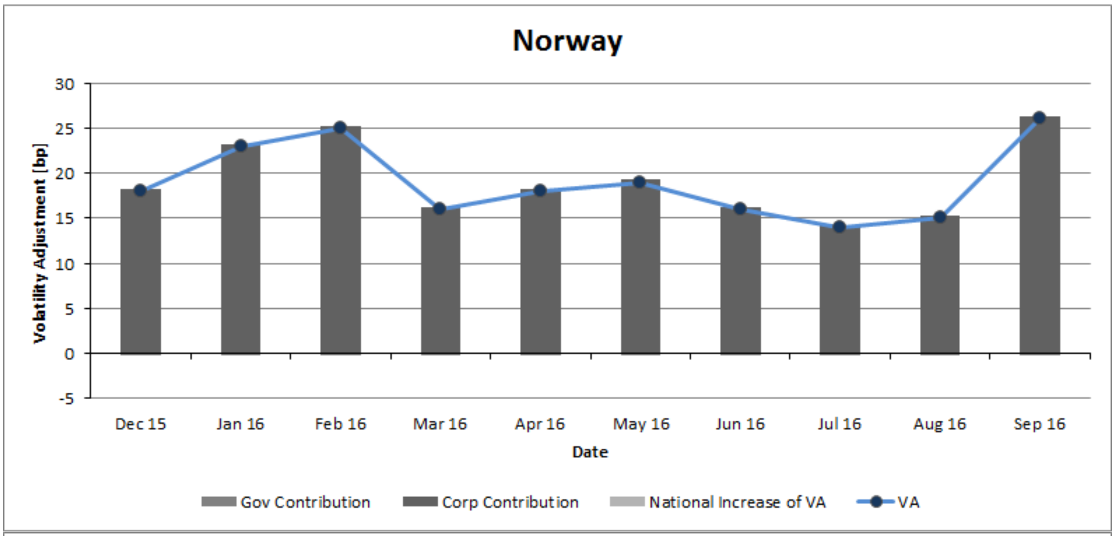

Romania
Volatility Adjustment [bp]
Date
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Gov Contribution
Corp Contribution
National Increase of VA
VA

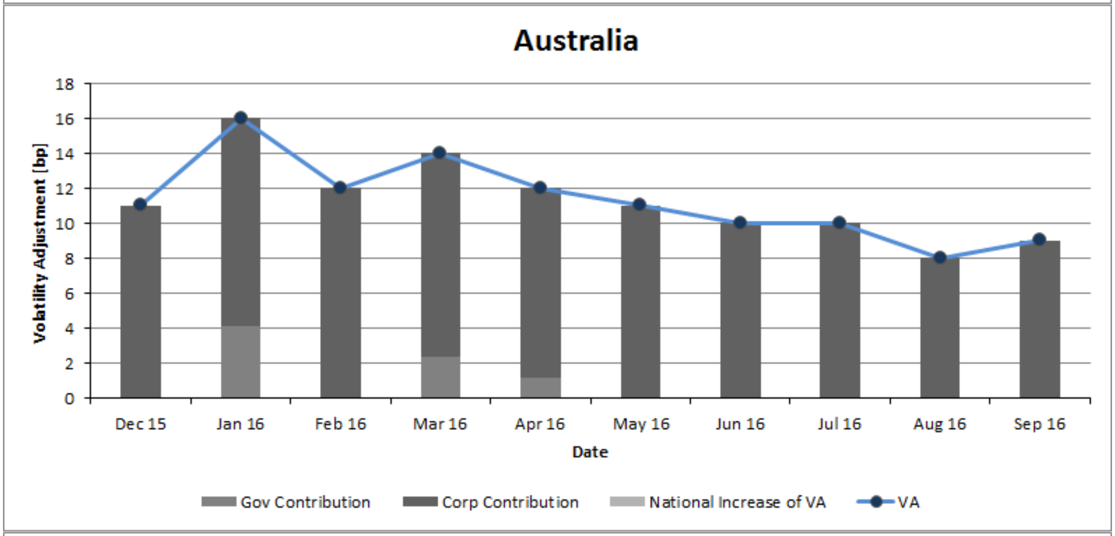

Sweden
Volatility Adjustment [bp]
Date
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Gov Contribution
Corp Contribution
National Increase of VA
VA

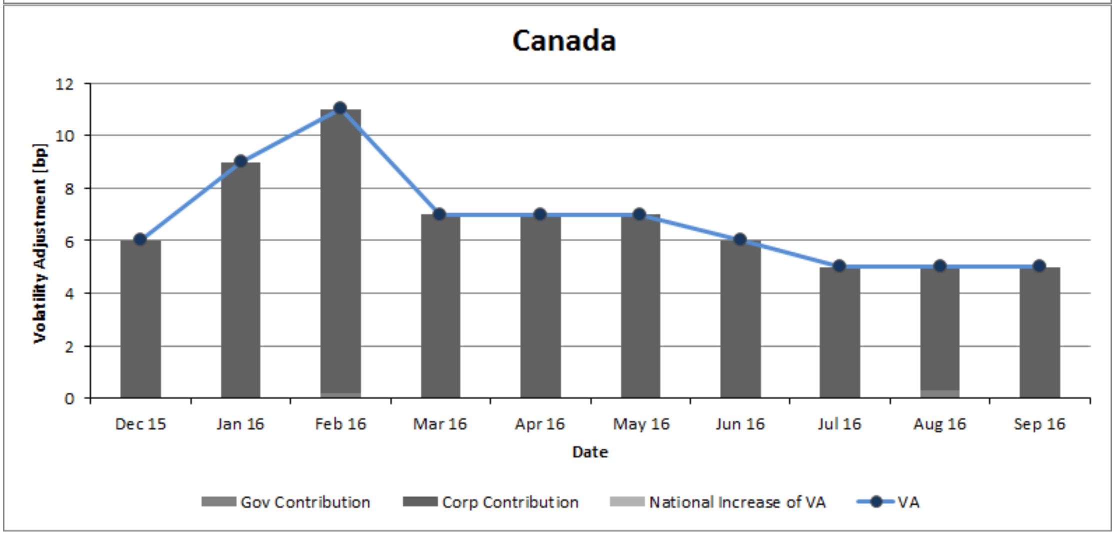

United Kingdom
Volatility Adjustment [bp]
50
45
40
35
30
25
20
15
10
5
0
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA

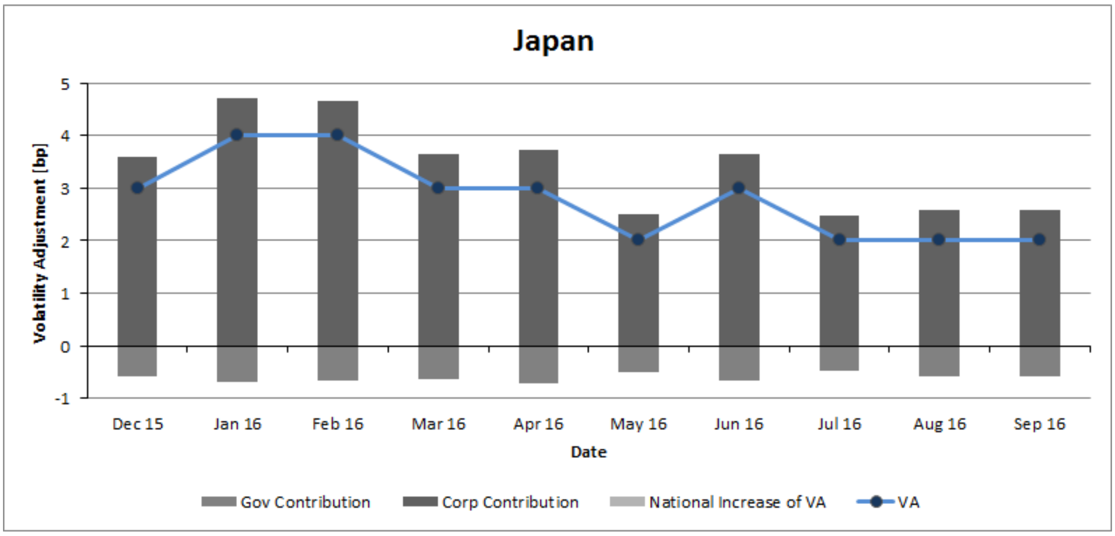

Iceland
Volatility Adjustment [bp]
16
14
12
10
8
6
4
2
0
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA


Liechtenstein/Switzerland
Volatility Adjustment [bp]
14
12
10
8
6
4
2
0
-2
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA

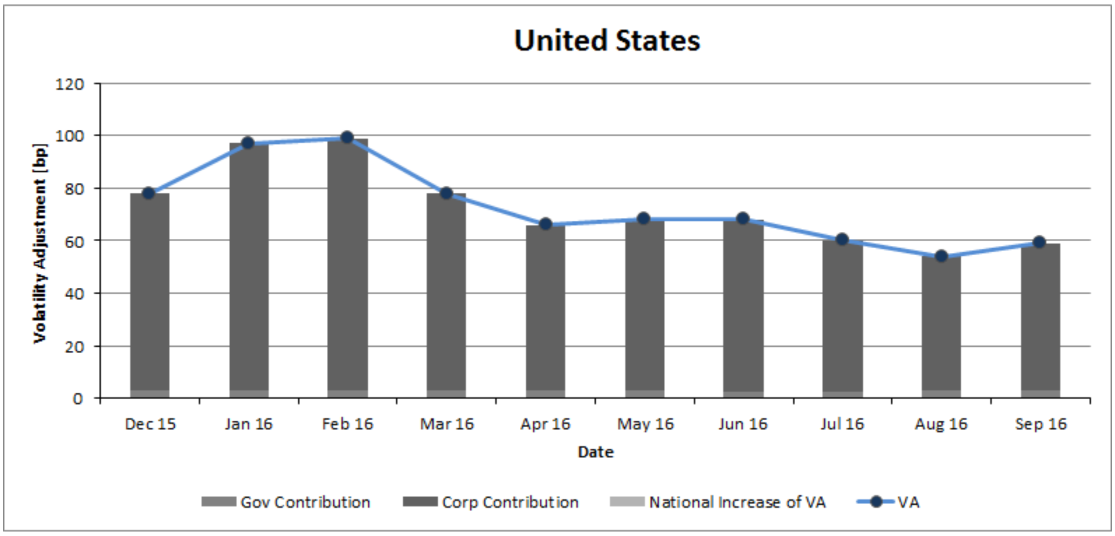

Norway
Volatility Adjustment [bp]
30
25
20
15
10
5
0
-5
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA


Australia
Volatility Adjustment [bp]
18
16
14
12
10
8
6
4
2
0
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA


Canada
Volatility Adjustment [bp]
12
10
8
6
4
2
0
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA



Japan
Volatility Adjustment [bp]
5
4
3
2
1
0
-1
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA



United States
Volatility Adjustment [bp]
120
100
80
60
40
20
0
Dec 15
Jan 16
Feb 16
Mar 16
Apr 16
May 16
Jun 16
Jul 16
Aug 16
Sep 16
Date
Gov Contribution
Corp Contribution
National Increase of VA
VA

Annex 6 - Questionnaire on approval processes

Review of long-term guarantee measures and measures on equity risk 2016: Questionnaire on approval processes

Member State	
National Competent Authority	
Contact person (name, email, telephone)	

Questions — **Answers**

0. Approval processes

0.1 *Please complete the table below with the requested information regarding approval processes for the use of LTG measures and measures on equity risk started before 1 January 2016.*

	Matching Adjustment	Volatility Adjustment **	Duration Based Equity ***	Transitional on risk free interest rates	Transitional on technical provisions
1. Number of applications received before 1 January 2016 *					
2. Number of approvals granted before 1 January 2016					
3. Number of rejections decided before 1 January 2016					
4. Number of applications withdrawn before 1 January 2016					
5. Number of ongoing approval procedures at 1 January 2016 (5=1-2-3-4)					

*In case one undertaking have submitted more than one application for the use of a particular measure, the total number of applications (not number of undertakings) should be provided
** In case the volatility adjustment is not subject to supervisory approval in your jurisdiction according to the national law, please indicate "not applicable"
*** In case undertakings in your jurisdiction are not allowed to seek approval to use the duration based equity risk sub-module, please indicate "not allowed"

0.2	In case of significant changes between 1 January 2016 and the date of submission of the response to this questionnaire, please provide updated information.	
0.3	Please provide a description of any cases in which your authority rejected an application to use MA, VA, DBER, TRFR or TTP. For each measure, please indicate the concrete requirements not fulfilled by the applicant undertakings and any other relevant aspect considered by your authority.	
0.4	Please provide a description of the cases where applications to use MA, VA, DBER, TRFR or TTP have been withdrawn by the applicant undertakings before a formal decision has been adopted by your authority. For each measure, please indicate the possible reasons for the withdrawal.	

1. Volatility adjustment (VA)

1.1	Is the VA subject to approval in your jurisdiction? Yes/No	
1.2	If so, what criteria do undertakings have to satisfy to receive approval to use the VA?	
1.3	Do you have any other comments?	

2. Matching adjustment (MA)

2.1	*Do you consider that the ITS and EIOPA Guidelines on the approval of the MA ensure full harmonization in your market and across markets?*	
2.2	*Have you introduced additional specifications of the approval procedure, for example additional criteria for approval? What areas of the approval procedure do these specifications cover*	
2.3	*Which criteria are the most difficult to comply with for undertakings?Please briefly explain what are the major problems that occur for these criteria.*	
2.4	*What criteria do you apply for assessing the materiality of the mismatch referred to in Article 77b(1)(c)?*	
2.5	*Do you have any other comments?*	

3. Transitional on risk-free interest rates (TRFR)

3.1	*Do you approve applications for starting the use of the transitional not on 1 January 2016, but at a later date during the transitional period?Please note that this question is not about whether undertakings can receive approval after 1 January 2016 to use the transitional retrospectively from 1 January 2016 on.*	
3.2	*Do you allow undertakings to exit from the use of the transitional during the transitional period even before their technical provisions are run off (for example after 10 years)? If yes, is it possible for undertakings to use the transitional again after the exit?*	
3.3	*Have you introduced additional specifications of the approval procedure, for example additional criteria for approval? What areas of the approval procedure do these specifications cover?*	
3.4	*In particular, do you require a phasing-in plan if an undertaking does not comply with MCR without the transitional while it does comply with SCR without the transitional? This case can be relevant for small undertakings where the MCR is higher than the SCR because it is determined by the absolute floor.*	
3.5	*Do you have any other comments?*	

4. Transitional on technical provisions (TTP)

4.1	*Do you approve applications for starting the use of the transitional not on 1 January 2016, but at a later date during the transitional period?Please note that this question is not about whether undertakings can receive approval after 1 January 2016 to use the transitional retrospectively from 1 January 2016 on.*	
4.2	*Do you allow undertaking to exit from the use of the transitional during the transitional period even before their technical provisions are run off (for example after 10 years)? If yes, is it possible for undertakings to use the transitional again after the exit?*	
4.3	*Have you introduced additional specifications of the approval procedure, for example additional criteria for approval? What areas of the approval procedure do these specifications cover?*	
4.4	*In particular, do you require a phasing-in plan if an undertaking does not comply with MCR without the transitional while it does comply with SCR without the transitional?*	
4.5	*What is your policy on the application of Article 304d(3) of the Solvency II Directive on the recalculation of the transitional reduction. In particular, do you require or allow recalculation of the reduction every 24 month or with another specified frequency? In case applicable, what are your criteria for assessing whether the risk profile of the undertaking has materially changed?*	
4.6	*How many undertakings have requested to apply the transitional at the level of homogeneous risk groups? To the extent you are aware, what is the motivation for the undertakings' choice of the homogeneous risk groups. What is your supervisory assessment of the undertakings' choice of the homogeneous risk groups?*	
4.7	*Do you have any other comments?*	

5. Duration based equity risk submodule (DBE)		
5.1	***Can undertakings seek approval to use the duration-based equity sub module in your jurisdiction?***	
5.2	***Have you introduced additional specifications of the approval procedure, for example additional criteria for approval? What areas of the approval procedure do these specifications cover?***	
5.3	***What criteria do you apply, in particular for deciding whether assets and liabilities are ring-fenced?***	
5.4	***Which criteria do you apply for assessing that the solvency and liquidity position, the strategies, processes and reporting procedures of the undertaking ensure that it is able to hold equity investments for a period which is consistent with the typical holding period of equity investments for the undertaking concerned (12 years)?***	
5.5	***Do you have any other comments?***	

Annex 7 - General questionnaire on LTG measures and measures on equity risk

Review of long-term guarantee measures and measures on equity risk 2016: General questionnaire - qualitative questions

Member State	
National Competent Authority	
Contact person (name, email, telephone)	
Reporting currency	

Questions		Answers
Impact of the measures on the undertakings' financial position		
1	***Is your authority concerned about the impact of any of the measures on the financial position of undertakings in your jurisdiction? If so, please describe the reasons for concern and eventual supervisory action taken or planned.***	
Policyholder protection		
2	***Is there an insurance guarantee scheme in your jurisdiction which covers policyholders with long-term guarantees? Please describe scope and functioning of the relevant scheme.***	
3	***Have you observed by now any cases of undue capital relief* due to the application of the the matching adjustment (MA), the volatility adjustment (VA), the duration-based equity risk submodule (DBER) or the symmetric adjustment mechanism (Equity Dampener, ED) ? Please provide detail on the number of cases, the materiality of affected undertakings, the undue capital relief and the measures adopted.***	
4	***Have you imposed capital add-ons based on observed cases of undue capital relief?***	
5	***Have you observed by now any further positive or negative impact of the LTG and equity risk measures on policyholder protection? Please describe your observation.***	

** In order to support NSAs in identifying* ***cases of undue capital relief*** *and ensure comparability among NSAs, the following indicators are proposed. The list is not exhaustive and not binding for NSAs who can eventually identify additional indicators or disregard some of the proposed indicators if deemed not to be relevant for specific cases. NSAs will be asked to give evidence of the eventual presence of an undue capital relief, and not of the result of any single indicator.*

Indicators in relation to the MA:
- There are material deviations between the actual money earned on the assets portfolio and the payments to policyholders generated by the liabilities portfolio.
- An undertaking has not earned in the past the risk-free interest rates (including the MA) on the assets of the MA portfolio.
- The discount rates used in practice to value liabilities in a transfer of the insurance portfolio to a third party are lower than the risk-free interest rates (including the MA).
- There are material deviations between stressed fundamental spreads and the reduction factors referred to in Article 181 of the Delegated Regulation.
- A forced sale of assets of the assigned portfolio of assets took place.

Indicators in relation to the VA:
- An undertaking has in the past not earned the risk-free interest rates (including the VA) on its assets (excluding and assets covering technical provisions calculated as a whole and assets from MA portfolios).
- An undertaking's assets differ significantly from the representative portfolio and in particular the correlation between the yield of the representative portfolio and that of the undertaking's portfolio is not sufficiently high.
- The discount rates used in practice to value liabilities in a transfer of the insurance portfolio to a third party are lower than the risk-free interest rates (including the VA).

Indicators in relation to the ED:
- An undertaking has incurred over a period of one year a loss on its equity investments that is larger than the capital requirement at the beginning of that year. The indicator should be based on the standard parameters for equity risk, not the parameters according to the equity transitional of Article 308b(13) of the Directive.
- There is a significant deviation between EIOPA's index and the actual equity portfolio composition of an undertaking.

Indicators in relation to the DBER:
- An undertaking has incurred over a period of one year a loss on its equity investments that is larger than the capital requirement at the beginning of that year.
- The duration of equity holding not in line with the assumptions leading to the DBER shock.

Compliance with the phasing-in plans and prospect of reduced dependency: transitional measure on the risk-free interest rates (TRFR) and the transitional measure on technical provisions (TTP)		
6	***Please provide a description of the measures provided in their phasing-in plans by undertakings that apply the TRFR or TTP and do not comply with the SCR on 1 January 2016.***	
7	***Please provide a description of eventual cases of amendments to phasing-in plans, either at undertaking's own initiative or at supervisory request.***	
8	***Please provide a detailed description of any cases in your jurisdiction of revocation of the approval to apply the TRFR or TTP.***	
9	***What is your assessment of the prospect of reduced dependency of undertakings on the transitional measures?***	
10	***Please provide a description of the relevant measures taken or expected to be taken by your authority with respect to undertakings using these transitional measures. To what extend do these measures depend on the regulatory environment of your Member State?***	
Investments		
11	***Please describe any significant change in the asset allocation of undertakings during the Solvency II preparatory phase (2014-2015) that you have observed.***	
12	***How would you define the current trend in your national market regarding the behaviour of undertakings as long-term investors: decreasing/increasing /not changing significantly?***	
13	***Please describe the main drivers for the observed trend in your national market regarding the behaviour of undertakings as long term investors.***	
14	***Please describe the observed impact by now of the MA, VA, ED and DBE on the investment behaviour of undertakings in your jurisdiction.***	
Products		
15	***Is there in your jurisdiction a legal definition or a commonly accepted meaning of the expression "long-term guarantee"? How would you define "long-term guarantees"?***	
16	***What are the main types of insurance products currently available in your national market which include long-term guarantees? For each type, please describe the most relevant characteristics, such as: - line of business, - type of guarantees offered, - duration of the guarantees, - number of undertakings offering the product, and - use of LTG measures and measures on equity risk by those undertakings.***	
17	***How would you define the current trend regarding the availability of such products in your national market: decreasing/increasing/not changing significantly?***	
18	***What are the main drivers for the observed trend regarding the availability of long-term guarantee products in your national market?***	
Financial stability		
19	***Have you observed any positive or negative impact of the measures on financial stability? In particular, have you observed pro-cyclical effects of the measures and whether their current design exacerbates the issues in a stressed market situation? Please describe your observation.***	
Transitional on Technical Provisions		
20	***Do you apply the cap to the transitional deduction referred in the Article 308d(4) of the Solvency II Directive? If you do: • what are the criteria for deciding on the application of the cap? • what is your definition for "reduction in financial resource requirements" as referred to in Article 308d(4)?***	

Review of long-term guarantee measures and measures on equity risk 2016: General questionnaire - quantitative questions

Member State	
National Competent Authority	
Contact person (name, email, telephone)	
Reporting currency	

Questions / Answers

General information regarding the national market

1	***Please complete the table below with the requested information on insurance and reinsurance undertakings in your jurisdiction at the reference date 1 January 2016 (irrespective of the use of LTG measures and transitionals).***

Rows 1-4 *in the table refer to the total number of insurance and reinsurance undertakings in your jurisdiction under Solvency II at the reference date 1 January 2016. The clasiffication of life undertakings, non-life undertakings and undertakings pursuing both life and non-life activity corresponds to the type of undertaking in row R0040 of the day 1 Basic Information template (S.01.02).*
Rows 5-7 *refer to the aggregated amount of gross technical provisions corresponding to all undertakings in your jurisdiction, as reported in the day 1 Solvency II Balance sheet (S.02.01) under the column C0010 (Solvency II Value). It equals the sum of the figures in the following rows of the Solvency II Balance sheet template: R0600 plus R0690 for life (row 5 of the table) and R0510 for non-life (row 6 of the table).*
Rows 8-10 *refer to the aggregated amount of gross written premiums corresponding to all undertakings in your jurisdiction, as reported in the quantitative reporting template on premiums, claims and expenses by line of business (S.05.01) for the first quarter 2016.It equals the sum of the figures in the following cells of the template: column C0300 row R1410 for life (row 8 of the table) and column C0200 rows R0110 plus R0120 plus R0130 for non-life (row 9 of the table).*

Columns *in the table refer to the classification of undertakings according to the method of calculation of the Solvency Capital requirement (SCR). Column F should be completed with the sum of aggregated amounts in the three previous columns.*

	Using standard formula	*Using partial internal model*	*Using full internal model*	*Total*
1. Number of life undertakings				-
2. Number of non-life undertakings				-
3. Number of undertakings pursuing both life and non–life activity				-
4. Total number of undertakings (4=1+2+3)	-	-	-	-
5. Aggregated amount of life gross technical provisions (including index-linked and unit-linked)				-
6. Aggregated amount of non-life gross technical provisions				-
7. Total aggregated amount of gross technical provisions (7=5+6)	-	-	-	-
8. Aggregated amount of life gross written premiums				-
9. Aggregated amount of non-life gross written premiums				-
10. Total aggregated amount of gross written premiums (10=8+9)	-	-	-	-

Number of undertakings applying the measures

2	***Please complete the table below with the requested information on insurance and reinsurance undertakings in your jurisdiction applying* the matching adjustment (MA), the volatility adjustment (VA), the duration-based equity risk submodule (DBER), the transitional measure on the risk-free interest rates (TRFR) and/or the transitional measure on technical provisions (TTP) and undertakings not applying any of the referred measures.***

**The expression "applying" is used following the wording of Article 77f(1); it is referred to undertakings using the measures. Please note that it does not refer to the number of applications received.*

Rows 1-4 *in the table refer to number of insurance and reinsurance undertakings in your jurisdiction applying each of the analysed measured (or not applying any of the measures) at the reference date 1 January 2016. The claiffication of life undertakings, non life undertakings and undertakings pursuing both life and non-life activity corresponds to the type of undertaking in row R0040 of the day 1 Basic Information template (S.01.02).*
Rows 5-7 *refer to the aggregated amount of gross technical provisions corresponding to undertakings applying each of the analysed measured (or not applying any of the measures), as reported in the day 1 the Solvency II Balance sheet (S.02.01) under the column C0010 (Solvency II Value). It equals the sum of the figures in the following rows of the Solvency II Balance sheet template: R0600 plus R0690 for life (row 5 of the table) and R0510 for non-life (row 6 of the table).*
Rows 8-10 *refer to the aggregated amount of gross written premiums corresponding to undertakings applying each of the analysed measured (or not applying any of the measures)as reported by undertakings in your jurisdiction in the quantitative reporting template on premiums, claims and expenses by line of business (S.05.01) for the first quarter 2016.It equals the sum of the figures in the following cells of the template: column C0300 row R1410 for life (row 8 of the table) and column C0200 rows R0110 plus R0120 plus R0130 for non-life (row 9 of the table).*

Columns *in the table refer to the measures subject to analysis; columns C-G should be completed with the aggregated amounts corresponding to undertakings in your jurisdiction applying each of the measures. Please note that the figures related to one particular undertaking may be included in one or more columns (e.g. In case an undertaking applies MA and TTP, the amount of assets need to be included in columns C and G). Column H (no measure) refers to undertakings in your jurisdiction not applying any of the measures; figures related to undertakings which have been included in one or more of the previous columns should not be considered under this last column.*

	Matching Adjustment	Volatility Adjustment	Duration Based Equity	Transitional on risk free interest rates	Transitional on technical provisions	No measure
1. Number of life undertakings applying the measure						
2. Number of non-life undertakings applying the measure						
3. Number of undertakings pursuing both life and non–life activity applying the measure						
4. Total number of undertakings applying the measure (4=1+2+3)	-	-	-	-	-	-
5. Aggregated amount of life gross technical provisions (including index-linked and unit-linked) for undertakings applying the measure						
6. Aggregated amount of non-life gross technical provisions for undertakings applying the measure						
7. Total aggregated amount of gross technical provisions for undertakings using the measure (7=5+6)	-	-	-	-	-	-
8. Aggregated amount of life gross written premiums for undertakings applying the measure						
9. Aggregated amount of non-life gross written premiums for undertakings applying the measure						
10. Total aggregated amount of gross written premiums for undertakings using the measure (10=8+9)	-	-	-	-	-	-

3	***Please complete the table below with the requested information on insurance and reinsurance undertakings in your jurisdiction applying the standard formula equity risk sub-module (and hence applying the symmetric adjustment mechanism) at the reference date 1 January 2016.***

Row 1 *in the table refer to the total number of insurance and reinsurance undertakings in your jurisdiction applying the symmetric adjustment mechanism at the reference date 1 January 2016. It equals the number of standard formula users or undertakings using partial internal models not covering the equity risk sub-module.*
Rows 2 *refer to the aggregated amount of Solvency II values of gross technical provisions (life and non-life) corresponding to undertakings counted in row 1, as reported in the day 1 the Solvency II Balance sheet (S.02.01). It equals the sum of the figures in the following rows of the Solvency II Balance sheet template (R0510, R0600 and R0690).*
Rows 3 *refer to the aggregated amount of Solvency II values of equities (listed and unlisted) corresponding to undertakings counted in row 1, as reported in the day 1 the Solvency II Balance sheet (S.02.01). It equals to the figures in row R0100 of the Solvency II Balance sheet template.*

1. Number of undertakings applying the symmetric adjustment*	
2. Aggregated amount of technical provisions for undertakings applying the symmetric adjustment	
3. Aggregated amount of equity investments for undertakings applying the symmetric adjustment	

4	***Please complete the table below with the requested information regarding the combined use of LTG measures by insurance and reinsurance undertakings in your jurisdiction at the reference date 1 January 2016.***

Rows *in the table below refer to selected cases of combination of measures to the same liabilities. One particular undertaking could be counted in one or more rows (e.g. an undertaking applying the TTP to the whole portfolio and MA and VA to different groups of liabilities should be counted in rows 1 and 2).*

Column 1 *refers to the number of undertakings applying each combination of measures to the same liabilities. NSAs are expected to identify the concerned undertakings based on the information available from the corresponding approval processes.*
Column 2 *refers to the aggregated amount of technical provisions of undertakings counted in column 1. It equals the sum of the figures in the following rows of the Solvency II Balance sheet template (S.02.01): R0510 for non-life and R0600 plus R0690 for life.*

	Number of undertakings	Aggregate amount of technical provisions
1. Undertakings applying simultaneously TTP and MA to the same liabilities		
2. Undertakings applying simultaneously TTP and VA to the same liabilities		
3. Undertakings applying simultaneously TRFR and VA to the same liabilities		

Policyholder protection

5	***Please provide the number and detailed description of cases of revocation of the approval to apply MA, VA or DBER, until the end of the first quarter 2016.***	
6	***Please provide the number of undertakings currently subject to reorganisation measures or winding-up proceedings (as defined in Article 268(1) of the Solvency II Directive) and which of the LTG and equity risk measures they applied. Please describe the role of the LTG and equity risk measures in the economic decline of the concerned undertakings.***	

Effect of the extension of the recovery period

7	***Please provide the number of undertakings breaching the SCR (taking into account all LTG and equity measures it applies) at the reference date 1 January 2016.***	
8	***Among them, please provide the number of undertakings in progress to comply by 31 December 2017 following the transitional measure of Article 308b(14).***	

Compliance with the phasing-in plans and prospect of reduced dependency: TRFR and TTP

9	***Please complete the table below with the requested information related to undertakings that apply the TRFR or TTP and do not comply with the SCR on 1 January 2016.***

1. Number of cases of non-compliance with the SCR without the transitional measures at the reference date 1 January 2016	
2. Missing amount of eligible own funds to comply with the SCR without the transitional measures at the reference date 1 January 2016	
3. Number of undertakings failing to submit the requested phasing-in plan	
4. Number of undertakings under a phasing-in plan	
5. Number of undertakings not complying with the phasing-in plan	
6. Cases of revocation of the TRFR	
7. Cases of revocation of the TTP	

Investments

10	Please complete the table below with the requested information on asset allocation according to the undertakings' Solvency II Balance sheet (for all undertakings and undertakings with LTG measures)

Rows *in the table refer to selected rows (in brackets) of the Solvency II Balance sheet (S.02.01). They should be completed with the aggregated amounts of Solvency II values of the selected items, as reported by undertakings in your jurisdiction in the day 1 Solvency II Balance sheet.*

Columns *in the table refer to different categories of undertakings: the first column should be completed with the aggregated amounts corresponding to all undertakings in your jurisdiction (regardless the use of LTG measures and measures on equity); the subsequent columns should be completed with the aggregated amounts corresponding to undertakings in your jurisdiction applying each of the measures. Please note that the figures related to one particular undertaking may be included in two or more columns (e.g. In case an undertaking applies MA and TTP, the amount of assets need to be included in columns C, D and H)*

	All undertakings	Undertakings applying MA	Undertakings applying VA	Undertakings applying DBER	Undertakings applying TRFR	Undertakings applying TTP
1. Investments - Property (other than for own use)(R0080)						
2. Investments - Holdings in related undertakings, including participations (R0090)						
3. Investments - Equities listed (R0110)						
4. Investments - Equities unlisted (R0120)						
5. Investments - Government Bonds (R0140)						
6. Investments - Corporate Bonds (R0150)						
7. Investments - Structured notes (R0160)						
8. Investments - Collateralised securities(R0170)						
9. Investments - Collective Investments Undertakings (R0180)						
10. Investments - Derivatives (R0190)						
11. Investments - Deposits other than cash equivalents (R0200)						
12. Investments - Other investments (R0210)						
13. Assets held for index-linked and unit-linked contracts (R0220)						
14. Cash and cash equivalents(R0410)						
15. Total assets (R0500)						

11	Please complete the table below with the requested information on the amounts of assets per credit quality step (for all undertakings and undertakings with LTG measures)

Rows *in the table refer to the credit quality step attributed to the assets held by undertakings, as defined by Article 109a(1) of the Solvency II Directive. Each row should be completed with the aggregated amounts of Solvency II values of assets corresponding to that credit quality step, as reported by undertakings in your jurisdiction in the quantitative reporting template on the list of assets (S.06.02) for the first quarter 2016.*

Columns *in the table refer to different categories of undertakings: the first column should be completed with the aggregated amounts corresponding to all undertakings in your jurisdiction (regardless the use of LTG measures and measures on equity); the subsequent columns should be completed with the aggregated amounts corresponding to undertakings in your jurisdiction applying each of the measures. Please note that the figures related to one particular undertaking may be included in two or more columns (e.g. In case an undertaking applies MA and TTP, the amount of assets need to be included in columns C, D and H)*

	All undertakings	Undertakings applying MA	Undertakings applying VA	Undertakings applying DBER	Undertakings applying TRFR	Undertakings applying TTP
0. Credit quality step 0						
1. Credit quality step 1						
2. Credit quality step 2						
3. Credit quality step 3						
4. Credit quality step 4						
5. Credit quality step 5						
6. Credit quality step 6						
7. No rating available						

12	*Please complete the table below with the requested information on the duration of assets (for all undertakings and undertakings with LTG measures)*

Row 1 *in the table should be completed with the aggregated amounts of Solvency II values for assets with duration held by undertakings.*
Row 2 *should be completed with the aggregated amounts of Solvency II values weighted per duration for the same assets considered in Row 1.*
Row 3 *refers to the average duration resulting from the aggregated figure in Row 2 divided by the aggregated figure in Row 1. Rows 1 and 2 refer to information reported by undertakings in your jurisdiction in the quantitative reporting template on the list of assets (S.06.02) for the first quarter 2016.*

Columns *in the table refer to different categories of undertakings: the first column should be completed with the aggregated amounts corresponding to all undertakings in your jurisdiction (regardless the use of LTG measures and measures on equity); the subsequent columns should be completed with the aggregated amounts corresponding to undertakings in your jurisdiction applying each of the measures. Please note that the figures related to one particular undertaking may be included in two or more columns (e.g. In case an undertaking applies MA and TTP, the amount of assets need to be included in columns C, D and H)*

	All undertakings	Undertakings applying MA	Undertakings applying VA	Undertakings applying DBER	Undertakings applying TRFR	Undertakings applying TTP
1. Total SII amount for assets with duration						
2. Total SII amount for assets with duration weighted per duration						
3. Average duration (3=2/1)						

Products

13	*Please complete the table below with the requested information on gross written premiums for life insurance obligations per type of insurance product (for all undertakings and undertakings with LTG measures)*

Rows *in the table refer to gross written premiums for life (re)insurance obligations split by lines of business, as reported by undertakings in your jurisdiction in the quantitative reporting template on premiums, claims and expenses by line of business (S.05.01) for the first quarter 2016.*

Columns *in the table refer to different categories of undertakings: the first column should be completed with the aggregated amounts corresponding to all undertakings in your jurisdiction (regardless the use of LTG measures and measures on equity); the subsequent columns should be completed with the aggregated amounts corresponding to undertakings in your jurisdiction applying each of the measures. Please note that the figures related to one particular undertaking may be included in two or more columns (e.g. In case an undertaking applies MA and TTP, the amount of assets need to be included in columns C, D and H)*

	All undertakings	Undertakings applying MA	Undertakings applying VA	Undertakings applying DBER	Undertakings applying TRFR	Undertakings applying TTP
1. Health insurance						
2. Insurance with profit participation						
3. Index-linked and unit-linked insurance						
4. Other life insurance						
5. Annuities stemming from non-life insurance contracts and relating to health insurance obligations						
6. Annuities stemming from non-life insurance contracts and relating to insurance obligations other than health insurance obligations						
7. Health reinsurance						
8. Life-reinsurance						
9. Total life gross written premiums						